

# FIFTH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT

November 16–20, 1998  
Monterey, California, USA

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# FIFTH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT

## CONFERENCE PROCEEDINGS VOLUME 1

November 16-20, 1998  
Monterey, California, United States

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These Proceedings, Volume 1, include papers prepared by speakers, topic experts, conference participants and other interested parties for the Fifth International Conference on Environmental Compliance and Enforcement, November 16-20, 1998, in Monterey, California, USA.

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## PREFACE

These Conference Proceedings contain papers solicited from speakers, participants and other interested parties for the Fifth International Conference on Environmental Compliance and Enforcement held in Monterey, California, USA, November 16-20, 1998. The Proceedings are disseminated to all conference participants, other country environmental officials, and non-governmental organizations (NGO's) throughout the world and they are accessible through the Internet site of the International Network for Environmental Compliance and Enforcement (INECE): [www.INECE.org](http://www.INECE.org) where papers are also indexed by topic along with the relevant papers from the Proceedings of the first four international conferences.

The advances and continuing challenges of the evolving network of government officials, NGO's, and international organizations — in designing and developing effective means of achieving compliance with and enforcement of domestic environmental law and international environmental agreements — speaks to us from these pages. We are all enriched when our colleagues take the time out of their busy schedules to share their experiences, their frustrations, and their accomplishments so that we might be inspired by their example, encouraged to try new approaches, and/or bolstered by evidence that this difficult task can make the promise of implementation and compliance with environmental law a reality.

The Fifth International Conference seeks to be yet another stepping stone and catalyst for "making it happen". These papers demonstrate the increasing commitment to and level of sophistication of programs and new initiatives around the world to achieve the protection of public health and environment we seek. We are inspired by the report from Vietnam of how they introduced their environmental compliance and enforcement program with a nationwide inspection of all facilities, drawing upon the resources of all levels of government and cooperation across several ministries with a range of consequences. We see the importance of national networks in Ghana, of international cooperation in addressing transboundary hazardous waste and control of new chemicals in Europe and the Americas. We are bolstered by concrete evidence from British Columbia in Canada of the need for and benefits of compliance and enforcement programs to achieve results compared to what started out as cooperative programs using only voluntary codes of action. We are excited by the possibilities of harnessing advances in communications technology to monitor hazardous waste transport in Australia and improve public access to and accountability for environmental performance in the United States. We realize how difficult it is to actually implement policies on public accountability and access to information and systems of justice from the stories of valiant and sometimes unsuccessful attempts to make governments and polluters accountable in Ukraine and Nepal. These are but a few examples of the many stories within this text.

The Fifth biennial International Conference is the first to be held under the banner of the International Network for Environmental Compliance and Enforcement (INECE). The INECE Executive Planning Committee devoted much time and effort to design a Conference to offer the greatest opportunity for useful exchange and practical information for individuals both within and outside government who can influence the successful design and implementation of enforcement programs. Additional information about the Conference and resource materials can be obtained by contacting the Staff or members of the Executive Planning Committee. The INECE partnership will continue to foster national, regional and global networking, capacity

building, and cooperation beyond the exchanges at the Conferences. On behalf of the Executive Planning Committee, we look forward to your continued and productive use of these Conference materials.

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## **CONFERENCE PURPOSE AND GOALS**

The purpose and goals of the Fifth Conference reflect the progress already made and new directions undertaken to meet needs of participants to improve environmental compliance and enforcement.

### **Help to Make Compliance and Enforcement Happen**

The Fifth Conference focuses on action: making enforcement and compliance happen. Past conferences focused on the building blocks for understanding environmental compliance and enforcement, developing a common framework, defining common principles and understanding driving forces and barriers. Benefiting from these past discussions, the Fifth Conference will use the common frameworks to focus on how to put these principles into practice, how to harness the driving forces and how to evaluate and move beyond progress already achieved. Conference plenary presentations highlight some of the best examples of how different nations from different regions of the world, economic and social settings have taken steps to "make it happen". In addition, the conference organizers have introduced the opportunity for participants to seek assistance on particular problems in "clinics" that will be structured around specific requests.

### **Draw Together Those Influencing the Design of Environmental Compliance and Enforcement Programs in Effective Partnerships**

The target audience for the Conferences remains enforcement officials and environmental policy makers in government and NGOs active in environmental compliance and enforcement, those who are in a position to influence the design or enhancement of environmental enforcement programs. Within government the Conference will continue to seek representation from national, regional, and local governmental units responsible for both the legal and technical aspects of environmental enforcement at the mid- to senior-management levels. It also will continue to involve selected non-governmental organizations (NGOs) and representatives of selected international industry organizations. The Fifth International Conference again draws attention on identifying contacts within government from both environment ministries and/or sectoral ministries involved in environmental enforcement as well as traditional law enforcement personnel in order to foster new relationships to make enforcement work more smoothly within country and to facilitate cooperation among nations both on a global and regional basis to address transboundary compliance issues.

### **Offer Something for Everyone**

The Conference program includes topics and workshops to meet the needs of all participants. Participants come from countries with various approaches to compliance and enforcement as well as with enforcement programs at various stages of development within various economic settings including those from developing, rapidly industrializing, transitional and industrialized economies. In addition, participants themselves may have many years of experience in enforcement or only a few. Some participants will have attended past conferences, while for others this will be their first experience in this international forum. Workshops are structured to take these differences into account while promoting exchanges among participants with a wide range of experiences. The Conference will begin with a review of how lessons learned in past conferences have been put into practice in various settings. The program also opens

by providing all participants with common ground. An overview of the Principles of Environmental Compliance and Enforcement is targeted to those new to the conference or who want a refresher. This is followed by group exercises and open exchange on neutral case studies using the Principles of Environmental Enforcement workshops. This will encourage all participants to be open to new ideas and varying approaches of colleagues which will unfold during the ensuing days of the conference.

The scope of the conference offers a wide range of perspectives, from global to regional to specific country or locality programs. It brings together the full range of disciplines and organizations needed to bring about compliance with environmental requirements, both within and outside of government. It encompasses both compliance and enforcement approaches, programs and the working relationships needed to support them, both incentives and disincentives. Finally, it extends from achieving compliance with domestic environmental requirements to domestic programs implementing international environmental agreements.

### **Articulate and Support Country, Regional and Global Capacity Building Agendas**

The United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in June, 1992, produced an international agenda, Agenda 21, which firmly states that effective environmental compliance and enforcement programs are a key element of environmental management, and recognizes the need to build institutional capacity for effective enforcement in each nation's environmental program. If the INECE partnership and the participants in the international network are to succeed in building capacity they must direct limited resources on areas with the most important and pressing needs. The Conference program provides the potential and opportunity for nations to establish their own priorities for capacity building and an aggregated view within and across regions of the world to facilitate access to international support. To articulate needs in a manner which can be supported and understood sufficiently well to garner commitment and support, the Executive Planning Committee has initiated development of a country progress self assessment tool. Among other goals it will be designed to help participants focus on what they want to get out of their participation both at the conference and from follow up activities to meet perceived capacity building needs for their own countries, region, and across the globe.

### **Encourage Ongoing International and Regional Networking**

Past conferences have shown the importance of ongoing international and regional networking beyond the conference itself that encourages and facilitates program improvements and cooperation. The conferences have seen the evolution of a global network- INECE- as well as several regional networks - both nascent and mature. The program will highlight international networking resources designed to address global issues and to facilitate cooperation among regions. In addition, participants will have an opportunity to meet within their regions to discuss common challenges and priorities and to develop ongoing or build upon existing mechanisms for regional collaboration and strategies for strengthening environmental compliance and enforcement.

**Foster Exchange of Expertise and Learning through Active Participation**

The Conference is structured to provide ample opportunity for participants to form professional networks and to learn through active participation. In addition to open discussion during plenary sessions and workshops of 15 to 25 participants on every day of the Conference there will be informal opportunities for exchange around exhibits and related Conference events.

The Conference relies heavily on interactive workgroup sessions. Participants are expected and encouraged to participate actively in discussions and working sessions. Individuals should come to the Conference prepared to share experiences in environmental compliance and enforcement that will benefit others involved in similar activities. The Conference also will present a time for participants to reflect on their current enforcement activities and to identify new approaches that can be implemented in their respective countries.



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## CONFERENCE PROGRAM

The Fifth Conference will meet its purpose and goals through five days of plenary discussion, participatory workshops, exhibits, clinics, regional meetings and optional site visits on the sixth day.

The Conference will be co-chaired by Mr. Steven A. Herman, Assistant Administrator for Enforcement and Compliance Assurance, United States Environmental Protection Agency, and Mr. Pieter Verkerk, Inspector General, Ministry of Housing, Spatial Planning and the Environment, the Netherlands. Conference moderators, presenters, facilitators and participants are drawn from all regions of the world to represent a wide variety of approaches to and strategies for environmental compliance and enforcement.

The Plenary session on the first day opens with a vision of where enforcement has been, where it is going and how INECE and associated regional networks are evolving. Then a plenary panel highlights ways that countries from all parts of the globe in all stages of development are making progress in both conventional and unconventional ways. For those new to these conferences, a presentation over lunch will be offered on general principles of environmental enforcement as a framework for workshop discussions. To open discussions and create an atmosphere conducive to exchange, participants will take part in parallel workshops using case study exercises on a choice of topics to explore the application of the principles of environmental compliance and enforcement to a range of environmental issues of interest.

Beginning on the second day of the conference, Tuesday through Thursday, the conference is structured thematically. Plenaries will highlight country examples of progress within the theme followed by a choice of workshop topics. Workshops on popular topics will be added so participants get their first choices and workshops remain small. The five theme areas with associated workshops include:

Theme #1	Making it Happen: Applying the Principles of Environmental Compliance and Enforcement
Theme #2	Communications, Public Role, and Compliance Monitoring
Theme #3	"Carrots and Sticks"
Theme #4	Capacity Building
Theme #5	International Cooperation/Transboundary Compliance and Enforcement Issues
Theme #6	Building Regional and Global Networks

Throughout the five day Conference there will be exhibits offered by the many countries and organizations represented at the Conference with special video displays and computer terminals offering opportunities to learn about new advances in training, technology, and communications related to environmental compliance and enforcement activities. On Wednesday afternoon, the third day, participants will have the opportunity to explore exhibits and engage in informal demonstrations. The participant confirmation package will solicit and provide more detail on this exhibit material.

On Wednesday afternoon, participants also will have an opportunity to engage in tailored "clinics", specific problem solving and discussion sessions based on individually identified challenges faced by participants at home. The conference organizers will arrange for

participants to exchange with others who have experience with similar problems in order to focus on developing potential approaches to resolve them. The conference confirmation process will solicit specific topics for these clinics from participants and the organizers will help those interested in similar issues to meet together.

Opportunities for regional meetings on Thursday afternoon and Friday morning are designed to establish important linkages, ways to address common problems, and set processes in motion for enhancing regional networking and linkages to global networks, particularly INECE. A closing plenary session will explore future directions for international and regional cooperation and summarize key outcomes of conference discussions.

## THEME #1:

### MAKING IT HAPPEN: APPLYING THE PRINCIPLES OF ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT

Moving from principles to practice takes time and often some driving force. Programs evolve at their own pace responding to both domestic and international commitments to environmental protection, demands of fair and free trade, public pressure, market forces, crises, and other opportunities to garner support for building and implementing compliance and enforcement programs. The Fourth International Conference opened with an exploration of driving forces, challenges and impediments to effective environmental compliance and enforcement. This Fifth International Conference focuses on how different country officials and NGOs in diverse situations have "made it happen".

Papers and plenary session speeches for Theme 1 will address the following issues:

- Genesis of the program, what precipitated its development; the driving forces that gave rise to a decision to create or enhance an environmental compliance/enforcement program or to respond to particular noncompliance problems. Particular challenges including issues such as economic and political uncertainty, level of support for environment, tradition or lack of tradition of enforcement and compliance, limitations on availability of human resources with necessary skills and experience in the field.
  - Evolution of the program: organization, functions, financing, training: issues that arose in developing or enhancing a program, options considered/selected.
  - Organization of the program: hierarchy, levels of government, roles and responsibilities including, as appropriate, information on the:
    - Overall status of laws, regulations and permits to establish enforceable requirements;
    - Plans or programs to promote compliance;
    - Mechanisms to establish priorities and what they are;
    - How the country monitors compliance:
      - Inspection program: multi-media and/or single program focus, training and targeting of government inspection activity;
      - Use of source self-monitoring, record-keeping and reporting;
    - Enforcement response authorities and how they are used;
    - Public role in enforcement;
    - Accountability and measures of success;
    - Communications; and
    - Areas in which progress is needed.
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## PEOPLES' INITIATIVES AND JUDICIAL ACTIVISM AS A CATALYST OF INSTITUTIONAL REFORM

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### SUMMARY

The Indian sub-continent with a population of 968 million human beings occupying a geographical area bounded by the world's highest mountains, the Himalayas in the north and three oceans around the peninsular area has seen unprecedented environmental degradation since the turn of this century. There have been weak and intermittent efforts at state levels to arrest the rape of the earth and the saddest part of the story is that 88% of the havoc has taken place under political patronage with no means of controlling it. The enforcement agencies have either been inefficient or corrupt and in most cases a combination of both. The Courts have played an unfortunate role of bending over backwards to interpret the laws in favor of the predator and it is only in the course of the last ten years that a Citizen Movement began to emerge which has achieved results in isolated areas and has received fair support from the judiciary, between 1990 and 1996. The Indian Supreme Court under Justice Kuldeep Singh and several of the High Courts, initially started rigorously enforcing environment preservation laws and followed this up by handing down some exemplary punishments. Then came an era of unprecedented judicial activism with the Indian Courts virtually playing the role of a father figure in directing the Government agencies to undertake steps towards creation of environmental awareness and curbing large scale devastations and directions to investigate and to prosecute any cases of motivated inaction and a series of orders for purposes of reversing air and water pollution came from the Courts with a degree of regularity. A whole movement emerged and the media assisted to a very large extent by emphasizing the importance of compliance and as a direct result, a sizeable number of public interest litigations came up before the Courts. The lead that came from the Indian Supreme Court had a spontaneous reaction in the major High Courts of the country notably Bombay, Madras, Delhi, Kerala and Karnataka but then came a sudden set back. With the retirement of Justice Kuldeep Singh, the Supreme Court itself almost stopped entertaining all public interest litigation and even reversed its earlier orders and the High Courts followed suit. All of a sudden, public interest litigation was being virtually shot-down and a conscious effort was made from within the judiciary to kill this field of litigation. This has been a sharp set back to the Citizen Movement and a sorry reflection on the judiciary. Some of the measures taken to eliminate this field of litigation are self evident from the official orders issued by the two chief justices of the Bombay and Karnataka High Courts who have prohibited the rest of the Judges in the whole of the High Court from even entertaining the class of litigation. All such cases in these two High Courts are placed before the Chief Justice's Court and an indication of what is happening is evident from the fact that the success ratio of public interest litigation which was earlier as high as 78% has come down to 1.6% in the last one year. Peoples' initiative in a corrupt and hostile environment such as the one that prevails in this sub-continent can only survive if the one institution that can give it living form and translate it into enforceable action i.e. the Judiciary, were to sustain it and the hope therefore lies in getting this institution to change its attitude and mode of functioning.

## 1 INTRODUCTION

This paper, though hard hitting in parts, sets out the Indian story over the last one decade which is a movement from disaster to hope and back to deeper disaster. It is a narrative of raging environmental degradation from the forests to the waterways to the air over the sub-continent, the brave attempt of a movement that was part citizen oriented but essentially activated and sustained by the Judiciary, but the story has a sad ending because the forces of corruption have dominated and 1998 has seen a total reversal. The urgent need to restore and rejuvenate the movement by working through a sustained program specially directed at the legal profession is the only way to make things happen in the direction in which they should.

## 2 THE UNHAPPY EPISODE

Between the years 1950 to 1990 the total forest cover in India was reduced from 39% to 17% due to indiscriminate destruction of the forests. 189 rare species of vegetation have been eliminated and the wildlife has been mercilessly butchered or smuggled out of the country resulting in a decline of 42% over a 40-year period. The systematic poaching of male elephants in Karnataka will result in the extinction of these pachyderms in the next 20 years. Whereas, the charge was that this direction was primarily attributable to abnormal growth of population, which in turn had encroached on the forests and converted them into agricultural areas, a reliable survey undertaken between 1985-1990 revealed some alarming statistics. Of the total encroached areas; it was discovered that the population push had been responsible for reduction of the forests by as little as 13% of the area. Again the allegation that forest destruction was occasioned for production of fuel was a lie because it was revealed that only 4% of the destruction was attributable to this factor and lastly, where the villagers were blamed for over-grazing their cattle and flocks in various areas it emerged that only 1.8% of the damage came from these quarters. The chief contributors to the process of devastation were the armies of forest contractors and poachers acting in collusion with the Forest Department and in partnership with them and 70% of the loss of green cover is attributable to this one source alone. In the case of the Forest Department it was the story of the protector turning predator and the allied damage came from large plantations, quarry owners acting in total collusion with government and public authorities at all levels and the destruction of forests to the extent of over 22% is attributable to this category of avaricious persons. The government justified the protection given to the quarry owner on the ground that their business generated a lot of earnings in foreign exchange but the statistics do not justify this claim. Massive exports in the field of granite, marble and other forms of mineral wealth have taken place but the government has not got to the bottom of the embarrassing question as to how it is that 65% of the earnings have not come back to this country. Every activity constitutes serious offences under the laws of the country but no action has been taken against those involved. Whereas, on the other hand, the Courts have contributed to the disaster by maintaining an acquittal rate of 89% in all such prosecutions and in the remaining 11% of the cases, the sentences and penalties have been so lenient that they could aptly be described as "flea-bite punishments."

## 3 ROLE OF THE JUDICIARY

Article 51-A of the Indian Constitution enumerates fundamental duties and protection of the environment is one of them. The Courts have unfortunately totally bypassed this aspect and have been rather smug in shelving this responsibility to the State. India possesses the

largest number of laws as far as water, green areas and air protection are concerned. The levels of implementation are abnormally low and in most of the cases where action is taken, the failure rate of an action is as high as 94.6%. It is a combination of inefficient investigation often tainted, due to corrosive factors and disinterested approaches from the Judiciary that is not free of the last factor. What required is a firm and no nonsense approach from the High Courts and the Supreme Court and the willingness to reach out and intervene in every case of non-action or tainted action. In larger issues such as questions relating to the location of industries, effluent treatment and the like, the Courts have been declining to interfere even when patent abuse of power is demonstrated which would be evident from the fact that between 1988 and 1998 of the 23690 petitions presented before the Indian High Courts and the Supreme Court relating to this field alone, whereas the first seven years of the decade has a success rate of 8919, the last three years have been pathetic with the number falling into 117. (1998 has seen only 9 victories). I put this down entirely to the attitudinal change on the part of the Indian Judiciary which has distanced itself from this vital responsibility with the considerable shift evidenced on the part of the Chief Justices both of the States and the Center in the last three years and who have adopted a series of measures to shoot down this class of litigation. Nothing is more important to the country than the rekindling of judicial activism that rose to its highest pinnacle in the mid 80's continued up to the beginning of 1996 and then met with "sudden death".

#### 4 JUDICIAL ACTIVISM

Judicial Restraint versus Judicial Activism, the eternal debate has contributed to the emergence of a new body of law as confronted with non-liquete (vacuum in the law), law of torts, and has laid down new norms, guiding principles and fresh guidelines as sentinels for administration in particular and the system as a whole. The Indian Courts have innovated almost to an unprecedented extent and I shall briefly catalogue a few of the significant areas where public interest litigation has forged new concepts.

##### 4.1 In the Ratlam Municipal corporation Case

In the Ratlam Municipal Corporation Case (AIR 1966 SC page 1622)\* for the first time, the enforcement of public duties in relation to civic amenities came about as these had a direct bearing on pollution levels and the Court forced the public authorities to comply.

##### 4.2 The Ganga Pollution Case

In a series of cases known as the Ganga Pollution Cases (AIR 1988 SC page 1115 and AIR 1988 SC page 1637) where the river was being defiled by everything from city sewage to industrial effluents, the Supreme Court carved out the enforceable nexus between industrial obligations, civic norms and the State liability to enforce all these and promulgated a series of measures to "save the Ganga". Shortly thereafter the Supreme Court once again responded to a Public interest litigation when it was pointed out that industries in Agra were polluting the air to such an extent that the Taj Mahal was in serious danger and the Court ordered the closure of some industries, change of fuel in others and relocation of the rest. The local refinery was forced to adopt stringent emission control measures.

#### 4.3 Irrigation and hydro electric projects

The delicate balance between large irrigation and hydro electric projects, their devastating effects on the Eco-system and the consequences to the local population in matters of resettlement and rehabilitation were the subject matter of the Banwasi Seva Ashram Case (AIR 1992 SC page 920) where the Courts intervened on the ground that the State and public authorities has failed to act in a manner that was in consonance with responsible environmental protection. It needs to be added here that in the case of the massive Narmada River Projects the Court was again required to intervene on similar grounds pursuant to a people's movement and citizen's action.

#### 4.4 Saving the fragile coastal Eco-system

Coming to a specialized area in the matter of saving the fragile coastal Eco-system the Courts were required to examine such diverse issues as the desirability of permitting large scale lucrative shrimp cultivation projects which had a disastrous effect on the local bio diversity to the question of permitting cement factories that had resorted to extensive quarrying and were causing abnormal air pollution hazards in all of which cases rigorous correctives were ordered. (AIR 1977 SC page 811). Next came an extremely delicate problem that arose around the Orissa Sea Coast where in order to preserve the breeding grounds of millions of turtles, the Courts were required to prohibit and curtail the use of certain types of fishing equipment and banned fishing activity altogether in prescribed areas.

#### 4.5 The right to environment

Once again, it was the Courts that came to the rescue of environmentalists when the Indian Supreme Court in a path-breaking judgement laid down that the right to environment is on par with the fundamental rights. The Court on this occasion was amplifying the basic concept that emanates from the right to life (AIR 1991 SC page 420).

#### 4.6 Information Disclosure

An interesting facet of the Citizen Action Movement in relation to decisions taken by public authority arose in the case of Bombay Environmental Action Group versus Pune Cantonment Board (unreported case-Ref. Rosencranz page 143) wherein the Courts held that if the action was prima facie vulnerable, the citizen was entitled to demand that all information relating to that decision be disclosed and that it should be subject to judicial review.

#### 4.7 Rights of tribal peoples

In several cases forest and wildlife degradation has been attributed to tribals who are still resident in and around these areas and who claim the right to minor forest produce as a means of sustenance and a specific dispute arose with regard to their entry into reserved forests for gathering Tandu Patta leaves. The concept was laid down despite much opposition that the access to the forests and to the produce would have to be severely regulated to the extent of ensuring that it does not cause destruction or depletion of scarce resources. (AIR 1987 Guj. Page 9).

#### 4.8 Establishing liabilities for disasters

The most celebrated decisions relate to the several pronouncements of the Indian Courts following the determination of liabilities in the disastrous Bhopal Gas Case where over 3000 persons lost their lives and 22,000 others were maimed for life and these were followed by the Supreme Court decisions in the Oleum Gas Leak Case wherein the Court held the industry absolutely liable for damage caused as a result of all industrial accidents. (AIR 1987 SC pages 960, 982 and 1086). These decisions led to the enactment of the Public Liability Insurance Act 1991. I could only summarize these decisions by emphasizing that these efforts epitomize the convergence of peoples' initiative with those of the judiciary for a cleaner, greener, healthier environment in India, a signal contribution to the evolution of environment jurisprudence and reform of the system.

### 5 COMPLIANCE VERSUS NON-COMPLIANCE-ACHIEVING GOVERNMENT COMPLIANCE

As far as the observance of environmental protection norms and regulations are concerned, a private survey done by the law students in Pune indicated that the compliance levels as far as the private sector is concerned average barely 27% whereas the public sector averaged a dismal 11%. The reasons set out are that awareness itself is low but enforcement is abnormally weak and ineffective. The interesting result of this survey was that as far as the government and public bodies were concerned, which incidentally include the police department and the public transport corporations, they proceeded on the assumption that they were immune from the laws. In the more glaring areas an immediate solution is available because the High Courts and the Supreme Court in this country are invested with the power to issue directions for purposes of compelling the observance of the regulations. In a recent article, Arun Shourie, a leading journalist pointed out that despite a very large number of cases in which the Courts have intervened and issued orders and directions that the step has turned out ineffective because these have been carried out in only 18% of the cases. It is perhaps a fault of the judiciary that there is no follow up to the orders, which is an absolute must. In my own case every direction is made time-bound. The Court forwards it to the person responsible for implementation who in turn is ordered to report compliance and the Court monitors the translation of the order into action. In my view, the willingness to intervene, the speedy issuance of firm clear cut practical directions and the insistence on their observance is all that is required to ensure adequate compliance with the laws both in the private and public sectors. There is one area that is contributing to the failures and it is the role of the Courts before which offences relating to environmental cases are brought. The success rate in these cases which are instituted before the subordinate judiciary is as low as 6% and even in those of the microscopically few cases where punishments are awarded the Courts have been bending over backwards and awarding what has been aptly described as "flea-bite sentences". In the State of Karnataka, I have issued specific directions to the subordinate judiciary that firm action is the need of the hour, no compromises can be made and that steps will be taken against the judicial officers whose decisions send out the wrong signals that it is more profitable to breach the law than observe it.

## **6 ANTICIPATORY ACTION**

In the field of environmental offences the tragedy has always been that legal action invariably commences as a damage control step or a compensatory measure. In the last five years the Courts have witnessed new wave legislation whereby anticipatory action is resorted to as a preventive. The success rate of such cases, regrettably has hardly been 1% which does not speak well of the attitude of our courts, but the chief problem has arisen because of the fact that there hardly exists any cause of action when the issue comes up before the Court. I do not share the view that such petitions are premature because they are the most effective forms of preventive action and if the Courts were to be magnanimous enough to spend a little time calling the authority against whom it is directed, it will be found that the project or the action can be modified in good time or in those of the cases where it is contra-indicated, it can be stopped before the damage occurs. The logic behind this argument would be self evident from the fact that the Indian Courts have been dismissing 82.3% of the challenges on the ground that it is too late since the project has already come up at a particular site or that it is too late in the day to reverse the decision. It is high time that the latter view is discarded because the loss of a certain amount of money is far more preferable to permanent ecological damage. In the global context, anticipatory action in this field has been unique to India though it has been resorted to in only a small measure in other parts of the world. In a country where almost all major decisions are invariably polluted by the interaction of unhealthy forces, reversing the step becomes extremely problematic because of the cost factor. Unfortunately, the Courts have been mechanically upholding the argument that the implementation stage has been reached and that massive investment has gone into the planning processes, that contracts have been awarded and that it would be too costly to stop the action. The order of the day appears to be to beat the gun and the simple solution is that no compromise should be permitted and its very clear that if an example is made in one or two of the glaring cases, that the mischief syndrome will be permanently checked. Today too many are allowed to get away.

## **7 GREEN AND BROWN CONCERNS**

Social movements have been triggered off principally due to rapid industrialization and over exploitation of resources, increasing levels of pollution and loss of bio diversity. In this regard, what I need to emphasize is that whereas the rest of the world has moved towards a system of conservation and preservation as a guideline towards sustained developmental activity, these two fundamental principles have not been observed at all in India. Simple principles such as switching to alternate sources of energy, renewing natural resources and even elementary factors such as recycling of scarce water all of which have reached perfection levels in other areas have not been employed and it is this level of thoughtlessness that has impelled social movements that are concerned with the protection of the fragile ecosystem and conservation of scarce resources. NGOs (IUCN, Friends of the Earth, Green Peace, etc.) have been questioning the model of development at various forums, more prominently through Court processes resulting in the spawning of several schools of thought. The Conservationists otherwise known as the Greenists have advocated biotic rights activism which has been widely propagated by the media and the lament is that the judicial system has not been strong enough in its insistence that this must become the dogma in official circles. The Human Rights Activism Movement has focused essentially on the people and the forests and protection of forests along with the rights of the people living there. In an interesting public interest litigation decided by the Karnataka High Court recently, the rights of the tribals in and around the forests were

upheld in preference to a plea that an international chain be permitted to clear the area and set up a forest resort. Interestingly, the defense pleaded was that thousands of tourists would visit the area and would be automatically converted to the ecological wave-length that they would otherwise never have been exposed to if they had not spent some time in the area. The High Court refused to uphold the decision on the ground that it offended the provisions of the Forest Conservation Act.

This country has seen, what has been defined as a Deep Ecology Movement which started in the forests of north India when Bahuguna unleashed the Chipko Movement whereby huge forests were saved because the young villagers particularly women embraced the trees and refused to allow them to be cut. The principal benefit of this movement has been the build up of ecological integrity and it has contributed towards fostering an environmental jurisprudence covering law, policy and practice. Another facet of interest as also importance in India has been the opposition to certain developmental activities such as Mega Projects. The Narmada Bachao Andolan (Save Narmada River Agitation) has contributed to the creation of a new body of law viz. Law of resettlement and rehabilitation. July-August 1998 have witnessed unprecedented landslides in the Himalayas leading to the loss of over 5000 lives and the annihilation of whole villages all due to uncontrolled tree-falling and terracing of the mountain slopes for agriculture. The non-action on the part of the government in the face of a series of reports and warnings from reputed environmental agencies and the government's own Geographical Survey of India has just been taken before the Supreme Court in the hope that correctives can be ordered at least at this late stage.

## **8       ROLE OF THE JUDICIARY**

The higher Judiciary is the vanguard of the movement in reforming the system in India. The unique position of the Indian Judiciary in the Constitutional scheme distinguishes it in so far as its role is not just confined to dispute resolutions and interpretation of law. The Judiciary at the highest level is invested with the power to lay down law so as to bind every authority (Article 141 of the Constitution), the power to interpret, declare, refined, reform and create new law for observance and the insistence on due process and valuable addition to the very substance of the law. It is the guardian angel of individual and collective rights and the real protection against every form of arbitrary exercise of power, abuse of power and no-action. A recent off-shoot as far as the field of enforcement is concerned, has been amplified in the case of VASUDEVAN (Secretary of State) where the Court attached personal liability on State Functionaries and the Supreme Court took the unusual step of punishing him through a jail sentence of six months rigorous imprisonment. That the Judiciary is virtually omnipotent in this field only heightens the sad comment that it is not using its power often enough and in a manner that could enhance the quality of life.

The Indian courts are hopelessly overloaded at all levels, but this is hardly a ground for the Judiciary distancing itself from this crucial area. What is unfortunately overlooked is that the Courts are apprehensive of being inundated with this field of litigation, whereas in fact, a few firm, hard-hitting judgement would send the message out loud and clear that non-compliance will meet with rigorous action. I would also like to see a strong disapproval through enlightened public opinion directed against the anti-public interest litigation measures adopted by certain areas of the Judiciary in this country.

## 9 CONCLUSION

In the Indian context, miracles can be achieved through minor institutional reform. I have recommended to the Environmental Law Institute which is at present actively engaged in the India program to concentrate on an adaptation of the law syllabus in order to include Environmental Law and Social Responsibility as compulsory subjects so that the new generation of lawyers will be compulsorily exposed to this field. I have also suggested that the Bar Associations through seminars and the like be oriented towards instilling in their Members not only an awareness but much needed militancy in relation to these issues. The most important sector of the institution i.e. the Judiciary, is the most difficult to deal with because it is a delicate issue involving sensitizing the Judges at all levels and bringing about a change of attitude.

This can be achieved through a sustained program directed towards the Judiciary through institutions such as the Law Schools and the Universities and the entire effort has got to be directed towards a program to nudge the Judges into action without offending them. This undoubtedly is a precarious action, but one that is absolutely essential, and to my mind achievable.

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## UNEP JUDICIAL SYMPOSIA ON THE ROLE OF JUDICIARY IN PROMOTING SUSTAINABLE DEVELOPMENT

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### SUMMARY

This paper describes a UNEP initiative to train judges in domestic and international environmental law to promote sustainable development

### 1 INTRODUCTION

The United Nations Environment Program (UNEP) is convening a series of Regional Symposia for Judges on the role of the Judiciary in promoting the rule of law in the area of sustainable development. The first was held in Mombasa, Kenya for countries in Africa in October 1996 by UNEP's Environmental Law Centre under the Joint UNEP/UNDP Project on Environmental Law in Africa funded by the Dutch Government. It was attended by judges and judicial officers from South Africa, Kenya, Uganda, Tanzania, Mozambique, Sao Tome and Principe, Burkina Faso, and Mauritania. Encouraged by the outstanding results of this pioneering initiative, UNEP organized the second, for countries in South Asia in collaboration with the South Asia Cooperative Environment Program (SACEP) with funding from the Royal Norwegian Government through NORAD, in Colombo, Sri Lanka in July 1997. It was attended by delegations from Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The third in the series is being organized by UNEP in partnership with UNDP for the ten countries in South East Asia and was held in Manila, Philippines from 4-7 March 1998 at the invitation of the Government of the Philippines. The Chief justice of the Philippines hosted the symposium.

These Symposia bring together superior court judges from countries in the region to examine contemporary developments in the field of environmental law - both international and national, - exchange views on their experiences in their respective jurisdictions relating to the progressive development of this new and rapidly growing branch of law, and to find ways and means of strengthening judicial cooperation in the region.

The Colombo Symposium was attended by three Chief Justices and several Supreme Court Justices from seven countries in South Asia. The Vice President of the International Court of Justice His Excellency Judge Christopher G. Weeramantry served as its Moderator.

Senior Judges including several Chief Justices from the ten countries in South East Asia as well as Supreme Court Justices from other jurisdictions and a Judge of the International Court of Justice are expected to participate in the South East Asia symposium to be held in Manila in March 1999. Arrangements are also being made for the participation of Observers from international and national organizations working in the field of environmental law and sustainable development.

## 2 THE GOALS OF THE SYMPOSIA

As expressly stated in Chapter 8 of Agenda 21, "Laws and regulations suited to country-specific conditions are among the most important instruments for transforming environment and development policies into action." The judiciary plays a critical role in the enhancement and interpretation of environmental law and the vindication of the public interest in a health and secure environment. Judiciaries have, and will most certainly continue to play a pivotal role both in the development and implementation of legislative and institution regimes for sustainable development. A judiciary, well informed on the contemporary developments in the field of international and national imperatives of environmentally friendly development will be a major force in strengthening national efforts to realize the goals of environmentally-friendly development and in particular, in vindicating the rights of individuals substantively and in accessing the judicial process. The UNEP Judicial Symposia will help to achieve greater access to judicial process.

## 3 INTERNATIONAL EXCHANGE ON A RANGE OF ISSUES

The agenda of the symposia though focusing on the respective regional priorities and concerns, provides an opportunity for the participants to make country presentations focusing on national legal and institutional regimes for promoting environmental management in the context of sustainable development, integration of environmental considerations in development decision making, incorporation of contemporary approaches and strategies for pursuing environmental law from the Stockholm Declaration to the Rio Declaration, among others. They also provide a forum for exchanging information on judicial decisions on environment and development issues in the various jurisdictions.

Other areas considered at the Symposia include new directions in the prevention and resolution of environmental disputed, contemporary developments in international and national law in the field of sustainable development, and the linkages between globalization, sustainable development and environmental law.

The following are among the important legal issues that were discussed at these Symposia against the backdrop of judgements of superior courts of the region in recent environment related cases: Incorporation of the principle of sustainable development, the polluter pays principle, the precautionary principle, and the principle of continuous mandamus in the corpus of international and national law; invocation of the extraordinary jurisdiction of the Supreme Court in environmental matters; public participation, including substantive and procedural matters relating to public interest litigation; the *erga omnes* character of environmental matters and the problem of applying *inter partes* procedures in environmental dispute resolution; limits of the concepts of "aggrieved person" and "locus standi" in regard to environmental damage; inter-generational and inter-generational equity; court commissions to ascertain facts and an authoritative assessment of the scientific and technical aspects of environment and development issues; interpretation of constitutional rights including right to life and right to a healthy environment; public's right to information; obligation for continuous environmental impact assessment; application of the public trust doctrine in regard to natural resources and the environment: corporate responsibility and liability; approaches to judicial reasoning in environment related matters including the importance of traditional values and ideas, and the importance of promoting public awareness and environmental education at secondary and tertiary levels.

These discussions were predicated on the recognition of the responsibility of the judiciary to mould emerging principles of law with a view of giving these a sense of coherence and direction, while always acting within the framework of legislation and law and without trespassing on the spheres of the legislative and executive branches of government.

The Symposia further considered the experience of countries in the region in regard to the legislative and institutional approaches to promoting environmental management and the integration of environment and development in decision making, including collective approaches to standard setting, incentive mechanisms to promote voluntary compliance, and expanding the scope of public participation, including citizen suits. Following presentations on the Australian and Mauritius experience in alternative dispute resolution mechanisms in the environment field, the Symposia discussed new ways of environmental dispute resolution which placed greater emphasis on prevention and avoidance of disputes than on the adversarial dispute resolution mechanisms which are currently in force in most countries.

#### 4 FOLLOW UP ACTIONS AND RECOMMENDATIONS

The Mombasa and Colombo Symposia recommended a series of actions, designed to facilitate and encourage the judiciaries in the respective regions to take cognisance of the growing body of judicial decisions and formulations - both within and outside the region - on environment related issues, especially in regard to balancing environmental and developmental considerations in judicial decision making. At national level, several national judicial activities are taking place or are planned. In addition, UNEP is currently implementing these recommendations in collaboration with the partner Agencies under the Joint SACEP/UNEP/NORAD Project on Environmental Law in South Asia, and the Joint UNEP/SACEP/NORAD Project on Environmental Law in South Asia, respectively.

Following the recommendations of the Colombo Symposium, UNEP and SACEP have published *The Compendium of Summaries of Judicial Decisions in Environment Related Cases*, which provides an overview of the thrust of judicial decisions especially in South Asian countries on environment and development issues. As Judge Weeramantry has said in the Foreword of the *Compendium*, "This volume, hopefully the precursor of others of follow, will be a useful guide to all the judiciaries of the region in the discharge of the heavy responsibilities that will increasingly devolve upon them in the environmental area. It is to be hoped it will foster international Judicial dialogue in the region, inspire the judiciary with new enthusiasm, and provide an overarching vision of what collective thought and action can achieve in an area of such momentous importance to the human future. It will help in building up the necessary judicial initiatives to meet these problems which are without precedent in the long annals of the law." In Africa, precedent worthy judgements relevant to the issue are being published in 1998 for wider dissemination in the region and several volumes of a *Compendium of Environmental Statutes in Africa* is in wide circulation already.

Other recommendations of the Colombo Symposium include the publication in 1998 of the full texts of the judgements referred to in the *Compendium*, to be followed from 1999 by an annual UNEP/SACEP Asia-Pacific Environmental Law Report, publication of a compendium of texts of selected national environmental legislation of South Asian countries, and the publication in 1999, of a revised updated edition of the 1997 SACEP/UNEP/NORAD South Asia Handbook of Treaties and Other Legal Instruments in the Field of Environment. It has also been resolved to convene such judicial meetings once every two or three years, and with national judicial seminars taking place already, a rich exchange of judicial experiences can be expected to provide a strong foundation in judicial intervention and development in the next century.



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## **ENFORCEMENT VERSUS VOLUNTARY COMPLIANCE: AN EXAMINATION OF THE STRATEGIC ENFORCEMENT INITIATIVES IMPLEMENTED BY THE PACIFIC AND YUKON REGIONAL OFFICE OF ENVIRONMENT CANADA 1983 TO 1998**

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### **SUMMARY**

Environment Canada's Pacific and Yukon regional office has implemented a compliance and enforcement program which has developed over the last 15 years into four primary stages: 1) problem definition and scientific assessment; 2) compliance promotion and inspection; 3) strategic enforcement initiatives and prosecution; and 4) compliance maintenance. These can be divided into 8 distinct phases. The compliance process takes place over a 5 to 7 year period depending on the industry and has resulted in dramatic reductions in the discharges of harmful substances and increases in compliance with the **Federal Fisheries Act** and the **Canadian Environmental Protection Act**. Three case studies of the Antisapstain Industry, Pulp and Paper Industry, and Heavy Duty Wood Preservation Industry which included 154 of the largest industrial facilities in British Columbia demonstrate that compliance promotion combined with progressive use of stronger enforcement tools leads to compliance with federal environmental legislation.

The design of this process results in less than 0.5% to 1.5% of the facilities in any of the industry groups being subjected to prosecution and maximizes the use of other enforcement tools such as inspections, warning letters and direction letters. The sole reliance on voluntary compliance was demonstrated to be ineffective for these sectors in achieving even a marginally acceptable level of compliance or benefit to the environment. These findings mirror the independent results reported in the 1996 KPMG Environmental Risk Management Survey of 1,547 of the largest Canadian companies, hospitals, universities and school boards. This survey found that the prime motivating factors for implementing environmental improvements were, compliance with regulations >90%, Board of Director liability >70%, employees >60%. The least influential factors were: voluntary programs 15% to 20%, interest groups 10% to 12%, and trade considerations <10%.

Properly designed and applied compliance and enforcement programs resulted in a significant benefit/cost ratio with benefit measured by resulting expenditure in pollution control. Expenditures by industry to comply with the regulatory initiatives were demonstrated to exceed the federal government costs for the program by ratios that were greater than 70:1. In one case study the heavy duty wood preservation industry expended over \$39,000,000\* to comply with environmental requirements as a result of a \$600,000 expenditure on a strategic enforcement program under the Fraser River Action Plan.

The role of analysis is key in three of the phases of the compliance and enforcement program:

- analytical methods development for new chemicals:
- analysis of routine samples collected by inspectors to verify compliance; and

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\* All amounts cited in the paper are in Canadian dollars (CDN\$)

- analysis of legal samples for the purposes of prosecution and testifying as expert witnesses in court proceedings.

A review of 19 different regulatory groups found that those industrial sectors which relied solely on self monitoring or voluntary compliance had a compliance rating of 60% versus the 94% average compliance rating for those industries which were subject to federal regulations combined with a consistent inspection program. Voluntary compliance programs and peer inspection programs could not achieve satisfactory levels of compliance.

Future compliance and enforcement programs will likely require an increased demand on enforcement resources as regulatory initiatives proliferate. When large point sources of pollution such as pulp and paper mills, mines and lumber treatment facilities are brought into compliance the enforcement programs will shift towards the more diffuse sectors such as agriculture/ranching, urban development, municipal effluent, transportation and specific chemicals such as ozone depleting substances and dry cleaning solvents. The large number of sites in these sectors will require an increased effort towards education and compliance promotion during the initial phases of the enforcement programs which will place greater demands on limited enforcement resources.

In the last 10 years, the number of sites to which federal regulatory initiatives apply has risen from 5,600 to over 17,000. In British Columbia there are 7 full time inspectors and 3 investigators and 5 emergency response officers in the federal department of environment. These 15 people are frequently called upon to assist or cooperate with provincial staff in enforcement initiatives which provide the minimal deterrent necessary to achieve an acceptable level of environmental protection. The common inference that there is overlap and duplication of effort between federal and provincial enforcement agencies is not supported by the available data.

Even with combined resources of other federal and provincial agencies, Environment Canada must still be selective in which situations will eventually be inspected and/or investigated. Every effort is made to apply at least one of the available enforcement tools to motivate a change in behavior that leads to compliance with Canada's environmental legislation.

## **1 PHASES OF AN ENVIRONMENTAL LAW COMPLIANCE AND ENFORCEMENT PROGRAM**

Environment Canada is responsible for the enforcement of several Statutes which protect the environment including those listed in Appendix I. In 1992, the Pacific and Yukon Region initiated the Fraser River Action Plan (FRAP) which provided additional resources with three main objectives: to work with partners and stakeholders to manage the Fraser Basin in a sustainable manner; to improve fish and wildlife productivity in the Fraser Basin; and to reduce pollution. FRAP resources were used to monitor the impact of environmental law enforcement strategies on various industrial sectors and to review historical data related to these sectors.

The examination of 19 industrial sectors indicated that there are distinct phases in an enforcement cycle that will last from 5 to 10 years depending on the intensity of the program. This paper examines these phases using the antisapstain wood preservation, pulp and paper (dioxin and furan discharges) and heavy duty treated wood industries as examples of this case study. The studies parallel the findings in the KPMG report<sup>12</sup> with respect to primary driving

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factors which influence corporations to take action on environmental issues. Future trends related to enforcement programs moving from large point source discharges to diffuse discharges are briefly examined.

#### 1.1 Phase 1: Problem Definition and Scientific Assessment

The technical/operational procedures in an industry are examined to identify the sources and effects of pollution from selected operations. This may include scientific studies, sampling and testing of new production or pollution control technology. Inspections are conducted at a few selected sites. A high priority is placed on analytical method development by Environment Canada's laboratories. (e.g. Antisapstain and Dioxin and Furan analytical methods research and development)

#### 1.2 Phase 2: Development of Best Management Practices

Technical experts and industry operators (e.g., mill managers, equipment or process operators who have special knowledge) and interested government stakeholders meet to examine causes and solutions to the identified problems. Usually a "Code of Operating Practice" is developed. In some cases, regulations may be developed. Expertise in pollution abatement and emerging technology is critical in this phase.

#### 1.3 Phase 3: Development of Formal Inspection Techniques and Compliance Promotion

Environment Canada typically develops inspection techniques including the use of checklists which reflect the requirements of the relevant Code of Practice or regulation. Inspections may be done jointly with provincial Ministry of Environment, Lands and Parks (BCMELP) Inspectors to coordinate procedures. The number of sites inspected increases, usually to test out the checklists and gain input from the industry group. Inspections at this stage **may** result in some form of enforcement action depending on the seriousness of the situation at the site being inspected. Cooperation between compliance and enforcement sections with pollution abatement and analytical laboratory divisions is high.

At the end of this phase training seminars for the government inspectors will occur, focusing on environmental issues, control technology and regulatory enforcement. Information seminars for the industry may occur as a part of the compliance promotion program. The most progressive members in the target industry group exhibit a high degree of cooperation and 10% to 15% of the facilities will normally be found to be in a reasonable status of compliance during this phase.

#### 1.4 Phase 4: Expanded Inspections

In this phase, the inspection protocol has been tested and more facilities are inspected. Joint inspections with British Columbia Ministry of Environment, Lands and Parks (BCMELP) Inspectors may occur. Usually, Environment Canada and BCMELP will divide responsibilities to increase the number of sites that can be inspected. Depending on what is found the following enforcement actions may occur if an Environment Canada Inspector inspects a site:

- a. The Industry operator receives a copy of the inspection report.
- b. When minor deficiencies are found an Inspector may set a date to reinspect.

- c. If moderate deficiencies are found an Inspector may issue a **Warning Letter** which clearly identifies the deficiencies and legal violations, specifies that a re-inspection will occur and if the situation is not corrected, further enforcement actions may be taken.
- d. Where significant deficiencies are found which require immediate attention, the Inspector will issue a **"Direction"** which specifies the expected results of corrective actions and advises that further enforcement action may be taken if these results are not achieved. The dates within which re-inspections will occur to verify complete compliance may be specified.

Verbal "Warnings" and "Directions" are usually followed by written versions and clearly outline the infractions, applicable legislation and penalties associated with continuance of the infraction. These letters are directed to the Presidents, Board of Directors, Chief Operating Officers, facility managers and perhaps the individual operator responsible for the infraction and form part of the compliance history of the individuals and the companies. Due to the significant liability placed on corporate directors these letters often result in significant downward administrative pressure within a company to resolve the issue. 80% to 90% of the facilities normally reach a high level of compliance in this phase.

The role of the analytical laboratories in this phase is to analyze samples which are collected by Inspectors to verify compliance with limits set under permits, regulations or the general provisions of S. 36.(3) of the **Fisheries Act**.

#### 1.5 Phase 5: Strategic Enforcement Initiatives

Clear and significant violations may be referred immediately to the Investigations Section of Environment Canada and may result in an investigation/prosecution. Facilities which have a significant impact on the environment, which have not made improvements, or which have not made a reasonable effort to move to compliance will be targeted for investigation. Search Warrants are usually executed and evidence is collected to determine if prosecution is warranted. During this period, some facilities make the necessary improvements and it may be possible to avoid prosecution although avoidance is rare. One half percent to 5% of the facilities in any industry group normally fall within this group.

In certain industrial groups, the avoidance of implementing sound environmental practices resulted in strategic enforcement initiatives targeted at the most delinquent facilities. Two examples are provided later in the text.

The role of the analytical laboratories is critical in this phase. Samples collected under legal protocol must have the continuity of evidence maintained through strict security procedures in the laboratory. The analysts must be certified under the legislation as designated analysts. If necessary the analysts will be called to testify as expert witnesses which requires similar training as inspectors and investigators with respect to presentation of evidence in court.

#### 1.6 Phase 6: Prosecution

If a facility is investigated, all the evidence concerning the violation(s) is summarized into a report called a "Prosecution Brief". This brief is submitted to the Federal Department of Justice for a decision as to whether to prosecute. If the Department of Justice approves the prosecution, the investigator lays a charge and the manager (and possibly the corporate directors) of the facility will receive a summons to appear in court. One half percent to 2% of the facilities in any industry group will normally fall within this group.

### 1.7 Phase 7: Conviction, Fines, Penalties and Court Orders

If the facility/operator/company is found guilty a penalty will be assessed. This is normally in the form of fines and court orders. The convicted person or company may be required to pay a fine to the government, pay money to an environmental group to improve fish habitat and correct all the deficiencies which caused the offense. Environment Canada Inspectors conduct inspections under the authority of the **Canadian Environmental Protection Act**<sup>18</sup>, pollution prevention provisions of the **Fisheries Act**<sup>19</sup> and the **Migratory Birds Convention Act**<sup>20</sup> which have penalties that range up to:

- maximum fine \$300,000 and /or imprisonment for 1 year on summary conviction; and
- maximum fine \$1,000,000 and/or imprisonment for 3 years on indictment.

A court order may:

- prohibit a person from doing an activity;
- direct a person to pay for the improvement of fish or fish habitat (no limit as to cost);
- direct a person to publish the facts of their conviction in the newspaper at their cost;
- pay compensation to the government;
- perform community service; and/or
- post a bond.

One half percent to 1% of the facilities in any industry group will normally be included within this phase.

### 1.8 Phase 8: Compliance Maintenance Inspections

Re-inspection will occur to verify compliance with Warnings, Directions and Court Orders. A certain percentage of all the facilities within an industry group will be reinspected in following years on a rotational basis to ensure that the standards are being maintained. The facilities are chosen based on compliance history and some random selection.

## 2 CASE STUDY #1: THE ANTISAPSTAIN WOOD PRESERVATION INDUSTRY COMPLIANCE PROMOTION AND ENFORCEMENT PROGRAM

British Columbia supplies an estimated 39% of the world's soft wood lumber supply and annual sales often exceeded \$4,000,000,000 providing major employment and tax revenues. Prior to 1983, water borne solutions of pentachlorophenol (PCP) and tetrachlorophenol (TTCP) were the primary chemicals used to protect freshly cut lumber from moulds and fungi which attacked the spruce, pine and fir (SPF) species. There were no regulations or codes of practice which defined how the chemicals were to be applied and how the treated lumber was to be stored.

Prior to 1986, approximately 108 mills in British Columbia used to treat wood in this manner. The basic process involved dipping or spraying water borne solutions of up to 1% PCP/TTCP onto green, rough cut lumber. The treated lumber was then moved to exterior storage yards with gravel or paved surfaces which may be up to 80 acres in size. British

Columbia coastal rainfall can exceed 1.9 meters annually and it was estimated that over 250 million cubic meters of acutely lethal effluent discharged annually from these facilities into fresh water and marine environments that supported valuable salmon and other fish/shellfish stocks.

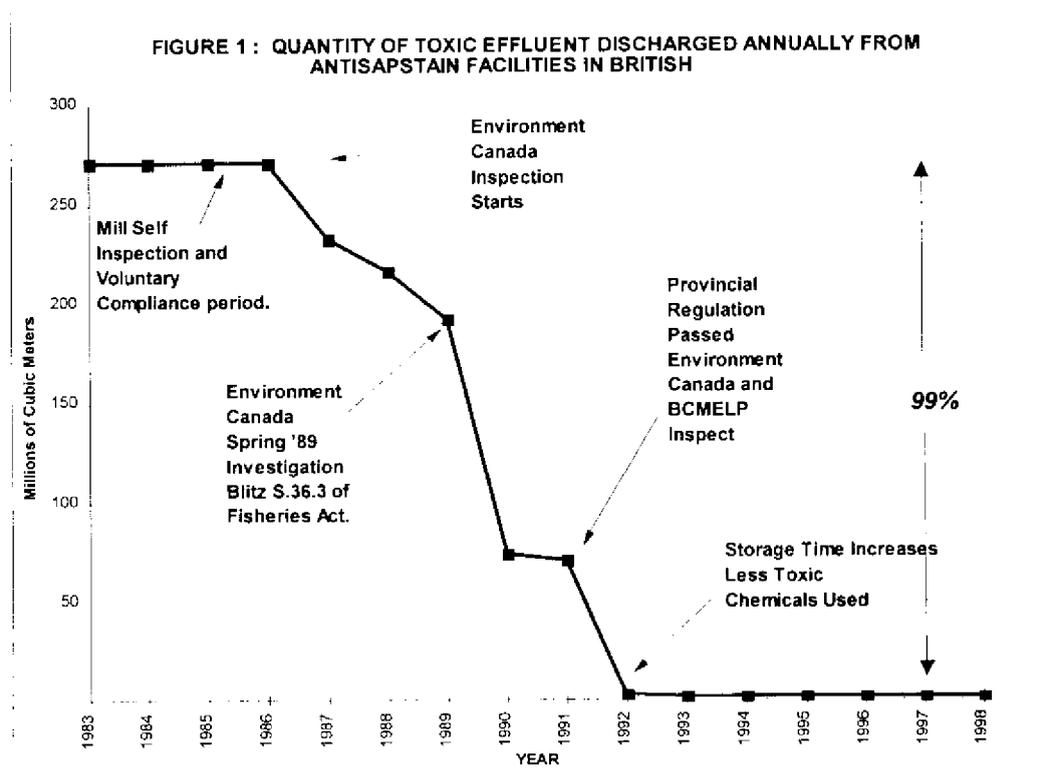
**Photo #1 Leaching of Chlorophenates from Freshly Treated Lumber Prior to Implementation of Regulations (3)**



**Photo #2 Contaminated Storm water Runoff Discharging into the Fraser River with Fluorescence Dye used to Highlight the zone of Impact**



The Fraser River has a flow rate which ranges from 3,340 to 3,360 cubic meters per second (m<sup>3</sup>/s). During the winter rainy season, pentachlorophenol could be detected in water samples throughout the lower Fraser River estuary downstream of the Port Mann Bridge Crossing. A scientific assessment confirmed that this was due to a very large discharge of chlorophenols from the Antisapstain Wood Preservation Industry.



From 1983 to 1986, voluntary implementation of code of practice recommendations was the only tool used and mills were permitted to self inspect. During this period there was negligible improvement in operations which reduced toxic discharges.<sup>3,4,5</sup>

From 1986 to 1989, Environment Canada formalized the inspection protocol using specific checklists and onsite visits from inspectors combined with compliance promotion seminars. Training courses were provided to British Columbia Ministry of Environment, Lands and Parks Inspectors and the mills were divided into primarily provincial responsibility and federal responsibility for inspection purposes. The progressive mills implemented proper chemical handling and treatment procedures or constructed facilities necessary to control or prevent releases, however, a significant proportion of the mills did not implement corrective measures. Legal charges were not laid for improper practices during this period.

In the spring of 1989, Environment Canada's enforcement staff embarked on a strategic enforcement initiative and targeted five of the worst known mills for investigation and ultimate prosecution. A significant number of mills improved their operating procedures but there were specific issues which were argued to be too costly. (See Section 7 Costs)

In 1991, Environment Canada, the British Columbia Ministry of Environment, Lands and Parks and the Department of Fisheries and Oceans cooperated to draft a regulation which was enacted by the provincial government to make certain operating practices mandatory. This was followed by a comprehensive inspection and sampling program by Federal and Provincial Inspectors which resulted in the rapid development and use of new antisapstain chemicals which were significantly lower in toxicity. The mills constructed improved lumber treatment facilities including increased covered storage which prevented wash off of chemicals immediately after treatment. The number of mills using these chemicals decreased from 108 to 51. This was achieved by using alternate methods to protect the wood and develop new markets which did not require preservation. By 1993 it was estimated that a 99% reduction in the discharge of acutely toxic effluent was achieved.

This industry group is now undergoing a reevaluation to determine if the practices and preservatives currently in use may be causing significant sub-lethal effects in the receiving environment. If this were determined to occur then a new baseline would be established and regulatory and compliance enforcement initiatives would have to be developed and a new phase 1 program implemented.

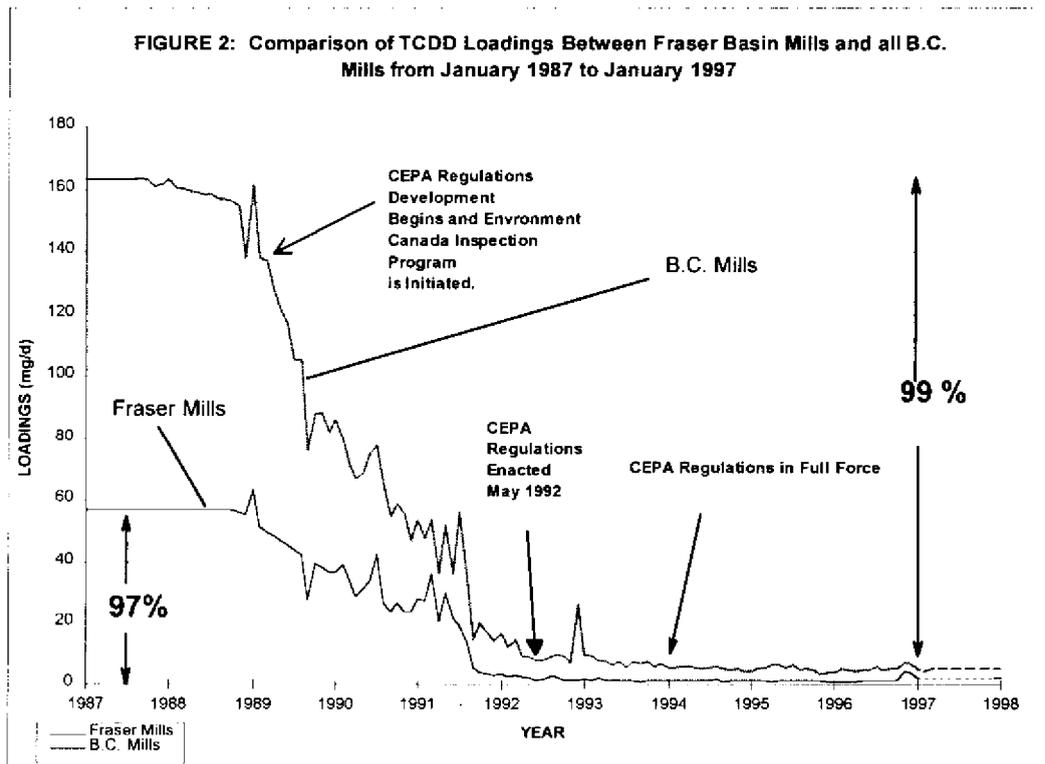
### **3 CASE STUDY #2: THE BRITISH COLUMBIA PULP AND PAPER MILLS, CANADIAN ENVIRONMENTAL PROTECTION ACT: DIOXIN AND FURAN REGULATIONS, COMPLIANCE PROMOTION AND ENFORCEMENT PROGRAM**

In 1998/99 there was significant international pressure to eliminate the use of chlorophenols as an anti-sapstain chemical especially by non governmental environmental organizations such as Green Peace. In British Columbia there were several protests at suppliers and sawmills and wood preservation companies which used these products. Chlorophenols and their associated dioxin and furan contaminants were entering the pulp and paper products as a result of shipment of chlorophenolate treated wood shavings and mill ends which were chipped and sent from sawmills to pulp mills as supplemental feed stock.

Pulp mills also formed chlorinated dioxins and furans from petroleum based defoamer products which combined with chlorine added during the pulp bleaching process. As soon as the chlorophenols were on the verge of elimination from the sawmill industry, Green Peace representatives collected samples of sediment and crab from the receiving waters near the Harmac Pulp mill on Vancouver Island which were found to contain chlorinated dioxins and furans. Environment Canada and the Department of Fisheries and Oceans collected numerous samples in areas near sawmills and pulp mills which confirmed the presence of the same chemicals. The contamination resulted in the closure of 1,200 square km of crab and shellfish harvesting areas.<sup>3,14</sup>

The development of the Pulp and Paper Mill Effluent Chlorinated Dioxins and Furans Regulations<sup>15</sup> and the Pulp and Paper Mill Defoamer and Wood Chip Regulations<sup>16</sup> under the **Canadian Environmental Protection Act**<sup>18</sup> began in 1989 in consultation with stake holders (e.g., environmental groups, the local public, native bands, chemical or equipment suppliers, etc.) and the pulp and paper industry. In this case there was no industrial code of practice development phase as the issue was deemed a significant national priority that required direct regulatory action. An inspection program was developed immediately.

Draft regulations were developed which required an immediate ban on the purchase and use of wood products contaminated with chlorophenols and defoamers contaminated with dioxin and furan precursors. The mills implemented these bans in anticipation of the regulations resulting in an immediate decline in the discharges of the two regulated chemicals, 2,3,7,8-tetrachloro-dibenzo-para-dioxin (2,3,7,8-TCDD) and 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDF) as shown in Figure 2.



Any mill which was constructed before June 1, 1990 was permitted to apply for an extension to comply with the regulations by January 1, 1994. All British Columbia mills were constructed prior to this date and applied for the extension. Figure 2 shows that all mills were essentially in compliance by the January 1994 deadline. Several excursions over the regulated limits occurred due to technical factors such as re-suspension of previously contaminated sludges in treatment lagoons and hog fuel (tree bark fed to power boilers) which was contaminated by saltwater during transport to mills via log booms.

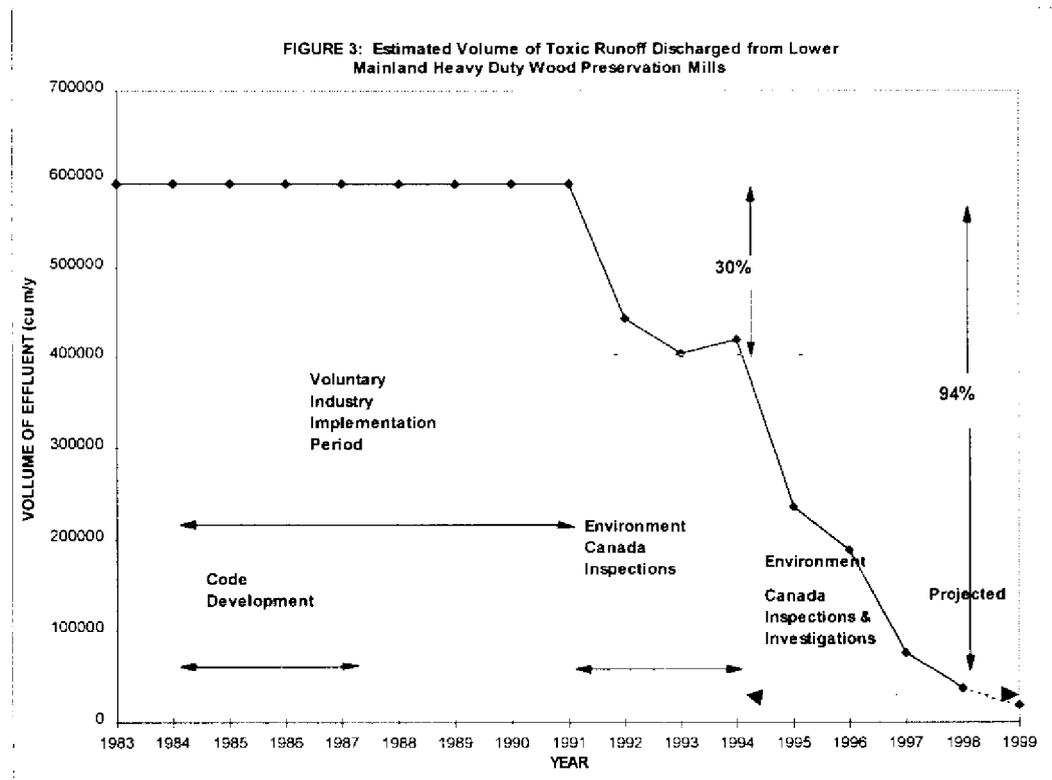
The frequency of federal inspections during the pre and post regulation phase averaged a minimum of twice per year or more for mills which were considered high risk. The federal inspection program required a significant diversion of resources away from the antisapstain industry to concentrate on the new pulp and paper program. The inspections were sometimes coordinated with provincial inspectors or conducted as random, unannounced inspections.

These inspections included sampling and testing for biochemical oxygen demand, total suspended solids and acute toxicity which were required under the **Fisheries Act**, Pulp and Paper Effluents Regulations.<sup>16,19</sup> The same pattern of decline was observed in these three parameters but are not depicted in Figure 2.<sup>3</sup>

#### 4 CASE STUDY #3: DISCHARGES OF ACUTELY LETHAL EFFLUENT FROM HEAVY DUTY WOOD PRESERVATION MILLS IN BRITISH COLUMBIA

In 1983, the production of pressure or thermal treated lumber and poles resulted in similar contamination of storm water runoff as was observed in the anti-sapstain industry. There were an average of 19 to 21 operating mills in British Columbia compared to the 108 in the antisapstain group which used preservatives such as oil borne pentachlorophenol, creosote and water based mixtures of copper, chromium, arsenic and ammonia.

In cooperation with stakeholders and industry associations, Environment Canada developed 5 codes of practice which were not legally binding on the industry. (6,7,8,9,10) In 1987, Environment Canada informed the industry of the results of studies concerning contamination of soils and in particular, storm water runoff. The volume of acutely toxic storm water effluent discharged from six facilities in the Greater Vancouver Area was calculated to exceed 600,000 cubic meters per year<sup>3</sup> (Figure 3).



From 1983 to 1991 the industry operated under a voluntary program to implement code of practice recommendations as the enforcement resources of Environment Canada were primarily directed towards the anti-sapstain and subsequently the pulp and paper industry. As these two industries moved towards compliance Environment Canada diverted inspection resources from them and implemented an inspection protocol which resulted in some improvement during the 1991 through 1993 period. In 1991 Environment Canada conducted further scientific research which confirmed that these mills were still discharging significant quantities of acutely toxic effluent and informed each mill by providing copies of the report which identified each facility.<sup>17</sup> Significant operational changes did not occur after the release of this information to the mills.

Under the federal Fraser River Action Plan (FRAP) Environment Canada's Inspection and Investigation divisions initiated an intensive inspection and investigation program which targeted all six Greater Vancouver mills. The program was initiated in February 1994 and continued into 1998. In Figure 3, the points on the curve indicate the reduction in the discharge of acutely lethal effluent which resulted as successive mills implemented physical and operational changes to reach near zero effluent discharges.

The enforcement program was conducted in cooperation with the British Columbia Ministry of Environment, Lands and Parks where Environment Canada conducted all the essential sampling and physical plant inspections. Four of the six mills were issued provincial pollution abatement orders under provincial legislation based on the data collected by Environment Canada. One mill (which was located on land under sole federal jurisdiction) was investigated however the mill managers initiated structural changes and soil cleanup programs in such a rapid manner that charges were not laid.

The surface assets of the sixth mill were sold to an operating company while the original owner retained the contaminated land. Operational practices conducted before and after the sale resulted in charges under the federal **Fisheries Act** being laid against both companies at the same site. At this site the **Fisheries Act** is the primary legislative enforcement tool for contaminated surface runoff and contaminated groundwater which may discharge into surface waters. The provincial legislation is used as the primary enforcement tool to control the movement of liquid contaminants and contaminated groundwater across property boundaries and cleanup of surface soils.

A 34% to 85% reduction in the quantities of environmentally harmful substances in Fraser River sediments adjacent to the five mills where investigations were initiated has recently been verified by follow up inspections.

## 5 EVALUATION OF THE THREE CASE STUDIES

The data from Figures 1, 2 and 3 were normalized by calculating the ratio of the quantity of pollutant discharged at any time divided by the quantity prior to the enforcement initiatives and converting to a percentage value. The three curves were then replotted in figure 4.

Figure 4: Normalized Graphs of Three British Columbia Forest Sector Industries Response to Environmental Law Enforcement Programs.

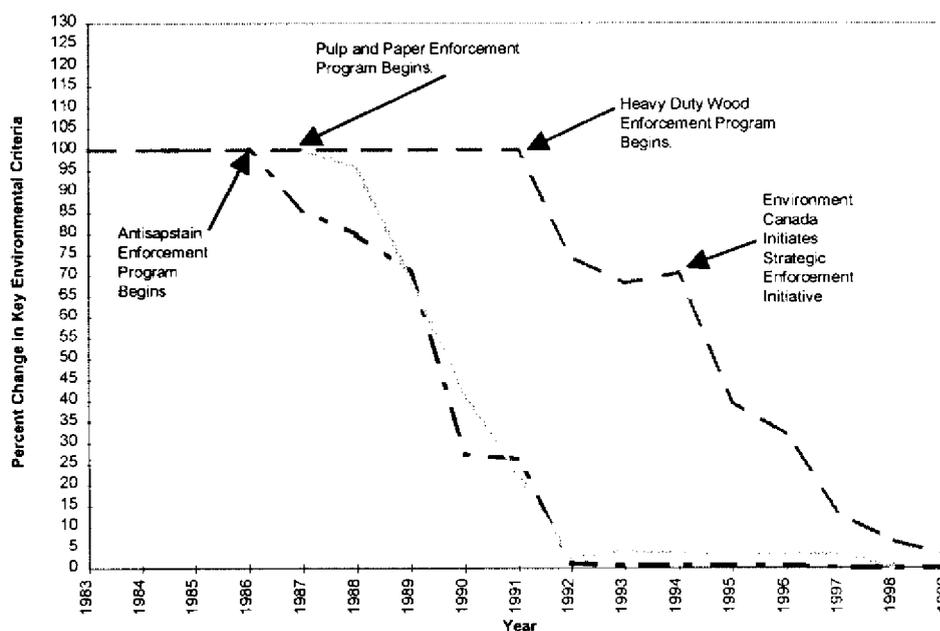


Figure 4 shows that the period of voluntary compliance resulted in negligible or unsatisfactory changes in the quantity of pollutants discharged in the Antisapstain Industry until the stronger inspection and investigation initiatives were implemented. This is followed by the decline in discharges from the pulp and paper industry as enforcement resources were diverted to deal with the dioxin, furan, BOD, TSS and toxicity issues.

As long as stronger enforcement resources were diverted to the anti-sapstain and pulp and paper industries the voluntary compliance and limited inspection activity in the Heavy Duty Wood Preservation industry resulted in negligible changes in the discharge of acutely toxic effluent. In 1991 inspection resources were diverted to the Heavy Duty Wood Preservation sector and minor improvements were observed but reached a plateau in 1992. In 1994, as soon as the strategic enforcement initiative was implemented and the mills were served with federal charges or provincial pollution abatement orders the discharge of pollutants declined dramatically.

These observations support the data reported in the 1996 Canadian Environmental Management Survey conducted independently by the KPMG Environmental Risk Management Practice.<sup>12</sup> (A division of KPMG Chartered Accountants) The KPMG study surveyed 1000 of the largest companies in Canada as ranked by the Financial Post, and 400 companies from the Canadian Corporate Disclosure data base (sales under \$28,000,000), as well as hospitals, municipalities, universities and school boards across Canada.

The 27% response rate was tabulated and determined that the overall ranking of top factors influencing organizations to take action on environmental issues remained unchanged in 1995.

The most influential factors for organizations to take action on environmental issues were:

- Compliance with regulations >90%
- Board of Director Liability >70%
- Employees >60%

The least influential factors were:

- Voluntary programs 15% to 20%
- Interest groups 10% to 12%
- Trade considerations <10%

This explains the rapid change in the British Columbia industries performance when corporate directors were faced with warning letters, pollution abatement orders and federal prosecutions.

## 6 TIME PERIODS TO ACHIEVE COMPLIANCE

The time periods required to achieve the desired level of compliance varied depending on the duration of the voluntary program and the intensity with which the strategic enforcement initiatives were implemented. The Antisapstain industry required 7 years to reach what was considered an acceptable level which was the period from 1986 to 1992.

The pulp and paper industry required 5 years to implement the structural changes which covered the period from 1989 to 1994. The heavy duty wood industry required 7 years of which the first three consisted of a limited inspection program. From 1994 through 1997 the 19 facilities in British Columbia were subjected to an unprecedented 85 inspections with the greater Vancouver mills subjected to 6 investigations and two prosecutions which accounted for the significant rate of decline in toxic discharges during the last three years of the program.

In the spring of 1997 Environment Canada and the British Columbia Ministry of Environment met with the national associations of the heavy duty wood preservation industry to discuss the implementation of a national inspection program. The program would use the revised codes of practice<sup>13</sup> as the template to generate inspection questionnaires and would be applied similar to the program in British Columbia. The national association representatives concluded that the program would not be successful on a solely voluntary implementation basis and inquired if there was a legislative process which would ensure compliance by all mills in Canada. The national association was concerned with two issues: that the non-compliant mills in the other regions would have an economic advantage over the mills which had come into compliance and: that the environmental problems created by the non-compliant mills would reflect poorly on the public perception of the entire industry and negatively impact sales of their product in regional and world markets.

## 7 ECONOMIC IMPACT OF COMPLIANCE AND ENFORCEMENT PROGRAMS

The cost of compliance and enforcement must be compared to the expenditures experienced by industry. With respect to the Antisapstain Wood Preservation program the industry conducted a study in 1988 and reported:

*"The report prepared for COFI on the mitigative options for anti-sapstain contamination of storm water runoff, focused on five general approaches: covered storage, wrapping of treated lumber, physical and chemical treatment of runoff, kiln drying, and new alternative chemicals and technologies. The result of this investigation which was not reviewed by the government agency members is that the lowest cost option, which uses pre-engineered steel covered storage, would cost the industry over \$360 million. The annual costs for all options ranges from \$28 million to \$335 million. The report concludes the current export market advantage British Columbia enjoys would be seriously eroded should these costs have to be incurred."*<sup>1</sup>

The initial cost estimates of \$10,000,000 per mill in 1988 were revised to \$5,300,000 in the industry generated report.<sup>1</sup> The actual costs experienced by 1996 ranged from \$1,000,000 to \$1,500,000 per mill.<sup>2</sup>

Compliance and enforcement programs play a significant role in creating a level economic playing field, in a region or a country. For example, the typical pulp and paper mill in British Columbia incurs costs of \$30.00 per tonne of pulp to comply with environmental standards. The average mill produces nearly 1,000 tons per day with a daily cost of \$30,000 or an annual cost of nearly \$9,000,000. If a mill of similar size in another region does not comply to the same standards it will gain an economic advantage of \$9,000,000 or more depending upon interest rates and capital cost factors. The \$9,000,000 costs may be considered an economic penalty by the compliant mill. This cost for complying with the law far exceeds the highest fines ever issued against any industrial facility in Canada for violation of the **Fisheries Act** or the **Canadian Environmental Protection Act**.

Operational costs of the Heavy Duty Wood Preservation enforcement program were monitored as part of the Fraser River Action Plan initiative which totaled approximately \$600,000 by Dec. 31, 1997. The industry costs to comply with the federal and provincial requirements will total \$39,000,000 by September 1998 as five of the six facilities come into compliance with federal and provincial requirements. This is nearly a 70:1 ratio of industry expenditure in response to federal government expenditure. The sixth company is still before the courts and costs to comply have not been fully assessed but may double this ratio.

These are first order costs and do not consider the multiplier effect through the economy where wages and expenditures by suppliers of technology, expertise and services result in additional economic benefits.

These economic issues extend beyond national borders where pulp and paper suppliers in competing countries may not be subject to the same environmental criteria as Canadian companies. Environment Canada has been active in supporting the development of regulations and enforcement programs in developing countries which will aid in protecting the global environment and help prevent the creation of "pollution havens". Programs specific to enforcement techniques have been conducted by the Pacific Regional Office in Mexico in 1993 and Thailand in 1997 and government inspectors from Indonesia and China have received training in North Vancouver in 1995 and 1997 respectively.

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## 8 ENFORCEMENT PREMIUM

The compliance rates of 19 industrial sectors were examined as part of the Fraser River Action Plan review which compared industrial groups which were subject to voluntary programs versus those which had undergone voluntary plus strategic enforcement initiatives. Appendix II shows that those industries which relied on self monitoring or voluntary compliance programs average a 60% implementation of best management practices. Significant discharges of harmful substances or destruction of fish habitat continued.<sup>3</sup>

Those industries which must comply with a regulation and which were subjected to federal or combined federal/provincial inspections and/or 4 to 5 years of sustained enforcement initiatives averaged 94% compliance rates. The discharges of harmful substances frequently decreased by over 90% from the pre-enforcement period.<sup>3</sup>

The premium for a comprehensive compliance promotion and enforcement program is therefore approximately 30% improvement in best management practices or regulatory compliance with reductions in harmful substance discharges (or habitat degradation) of over 90%.

## 9 FUTURE COMPLIANCE AND ENFORCEMENT STRATEGIES

The primary focus of compliance and enforcement programs by the Federal Department of Environment has been on large point sources such as pulp and paper mills, mines, sawmills and heavy duty wood treatment facilities. These were sources of large volume discharges of environmentally harmful substances which frequently caused acutely lethal effects in organisms such as fish living in the receiving environment. As these large point sources are brought under control there are two emerging issues which will challenge how compliance and enforcement resources are deployed.

The first relates to current research which indicates that discharges from industrial facilities and pesticides may still release significant quantities of natural or artificial chemicals such as "endocrine disruptors" which can cause sublethal damage to organisms in the receiving environment. If these "newly identified" chemicals are confirmed to be priorities they will establish a new baseline in terms of quantities discharged and compliance with a best management practice or regulation. In effect the lines in figure 4 will move back up to the 100% discharge level for these new chemicals. The extent to which compliance and enforcement resources are diverted to these new issues will have to be balanced against the second issue.

The second is with respect to research conducted under the Fraser River Action Plan. Smaller, diffuse, non-point sources such as farms, ranches, households with septic systems, new residential subdivisions, commercial areas, transportation routes and municipal sewage discharges have significant impacts on water quality and fish and wildlife habitat. These smaller sources are more numerous and distributed over a much larger area than the large point sources such as pulp and paper mills, mines and wood preservation facilities. The large number of private individuals who are owners and managers creates communication challenges concerning the technical requirements of the regulations and logistical problems to inspect all the facilities with limited personnel resources.

The pollution abatement, compliance and enforcement divisions will have to determine which priority represents the greatest return on the available compliance and enforcement resources. The impact of agriculture and ranching on stream side riparian zones and water quality has resulted in hundreds if not thousands of kilometers of deteriorated stream

beds which significantly impair or prevent spawning and rearing of fish. This is not a criticism on these particular industries which have initiated peer programs and are in the development of stream stewardship programs.

It is presented in terms of the type of choice which must be made. This industry is currently at its original baseline stage which is comparable to the situation that the anti-sapstain, pulp and paper and heavy duty wood industries were operating in the early 1980's. If there are no new resources or a reduction in terms of personnel and operating funds then a clear choice will have to be made as to whether or not compliance and enforcement resources are directed towards these issues.

As the number of inspectable targets increases, the demand on enforcement resources increases and the strategies to deal with these issues are likely to result in earlier participation in compliance promotion programs. In the three case studies, "hard enforcement" in the form of prosecutions for incidences of noncompliance related to best management or regulatory requirements were very limited. In the antisapstain industry, 2 mills out of 108 were prosecuted for noncompliance with best management practices. The prosecution ratio was zero for 17 mills subject to the dioxin and furan regulations for pulp and paper mills and 2 out of 19 in the heavy duty wood industry. Prosecution is likely to be used on average in 0.5% to 1% of the facilities in any industry group. The primary mechanisms which achieve compliance are repeated inspections, issuing of federal warning letters and direction letters. (Ticketing provisions have not yet been added to the list of tools which can be utilized by federal pollution inspectors.)

In the case of agriculture and ranching in British Columbia with at least 10,000 inspectable sites this ratio would result in a minimum of 50 to 100 prosecutions which would likely exceed the capacity of the investigation resources available for all federal (and most likely provincial) pollution prosecutions in British Columbia. Other tools such as federal ticketing powers may be required to achieve a reasonable level of compliance.

## 10 OVERLAP AND DUPLICATION OF EFFORT

In British Columbia there are currently 7 inspectors 5 emergency response personnel and 3 investigators employed on a full time basis in the Environmental Protection Branch. During strategic enforcement initiatives, experienced managers may be required to participate directly to supplement personnel requirements. In 1998/99 the Pacific Regional Inspections Section will plan inspection programs for 56 regulatory initiatives under the **Canadian Environmental Protection Act (CEPA)** and the **Fisheries Act**, (and provide limited support to the federal Wild Life Section under the **Migratory Birds Act (MBA)**, **Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPRITA)** and **Convention on International Trade in Endangered Species (CITES)**). The number of facilities subject to federal legislation is now over 17,200 facilities. The three case studies have illustrated that the combined efforts of federal and provincial compliance and enforcement resources are required to effectively implement improvements in the environmental compliance and reduce discharges of harmful substances. Even with existing resources the departments had to be selective in order to achieve acceptable goals while leaving other polluting industries relatively untouched. The impression that there is large scale duplication of effort and the implication that there are large cost savings and improved environmental performance which can be achieved by removing overlap and duplication is largely a myth unsupported by any data.

The role that the federal government played in the example of the pulp and paper industry was to set a broad based national standard which the provincial governments could adopt or set more stringent standards. Equitable enforcement of the standards would reduce or eliminate the financial benefits of noncompliance and inhibit the establishment of so called "pollution havens". In British Columbia, in 1997, the federal inspection, investigation and pollution abatement divisions played a significant role in supporting 5 investigations with the British Columbia Ministry of Environment by providing field and technical expertise, preparation of court briefs and testimony in prosecutions of pulp and paper mills for violations of federal and provincial standards.

In the case of the antisapstain and heavy duty wood preservation industries (which when combined, are the single largest economic sector in British Columbia that had sales in excess of \$4,000,000,000 annually), the federal government demonstrated that there was a strategic importance in having an independent enforcement division which could target a non-compliant industrial group. The result was a strong federal enforcement presence which supported the objectives of the British Columbia Ministry of Environment Lands and Parks and eventually achieved an acceptable environmental standard at a significantly lower cost than was predicted by the industry.

Many compliance negotiations involve representatives from the federal Department of Environment, Department of Fisheries and Oceans and British Columbia Ministry of Environment. There are numerous examples where federal legislation is better suited to deal with the specifics of the case than provincial legislation (and vice versa) In certain instances both will apply and frequently the combined resources of all three agencies are required to achieve compliance. Even with combined resources the Department of Environment must still be selective in which situations will eventually be prosecuted. Every effort is made to apply at least one of the available enforcement tools to motivate a change in behavior that leads to compliance with Canada's environmental legislation.

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## Appendix I

**Table of Federal Regulatory Initiatives and Estimated Size of Regulated Communities**

<u>Act</u>	<u>Reg. #</u>	<u>Regulation</u>	<u>Estimated Size of Regulated Community</u>
<b>Canadian Environmental Protection Act (CEPA):</b>			
<b>CEPA</b>	A.1	Asbestos Mines and Mills Release Regulation	0
	A.2	Chlor-Alkali Mercury Release Regulations	0
	A.3	Chlorobiphenyls Regulations	645
	A.4	Chloroflourocarbon Regulations	0
	A.5	Benzene in Gasoline Regulations	50
	A.6	Contaminated Fuel Regulations	20
	A.7	Diesel Fuel Regulations	1,600
	A.8	Export and Import of Hazardous Waste Regs	50
	A.9	Federal Mobile PCB Treatment and Destruction	1
	A.10	Fuels Information Regulation No. 1	20
	A.11	Gasoline Regulations	5
	A.12	New Substances Notifications Regulations	8
	A.13	Ocean Dumping Regulations	108
	A.14	Ozone-Depleting Substances Regulations	57
	A.15	Ozone-Depleting Products Regulations	15
	A.16	Phosphorus Concentration Regulations	45
	A.17	PCB Waste Export Regulations, 1996	0
	A.18	Prohibition of Certain Toxic Substances Regulations	5
	A.19	Pulp and Paper Mill Defoamer and Wood Chip	18
	A.20	Pulp and Paper Mill Chlorinated Dioxin/Furan	18
	A.21	Registration of Storage Tank System (petrol)	250
	A.22	Secondary Smelter Release Regulations	1
	A.23	Storage of PCB Materials Regulations	490
	A.24	Toxic Substances Export Notification Regulations	1
	A.25	Vinyl Chloride Release Regulations 1992	0
	A.26	Perchloroethylene(Dry Cleaners)Draft regulation	Unknown?
	A.27	Halocarbon Regulations	Unknown?
<b>CEPA</b>	<b>Notices</b>		
	B.1	Notice re: Nat. Pollutant Release Inventory.	120
	C.1	Glycol Guidelines	10
		<b>CEPA TOTAL</b>	<b>3,537</b>
<b>Manganese-based Fuel Additives Act (MFAA):</b>			
<b>MFAA</b>	D.1	Manganese-based Fuel Additives Act	1,600
		<b>MFAA total</b>	<b>1,600</b>
<b>Fisheries Act (F.A.):</b>			
<b>F.A.</b>	E.1	Chlor-Alkali Mercury Liquid Effluent Regulations	0
	E.2	Meat and Poultry Products Plant Liq. Eff. Regulations	5
	E.3	Metal Mining Liquid Eff. Regulations	20
	E.4	Petroleum Refinery Liquid Effluent Regulations	2

<u>Act</u>	<u>Reg. #</u>	<u>Regulation</u>	<u>Estimated Size of Regulated Community</u>
	E.5	Potato Processing Plant Liquid Eff. Regulations	5
	E.6	Pulp and Paper Effluent Regulations	27
	E.7	Shellfish Regulations	10
<b>F. A.36.(3)</b>			
	F.1	Agriculture Dry	10000
		Agriculture Wet	
	F.2	Antisapstain Dry	51
		Antisapstain Wet	
	F.3	Auto Recyclers	
	F.4	Bulk Loading Dry	17
		Bulk Loading Wet	
	F.5	Dairy Processing Facilities	20
	F.6	Fish Processing	30
	F.7	Industrial Storm Dry	300
		Industrial Storm Wet	
	F.8	Municipal STP	12
	F.9	Pesticide Dry	1000
		Pesticide Wet	
		Pesticide Overflights	
	F.10	Readymix Concrete Dry	100
		Readymix Concrete Wet	
	F.11	Ship Repair Dry	310
		Ship Repair Wet	
	F.12	Wood Preservation Dry	19
		Wood Preservation Wet	
	F.13	Non MMLER Mines	??
	F.14	Contaminated Sites	100
		<b>FA Total</b>	<b>12,028</b>
<b><u>Migratory Birds Act (MBA)</u></b>			
<b>MBA</b>	G.1	Aviculture Inspections	15
	G.2	Taxidermy Inspections	8
	G.3	Wildlife Rehabilitation	3
		<b>MBA total</b>	<b>26</b>
<b><u>Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPRITA)</u></b>			
<b>WAPRITA</b>			
	H.1	Customs Inspections	10
		<b>WAPRITA total</b>	<b>10</b>
<b><u>Convention on International Trade in Endangered Species (CITES)</u></b>			
<b>CITES</b>	I.1	Customs inspections	10
		<b>CITES total</b>	<b>10</b>
		<b>Grand Total</b>	<b>17,211</b>

## Appendix II

### Comparison of 1996 Compliance or Best Management Practice Implementation Rates for Federally Regulated and Non-Regulated Sectors in British Columbia<sup>3</sup>

<u>Regulation or Industrial Group</u>	<u>% Compliance Under Mandatory Federal Regulations (1996 Data)</u>	<u>% Implementation Best Management Practices under Voluntary Programs (1996 Data)</u>	
Pulp and Paper Dioxin and Furan	99		
Export and Import of Hazardous Wastes	100		
Ocean Dumping	91		
Ozone Depleting Substances (Bulk)	73		
Ozone Depleting Substances (Products)	94		
PCB In Service Equipment	100		
PCB Waste Storage	94		
Pulp and Paper Wood chip and defoamer	100		
Agriculture		30	
Antisapstain Wood Preservation		87	*7 year Federal Program + Provincial Regulation
Dry Bulk Loading		61	
Fish Processing		41	
Heavy Duty Wood Preservation		89	* 4 year Federal enforcement program under the Fraser River Action Plan
Metal Mining		90	
Municipal Sewage Treatment Plants		45	
Pesticide Use		100	
Pulp & Paper Effluent, Fisheries Act. Toxicity		98	
BOD			
TSS			
Ready Mix Concrete		70	
Ship Building & Repair		57	
<b>Average Values</b>	<b>94%</b>	<b>60%</b>	
	Federally Regulated and Enforced	Voluntary Programs Includes two Federal enforcement initiatives otherwise average would be lower	



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## **A LARGE SCALE SURVEY USING ENVIRONMENTAL INSPECTIONS TO ASSESS AND ENFORCE THE IMPLEMENTATION OF THE LAW ON ENVIRONMENTAL PROTECTION IN VIETNAM, 1997**

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### **SUMMARY**

The Ministry of Science, Technology and Environment arranged for the first time a large-scale environmental inspection of enterprises in Vietnam during 1997. The purpose was to investigate the nationwide implementation of the Law on Environmental Protection. The number of enterprises investigated was more than 9000 and it was found that approximately 50% of the investigated enterprises violated the Law on Environmental Protection. The inspectors issued administrative fines and warnings to the enterprises violating the law. Fines for 120.000 USD were issued and 114 enterprises were asked to halt their activities. The inspection activity has been very successful and increased public awareness as well as provided very useful information for future work on environmental inspections.

### **1 BACKGROUND**

There have been some positive changes in the awareness, attitude and behavior of individuals, and organizations in observing the Law on Environmental Protection after it has been implemented over the past three years. However there remain a number of problems and serious violations of the Law on Environmental Protection throughout the country, causing a serious threat to the environment and for the sustainable development of various branches in all localities nationwide.

To implement the resolution of the 2nd plenum of the Party Central Committee, the 8th Legislature, the Ministry of Science, Technology and Environment (MOSTE) has been focusing on conducting surveys and inspection of the management by the State and ministries and especially of the implementation of the law on environmental protection. The Ministry decided to conduct a large-scale inspection of environmental protection throughout the country from June to November 1997.

This is the first large-scale inspection conducted by MOSTE to raise awareness about obligation of all individuals and organizations to protect the environment in their process of exploiting and using environmental resources. This inspection is also to timely discover and apply administrative fines to stop and prevent possible acts in violation of the law on environmental protection. The inspection also helped to make an assessment of the current environmental situation at production establishments, businesses, and services nation wide in order to help policy makers work out feasible and appropriate measures and policies on

environmental protection. Besides, this also helped contribute to finalizing legal documents on environmental protection, while exerting the responsibilities of all levels involved in state management of environmental protection and increase the effectiveness of inspection activities on environmental protection.

Targets of this inspection were identified with specific purposes, focusing on establishments which failed to prepare a report on Environment Impact Assessment or that failed to meet the requirements established as conditions on the decision to approve reports submitted on the Environment Impact Assessment. These included enterprises that need to invest in settlement of environment problems and which are causing serious pollution or who have been accused many times for damaging the environment.

Despite numerous difficulties in both human and financial resources, members of MOSTE and Departments for Science, Technology and Environment (DOSTE) of 61 provinces and cities, the large-scale investigation on environmental protection has achieved its basic goals even beyond its expectations. All parties involved have closely cooperated with the concerned ministries and agencies, local administrations at all levels and with local people's support. Following is the report on the results of the inspection.

## **2 DEVELOPMENTS OF THE PROCESS TO CARRY OUT THE LARGE-SCALE INSPECTION ON ENVIRONMENTAL PROTECTION**

### **2.1 Legal and personnel preparations**

Thorough and diversified preparations were made for the implementation of the large-scale investigation on environmental protection.

To create the legal framework for the Inspection, on May 6, 1997, the Minister for MOSTE issued an Instruction No. 513/VP on the implementation of the large-scale investigation on environmental protection. This Instruction has become a legal foundation and an order for all State Investigation Organizations on environmental protection to carry out the investigation nationwide. Having reviewed the report on the investigation by the MOSTE, the Government Prime Minister has also instructed MOSTE to carry out regular inspections on environmental protection.

According to a plan approved by MOSTE, in May 1997 and the first half of June 1997, the National Environment Agency and inspectors from the ministry organized three training courses on environmental inspection knowledge and skills for over 350 staff who will later on carry out the inspection. Trainees were inspectors, personnel involved in environmental protection from DOSTE and some inspectors and managers of different divisions and branches concerned.

MOSTE sent a letter to the Provincial People's Committees, Cities and to Ministries and Agencies concerned asking for their cooperation in implementing the inspection.

The State Inspectorate also sent an instruction with guidelines for inspecting Agencies affiliated with the State Inspectorates asking them to cooperate with the inspection team on environmental protection and also appoint staff to join the inspection team of MOSTE.

Other ministries such as defense, public health, industry have wholly supported and closely cooperated with MOSTE in implementing the inspection. The Ministry of Defense organized a training course on Decree 26/CP with stipulations on administrative punishment on environmental protection for National Defense Inspectors. They also established inspection teams to carry out environmental protection inspections at a number of establishments

affiliated with the Ministry of Defense and at the same time cooperated with MOSTE to set up an inter-ministerial inspection team to carry out inspections at establishments under its control. As a result, the inspection teams of MOSTE, and DOSTE had no difficulties in inspecting environmental protection situations in all establishments run under the Ministry of Defense thanks to the support from leaders of these units.

Almost all of the Provincial People's Committees and Cities had prepared instructions for various branches asking them to carry out the large-scale investigation on environmental protection and asked the production and business establishments to strictly observe the Law on Environmental Protection. The People's Committees also issued decisions to establish inspection teams to conduct inspections in provinces and Cities and to be prepared to coordinate with inspection teams at ministerial level.

The direct instruction from the Government, the close cooperation between State inspectors, and among ministries and localities reflect consistent guidance, an important condition to ensure the inspections would be a success.

## 2.2 The establishment of a Steering Committee at MOSTE and inspection teams

MOSTE established a steering committee for the inspections with 7 members. The Director General of the National Environment Agency headed the Steering Committee. Its Headquarters was at the Environment Inspection Division at the National Environmental Agency of MOSTE.

The Steering Committee's responsibilities were to provide guidance and coordinate and monitor every activity during the investigation while organizing monthly meetings for timely settlement of any problems which might arise and help localities to solve their problems. The Steering Committee organized 4 investigation teams to supervise the implementation of the Instruction 513/VP in 8 provinces including Ha Tay, Thai Binh, Nghe An, Ha Tinh, Lam Dong, Ba Ria-Vung Tau, Tra Vinh and Long An. The Steering Committee also sent 7 notes to the Departments of Science, Technology and Environment and to Inspection teams at ministerial levels to provide guidance and encourage them to fulfill the task on time. The Steering Committee was informed timely results of inspections in all localities and provided specific professional guidance and encouragement to all localities to fulfill their tasks while reminding those who failed to catch up with the inspection speed. This information helped localities to be aware of developments in other places, share experiences and readjust their plans to overcome their problems.

The Steering Committee also established 5 inspection teams at the ministerial level in order to assist the localities with inspection experience and human resources. Later on an additional ministerial inspection team was set up to meet requirements of the localities. Members of these ministerial inspection teams were inspectors and personnel involved in environmental protection at the Ministerial Inspection Board, Environmental Inspection Division and at the General Department for Standardization, Metrology and Quality Control.

On average, each province or city had two inspection teams to carry out the inspection of all the establishments in their localities. Members of the inspection teams were mainly from the Inspection Department of the Province or City, or from the Environment Management Division and other divisions from the Science Technology and Environment Departments.

### 2.3 Coordination of mass media agencies

Correspondents of television, radio and newspapers from the central to grass-roots level have been interested in the large-scale inspection on environmental protection. They have closely followed and issued timely reports on every step of the implementation of the project on television, radio, and major newspapers like Nhan Dan, Labor, New Hanoi, Vietnam Investment Review, People's Army, Young people, Youth and bulletins of Vietnamese News Agency and of MOSTE, the Environment Department and various local radios and televisions as well as newspaper. The coordination and support of the mass media have greatly encouraged the inspection teams and provided the public with information about the large-scale inspection. They focused on describing the positive impacts on the environment that will be the results from the inspection on those that are using or exploiting environment components. This helped them to be aware of their responsibility and rights in environmental protection. News about the inspection was also covered by overseas news agencies.

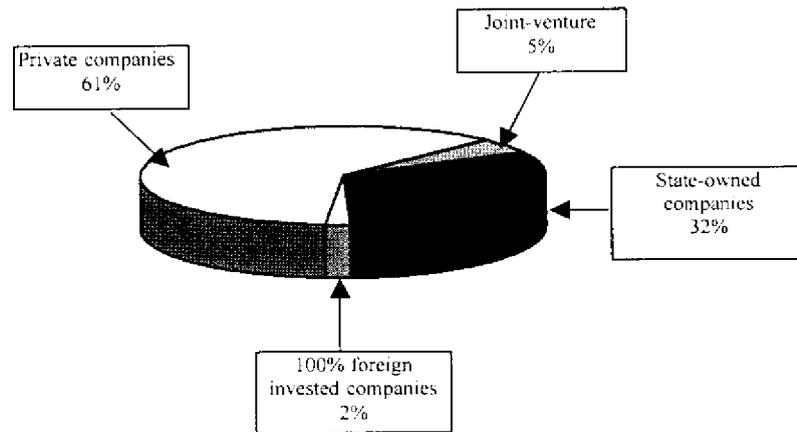
## 3 RESULTS OF THE INSPECTIONS ON A NATIONAL SCALE

### 3.1 Facts and figures

Implementing the large-scale inspection on environmental protection, inspectors of the Departments of Science, Technology and Environment, the MOSTE and from the Defense Ministry have obtained following results:

- a) Number of inspected establishments: 9384  
This accounts for 138% of the initial figure (6800)
- b) Components of the inspected establishments are allocated as shown in figure 1. below.
- c) Number of establishments subjected to administrative fines for environment protection: 4390  
This accounts for 47% of the total inspected establishments  
Including: warning 2175 establishments  
administrative fine 2215 establishments
- d) Among the fined establishments, 58% are private enterprises.
- e) Areas of business by the inspected establishments:
  - Enterprises belonging to the paper industry, timber processing, sugar industry, confectionery manufacturing and other products from flour, mineral exploitation, food processing, hotels, restaurants and construction material manufacturing violated the Law on Environmental Protection in 60% of the cases.
  - Enterprises belonging to the textile, dying, aquaculture, chemicals and cement production violated the Law on Environmental Protection in between 40-60% of the cases

- f) Total sum from administrative fines: 1,56 billion VND (approx. 120.000 USD)
- g) Biggest fine: 15 million VND (1.200 USD)
- h) Lowest fine: 100,000 VND (8 USD)
- i) Recommendation that local administrations halt operation of 114 establishments



**Figure 1 Components of Inspected Establishment**

Other punishing measures: the establishments are required to stop violation of the environmental protection law and to make report on assessment of environment impact, establish waste treatment projects and abide by decisions of the decisions to appraise reports on assessment of environment impacts.

This large-scale inspection also gave the following results: raised awareness and changed the attitude of the public towards environmental protection and socio-economic issues, helped to settle environmental pollution and promoted the enforcement of the Law on Environmental protection.

3.2 Evaluation of the results of the large-scale environmental protection environmental investigation.

Comparing the above mentioned results with the targets set for the investigation we can draw the following conclusions:

- a) This is the first time State Management Agencies on environmental protection both at the central and local level conducted an investigation in a large number of establishments. Subjects of the investigation were very diversified and of different sizes. The outcomes from the investigation were a number of

theoretical and practical results in environmental management and protection activities. The large-scale investigation more than fulfilled its targets in terms of the number of sites inspected, subjects of the inspection and time.

- b) The inspection raised the awareness, changed the attitude and behavior of both establishments either subjected or not subjected to the inspection this time. This result was proven by the fact that the establishments have finalized a report on assessment of environmental impact and invested in installation and construction of waste treatment facilities. Among them were establishments which formerly did not observe the law on environmental protection. Many establishments in various localities have asked the State Agencies to provide them with guidelines and instructions on environmental protection. Many of them also prepared reports on Assessment of Environment Impact after being fined, before the time limits fixed by the inspection team.
- c) The inspection was carried out throughout the country. All the provinces and cities inspected a large number of production establishments and businesses operating in their localities. The reports from the inspection showed that almost all establishments operating either before or after the Law on Environmental Protection (taken in 1994) did not have any waste treatment facilities. Liquid and air wastes were only initially treated by mechanical way. Very few establishments have waste treatment facilities and most of them do not work properly. Most of the enterprises have signed contracts with the Urban Environment Company (URENCO) to collect solid waste and transfer to the city or provincial capital's dumping ground. There are no facilities for treating solid and hazardous waste. Many provinces and cities do not have a master-plan including treatment measures or dumping ground according to the stipulation of the Law on Environmental Protection, and the instruction 199/CT of the Government Prime Minister. The Inspections made timely discoveries and settled acts violating the Law on Environmental Protection. This greatly contributed to reductions in environmental pollution and at the same time prevented further acts in violations of the law by individuals and organizations.
- d) During the inspections, administrative fines against individuals and organizations for violating the Law on Environmental Protection were applied in the following way: In most cases they were given a warning and fined. In a few cases, the offenders were asked to stop the acts in violation of the law and observe stipulations of State management Agencies on environmental protection (within time limit). The effectiveness of the inspection was reflected in the implementation and coverage of all requirements and procedures by the inspection team. Many fined establishments strictly observed the decisions of the inspection teams. Those who were fined handed the money to the State Treasury. Thorough considerations were made to settle cases in which the fined establishments claimed that the fine was too strict. The settlements were strictly in line with the Law. According to the reports by 35 Departments of Science, Technology and Environment, the fined establishments had handed to the State Treasury 734 million dong, out of the 922 million dong fined.

All establishments are strictly implementing other requirements imposed by the inspection teams such as preparing a report on Environment Impact Assessment, investing in waste treatment facilities, prevention of environmental pollution. Necessary coercive measures are being applied to those who delayed the implementation of these decisions of the inspection teams.

As for those who cause serious pollution, the inspection teams asked the authorized agencies to halt their operations or forced them to move to other places. At present 74 out of 114 establishments were asked to halt operations by the inspection teams.

However, this is only the initial results. All localities are following up and applying necessary measures to require all these establishments to strictly observe the inspection teams decisions.

- e) The inspection was carried out in a large-scale, mobilizing most of the inspectors from the Departments of Science, Technology and Environment including a large number of staff of from other related branches. Through this activity, inspection teams from the central to the grass roots levels accumulated a lot of experience and knowledge in settling cases of violation of the Law on Environmental Protection more effectively. The inspection teams also gained experience and a better understanding of the establishments subjected to inspection.
- f) The inspection also facilitated the close coordination between branches and between the central and local levels and especially the coordination with the mass media. The investigation also helped to increase the role and influence of the environmental inspectors in society. Noteworthy is that through the inspection, over 9000 establishments and tens of thousands of people have been introduced to the Law on Environmental Protection by working with the inspection teams.
- g) Results of the large-scale inspection also gave a warning on the implementation of environmental protection regulations by production and business establishments, reflecting the disadvantages in State management of environmental protection. The inspection also proved that there are a number of problems that needs to be settled immediately. This includes the strengthening of state management apparatus on environmental protection, strengthening coordination among ministries, branches and local administrations, finalizing legal documents on environmental protection, while strengthening the capacity building for inspectors on environmental protection.

#### 4 RECOMMENDATIONS

- a) The inspection proved the importance and essential role of inspection work. The Steering Committee recommended that managers at all level should pay more attention to inspection work on environmental management in their localities. Inspection should be considered a regular activity of the management process. Attention should be made to organize planned inspections at different places and within different sectors.

- b) To strengthen capacity building of state inspectors on environmental protection, actions should be taken including the recruitment of more staff, investment in new measuring equipment and allocation of funds for environmental inspection work at both the central and local level and organization of training courses for inspectors and those who are involved in environmental management.
- c) Policies on taxes, credit, and banking should be urgently formulated and issued to encourage investments on environmentally friendly technologies and to prevent the use of obsolete technologies which might cause environmental pollution. It is also necessary to have a clear financial system so that state owned enterprises can identify their fund allocation for environmental protection during their operations.
- d) It is necessary to reconsider, review legal documents on environmental protection to make amendments to the old ones in order to make them more relevant or to develop new laws or regulations, if necessary.
- e) The responsibility of state management on environmental protection needs to be strengthened for people's committees at district levels with a view to ensure strict observation of the Law on Environmental Protection.
- f) Appropriate and strict measures should be applied to halt the operation or move some establishments to other places to avoid severe environmental pollution in the most polluted areas.
- g) The implementation of decisions by inspection teams at all the establishments inspected by the large-scale inspection in 1997 needs followup monitoring and supervision of the implementation of the decisions by the inspection teams towards some big establishments. Strict fines should be applied to those who deliberately avoid implementing the requirements/ orders of inspection teams. Environmental protection agencies at all levels should be prepared to deal with "post inspection issues" such as appraising a large number of reports on Environment Impact Assessment, issue license on environmental protection and assist establishments to choose most the most appropriate solutions to minimize pollution.

The Steering Committee appreciated efforts of those who were involved in the inspection to fulfill all the targets set for by the Departments of Science, Technology and Environment. Their efforts made the inspection a success. The Committee highly appreciated the efforts of the 36 Departments of Science, Technology and Environment who completed their tasks brilliantly. The Departments are from Ho Chi Minh City, Ca Mau, Quang Nam, Kien Giang, Vinh Long, Bac Lieu, Tien Giang, Soc Trang, Binh Duong, Ben Tre, Dac Lac, Dong Thap, Tra Vinh, Gia Lai, Bac Ninh, Phu Yen, Long An, Tay Ninh, Lao Cai, Hanoi, Binh Phuoc, Hai Phong, Ninh Thuan, Lai Chau, Dong Nai, Thai Nguyen, Ha Nam, Thua Thien-Hue and Hoa Binh.

The Steering Committee recommended to the Minister of MOSTE to give awards to a number of Departments of Science, Technology and Environment for their outstanding efforts during the inspection. Some of them fulfilled the targets by 120% while carrying out the inspection on schedule and delivered the inspection report on time. The Departments are from Ho Chi Minh City, Ca Mau, Quang Ngai, Kien Giang, Vinh Long, Bac Lieu, Tien Giang, Soc

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Trang, Binh Duong, Ben Tre, Dac Lac, Dong Thap, Tra Vinh, Gia Lai, Bac Ninh, Phu Yen, Long An and some central agencies such as the Environment Department, Inspection boards of MOSTE and of the Defense Ministry and the Newspaper "Labor"

The Large-scale inspection on environmental protection in 1997 was the first of its kind involving State Agencies responsible for Environmental protection at all levels nationwide. The diversified results of the inspection will be analyzed and evaluated to learn lessons for the future. The Steering Committee is looking forward to more recommendations from various individuals and organizations who take part in the conference dealing with issues mentioned in the report.

After the conference to evaluate the inspection is held, the Steering Committee will sum up experiences drawn from the inspection activities, and suggestions from various ministries, branches, and localities. The evaluation report will be submitted to leaders of MOSTE so as to work out relevant orientations for follow-up activities for state management on environmental protection.



## **ENFORCEMENT OF POLLUTION LAWS IN AUSTRALIA - PAST EXPERIENCE AND CURRENT TRENDS**

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### **SUMMARY**

This paper considers the key features of Australia's pollution laws. It then discusses, in detail, pollution laws in two States to illustrate those features showing examples of two different approaches. The paper goes on to discuss current enforcement practice and trends in those States.<sup>1</sup>

### **1 THE NATIONAL CONTEXT - FEDERAL/STATE INFLUENCES ON POLLUTION CONTROL**

Australia has a federal system of government created by the *Commonwealth of Australia Constitution Act* 1901. Under the Constitution, there is no specific power for the federal government to legislate in relation to the environment, but it can do so by using other authorities.

However, rather than using these powers, a succession of federal governments have chosen a model of cooperative federalism. This approach led to the signing of the Intergovernmental Agreement on the Environment ("IGAE") in 1992. In implementing its obligations under that agreement, the federal government passed the *National Environment Protection Council Act* 1994 to establish the National Environment Protection Council ("NEPC"). Its role is to develop National Environment Protection Measures which are national environment protection standards, goals, guidelines or protocols.<sup>2</sup> These measures can relate to ambient air or water quality or a range of other matters.

When developed, the measures will represent the national dimensions to the pollution control framework and therefore provide a key part of the national context for enforcement in Australia. They are intended to promote greater uniformity in environmental goals across the States to discourage industries from moving to States with lower standards in environmental control.

There are of course existing guidelines which provide a national dimension to pollution issues. These include the Australian and New Zealand Environment Conservation Council ("ANZECC") *Water Quality Guidelines for Fresh and Marine Waters* 1992, which seek to establish criteria for a range of environmental values for rivers and other waters. They help guide the licence setting process of pollution control authorities. Once developed, the National Environment Protection Measures will contribute to this function and similarly influence the pollution control process.<sup>3</sup> In 1996, the federal Environment Department also released Australia's first State of the Environment Report. This was an independent report prepared by the State of the Environment Advisory Council and seven expert reference groups. It

provides an objective picture of the state of Australia's environment and identifies those areas where action needs to be taken to address environmental problems and move the country towards ecological sustainability.<sup>4</sup>

The result of this approach is that responsibility for regulating pollution and waste disposal falls on each of the six Australian States and the two Territory governments. That means there are eight different sets of pollution laws and administrative approaches to enforcement and monitoring in Australia.

From this range of pollution laws, we propose to identify past experience and current trends in enforcement in Australia.

## 2 KEY FEATURES OF POLLUTION LAWS IN AUSTRALIA

To understand the key features of Australia's pollution laws, it is first of all necessary to briefly overview the history of enactment of those laws.

In 1970, Victoria was the first State to enact comprehensive, cross media pollution laws. Around that time, other States and Territories also enacted pollution laws but they were sector specific, namely separate water, air and noise legislation, and the laws were also generally less sophisticated than the Victorian legislation.

It was not until the late 1980's and the early 1990s that there was a major change in pollution laws in Australia. The key pieces of legislation during that period were the:

- *Environment Protection Act 1986* (Western Australia);
- *Environmental Offences and Penalties Act 1989* (New South Wales);
- *Protection of the Environment Administration Act 1991* (New South Wales);
- *Environment Protection Act (1993)* (South Australia);
- *Environment Protection Act (1994)* (Queensland); and
- *Environmental Management and Pollution Control Act 1994* (Tasmania).

The main cultural change effected by these laws has been to move away from the "command and control" regulatory model of pollution control, where the laws are highly prescriptive as to what can and cannot be done, to an approach that places greater emphasis on environmental outcomes. The laws are founded on four principles.

- *Pollution Prevention* - The goal of pollution law and policy is to eliminate or reduce polluting products or products which create or use pollutants in their manufacture. However, this goal is not immediately achievable and therefore other principles have to direct pollution strategies to move towards achieving pollution prevention.
- *Integrating Pollution Control Principle* - The purpose of integrated pollution control is to consider pollution impacts across air, land and water media.
- *The Precautionary Principle* - The principle is described in the IGAE: "Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation".<sup>5</sup> For example, it may not be appropriate to wait for full scientific information on a chemical prior to restricting its use.

- *Optimizing the Regulatory Mix* - This is directed to finding the optimum mix of regulatory approaches to pollution prevention and control, and market based approaches. Market based mechanisms are related to the "polluter pays" principle, which are supported in the IGAE.<sup>6</sup>

These principles have to be considered having regard to the broader goal of ecologically sustainable development which requires the effective integration of economic and environmental considerations in decision making processes, intergenerational equity, the conservation of biological diversity and improved valuation and pricing of environmental resources.<sup>7</sup>

In particular, key features of this new wave of pollution laws are provisions for:

- an environmental duty;
- integrated pollution control;
- environmental protection policies which indicate in advance the particular environmental objectives that are to be met and which provide the context for determining licence conditions;
- economic instruments;
- a range of administrative tools for preventing or minimizing pollution;
- civil and criminal law enforcement ;
- strict or absolute liability for environmental offences;
- personal responsibility of directors of corporations and their employees for environmental offences;
- larger penalties for environmental offences;
- provisions directed to better integration with planning laws, so that greater consideration is given to the potential pollution impacts of a development at the time a decision is being made on the location of a development; and
- stringent monitoring conditions.

### 3 KEY FEATURES OF THE ENVIRONMENTAL AGENCIES ADMINISTERING POLLUTION LAWS

Environmental agencies administering pollution laws are:

- Guided by Ecologically Sustainable Development ("ESD"). For example, the Environment Protection Authority in New South Wales is directed by the ESD objectives set out in the *Protection of the Environment Administration Act 1991* ("Administration Act"). Similarly, the South Australian EPA is guided by ESD principles set out in the *Environment Protection Act 1993*.
- Developing or have developed prosecution and enforcement guidelines to indicate in advance the circumstances when an agency is likely to prosecute an offence or take other enforcement action in relation to breaches of the legislation.
- Making greater use of administrative tools or noncriminal sanctions for achieving compliance with pollution licences and other legal requirements.

- Better integrating the use of legal and economic approaches to pollution control.
- Seeking to devolve some functions to local government bodies.
- Beginning to use their State of the Environment Reporting to inform pollution control priorities and direction.

In view of the large number of pollution laws in Australia, in this paper we will focus on experience in enforcement in two States, New South Wales and South Australia. The structure of the relevant legislation in both States is generally very similar.

As will be seen in the case studies of each State, both have adopted many of the key features of pollution laws referred to above. This is despite the fact the two States are very different. New South Wales is Australia's most populous State with approximately 6,163,500 million people incorporating Sydney, Australia's largest city with approximately 3,821,400 million people.<sup>6</sup> It has a healthy economy and a strong active industrial and manufacturing sector. It also has a strong rural sector and the manufacturing sector is such that large regional cities have significant industrial components. Water is generally available in many parts of the State.

South Australia, on the other hand, although a large State in area, has a small population, essentially arid environment and small industrial base. Most of the State's population of 1.5 million live in its capital city, Adelaide. Its economy has been struggling for some time and although a manufacturing industry centered around white goods and the car industry was established in the post war years, it has been in decline in recent times and is likely to continue to decline. Much of its original wealth came from the agricultural, mining and pastoral sectors. Significantly, it has never had the extensive manufacturing sector of New South Wales.

This paper will consider the three approaches to enforcement, namely:

- prosecution;
- civil enforcement;
- administrative remedies.

Which method of enforcement is adopted depends on the nature of the breach or requirement. For example, the South Australian legislation creates a general environmental duty which provides that a person must not undertake an activity that pollutes, or might pollute the environment unless the person takes all reasonable and practicable measures to prevent or minimize any resulting environmental harm.<sup>9</sup> This duty is only enforceable by the administrative and civil mechanisms and cannot be the basis for a criminal prosecution. Offences against that Act can be the subject of a prosecution.

In particular, the discussion on New South Wales focuses on that State's prosecution history and trends based on its experience under the *Environmental Offences and Penalties Act 1989* ("the EOP Act"). This work was facilitated by the establishment of a new style Environment Protection Authority under the *Protection of the Environment Administration Act 1991*.

The discussion of the South Australian experience gives a fuller view of the overall framework of the *Environment Protection Act 1993* which comprised a major overhaul of that State's pollution legislation into the new mode. By comparison, apart from its environmental offences regime, New South Wales has only just "modernized" its legislation in similar style.<sup>10</sup>

## 4 ENFORCEMENT IN NEW SOUTH WALES - THE FRAMEWORK AND PRACTICE

### 4.1 Introduction

In December, 1997, the New South Wales Parliament passed the *Protection of the Environment Operations Act 1997* (the "Operations Act") and the *Contaminated Land Management Act 1997*. The Operations Act integrates the *Environmental Offences and Penalties Act 1989*, the *Pollution Control Act 1970* and media specific legislation for water, air and noise pollution. It is due to commence operation in November, 1998.

The Act complements the *Protection of the Environment Administration Act 1991* which provides that the EPA is to be managed and controlled by the Director-General who is subject to the direction of the Minister for the Environment.<sup>11</sup> A ten person Board determines the policies and long-term strategic plans of the Authority, whether it should consent to the institution of proceedings for serious environment protection offences and advises the Minister on any matters relating to the protection of the environment.

The new Operations Act improves upon the old Acts in a number of ways. Briefly, these include provisions for the making of broad policy instruments ("Protection of the Environment Policies") which are to be considered by public authorities when making environmental decisions, creates an environmental duty and enables the development of economic instruments. Like the South Australian legislation, the Act seeks to integrate its licensing process with the development consent processes under the *Environmental Planning and Assessment Act 1979*.<sup>12</sup>

The Act will also incorporate amendments to the *Pollution Control Act 1970* enabling establishment of a system of load-based licensing. This involves linking licence fees to the amount of pollutants released to the environment. Industries will have to pay more for larger pollution loads with maximum loads set for different pollutants. Criticisms of the Act have included limited provision for public participation in the licensing process, the failure to provide third party appeal rights and the lack of enforceable provisions in the broad policy instruments.

Particular changes affecting enforcement include:

- increased penalties,
- expansion of the investigative powers of authorized officers,
- the strengthening of powers in relation to cleanup and other notices,
- expanded sentencing powers to enable additional penalties that take account of the economic benefit flowing from the commission of an offence, and the making of orders requiring publication by the offender of the facts of an offence or the conduct of an environmental project of public benefit<sup>13</sup>, and
- introduction of an audit scheme that allows the imposition of licence conditions that require mandatory audit in the event of breach of the Act causing environmental harm.<sup>14</sup>

#### 4.1.1 Environmental Offences

The scheme of offences created under the *Environmental Offences and Penalties Act 1989* has been carried over into the new Operations Act. In summary, under the current Act and new Operations Act, it is an environmental offence to:

- pollute the environment by permitting the discharge of a contaminant;
- carry out processes which may pollute, without an environment protection licence or in breach of the conditions of the licence;
- construct or alter premises or equipment which may pollute without environment protection licence or in breach of the conditions of the licence;
- not comply with a notice issued by the Environment Protection Authority for stopping an activity, doing work or cleaning up a site; and
- not comply with specifications for the manufacture, storage, transport and disposal of toxic and hazardous substances.

The consequences of committing an environmental offence, include:

- strict or absolute liability for an offence;
- large penalties or imprisonment for personal offenders and large penalties for corporations; and
- personal liability of directors and managers for offences committed by the corporation.

More specifically, the offences fall into three categories which have been retained under the new Act.

*Tier 1* offences include:

- wilfully or negligently disposing of waste, or causing any substance to leak or escape,
- being the owner or immediate prior owner of waste, or a substance, which some one without lawful authority, has wilfully or negligently disposed of or caused to leak,
- being the owner of a container or being the owner or occupier of land on which a substance is located, and wilfully or negligently causing or contributing in a material respect to the conditions which give rise to someone, without lawful authority, wilfully or negligently causing it to leak or escape,

in a manner which harms or is likely to harm the environment.<sup>15</sup>

An individual or corporation can be liable for any acts done "wilfully" or negligently, though it must be gross or criminal negligence. In determining whether there has been such gross negligence in the case of a corporation, consideration will be given to "due diligence" and whether for the particular industry concerned practices were reasonable.

*Tier 2* offences are all other offences under the Act or regulations relating to water, air, noise or land pollution, where the polluting acts have not been wilful or negligent. They include:

- breaching air pollution standards,
- occupying scheduled premises without an environment protection licence,
- breaching the conditions of an environment protection licence; and
- not maintaining pollution control equipment.<sup>16</sup>

Penalties in respect of these offences have increased. Penalties of up to \$250,000 for corporations and \$120,000 for individuals will apply once the new Act commences.

*Tier 3* offences are tier 2 offences that may be dealt with by way of a penalty notice. A penalty infringement notice can be issued where prosecuting the offence in Court is not warranted. The main purpose of penalty notices is "to deal with one-off breaches that can be easily remedied. They are appropriate:

- where the breach is minor;
- where the facts are apparently incontrovertible;
- where the breach is a one-off situation that can be remedied easily; and
- where the issue of a penalty notice is likely to be a viable deterrent."<sup>17</sup>

Issue of a penalty notice operates as an on-the spot fine ranging from \$200 to \$600 usually given within 14 days of the breach occurring. A person can pay the fine if they do not want the offence dealt with by a Court and no criminal conviction will be recorded. Notices can be issued by "authorized officers" which can include inspectors from councils, police, or water and maritime authorities. It is not appropriate to issue a penalty notice where the EPA is already involved in a matter.

#### 4.2 Prosecutions

The EPA is required to investigate and report on alleged noncompliance with environmental protection legislation<sup>18</sup> for the purposes of prosecution or other regulatory action. It has therefore developed prosecution guidelines which set out the EPA's approach to prosecution including the factors it considers when deciding whether to prosecute.

Offences are prosecuted in the Land and Environment Court, a specialist Court of Supreme Court standing which deals with criminal and civil enforcement action and appeals under a broad range of environmental legislation. Prosecution for less serious offences will normally be conducted before a Magistrate. It is worth noting that Australia is a common law jurisdiction and dispute resolution and prosecutions are normally conducted in an adversarial manner.

The EPA has key responsibility for prosecuting environmental offences, and will generally investigate and take action where there are serious breaches of environment protection laws.<sup>19</sup> However, councils, water supply authorities and the police can also bring prosecutions.

There is also provision for private prosecutions brought by a member of the public with the leave of the Land and Environment Court.<sup>20</sup> Under the *Environmental Offences and Penalties Act* 1989, the EPA can also grant consent to a private prosecution where amongst other things the offence is relatively minor or the matter can be prosecuted most efficiently locally, particularly in country areas.<sup>21</sup> However, this power has been removed under the new Act.

Under the Operations Act, the EPA has expanded its investigative powers. An authorized officer will have power to require a person reasonably suspected of having relevant knowledge to answer questions and not just to provide information.<sup>22</sup> This power envisages oral questioning and is not limited to emergency situations. The powers of arrest, search and seizure are also wide.

#### 4.2.1 Prosecutions by the Environment Protection Authority

The EPA has a discretion as to which approach it will take in pursuing environmental breaches. It can prosecute an offence, take civil enforcement proceedings<sup>23</sup> or pursue other options under any Act "to prevent, control, abate or mitigate any harm to the environment caused by the alleged offence or to prevent the continuance or recurrence of the alleged offence".<sup>24</sup>

Which option is pursued, is decided on a case by case basis.

"Prosecution will be used, ... as part of the EPA's overall strategy for achieving its objectives. Each case will be assessed to determine whether prosecution is the appropriate strategic response. It will be used as a strategic response where it is in the public interest to do so".<sup>25</sup>

"The ultimate aim of any prosecution is to ensure compliance with environment protection laws".<sup>26</sup>

The EPA considers a range of factors when deciding whether the public interest requires a prosecution. These include the following factors:

- a. the seriousness or, conversely, the triviality of the alleged offence or that it is of a "technical" nature only;
- b. the harm or potential harm to the environment caused by the offence;
- c. any mitigating or aggravating circumstances;
- d. the degree of culpability of the alleged offender in relation to the offence;
- e. the variability and efficacy of any alternatives to prosecution;
- f. whether the offender had been dealt with previously by non-prosecutorial means;
- g. whether the breach is a continuing or second offence;
- h. whether the issue of Court orders are necessary to prevent a recurrence of the offence;
- i. the prevalence of the alleged offence and the need for deterrence, both specific and general;
- j. the length of time since the alleged offence;
- k. the age, physical or mental health or special infirmity of the alleged offenders or witnesses;
- l. whether there are counterproductive features of the prosecution;
- m. the length and expense of a Court hearing;
- n. the likely outcome in the event of a conviction having regard to the sentencing options available to the Court;
- o. any precedent which may be set by not instituting proceedings;
- p. whether the consequences of any conviction would be unduly harsh or oppressive; and
- q. whether the proceedings are to be instituted against others arising out of the same incident.<sup>27</sup>

The EPA must also decide whether to prosecute the company, individual or both. A company is likely to be prosecuted where employees/agents or officers committed an offence in the course of their employment with the company.<sup>28</sup> If an employee had a particular intention

at the time of the offence that is evidence that the company had that intention.<sup>29</sup> A company can seek to refute this in its defence to offences where intention is relevant. For example, the company will not be prosecuted if the employee "embarked on a venture of (their) own making or volition outside the scope of (their) employment."<sup>30</sup>

The prosecution guidelines state that "as a general policy, the EPA will institute proceedings under Section 10 only where there is evidence linking a director or manager with the corporation's illegal activity".<sup>31</sup> That linkage can include negligence, and will depend on the facts of each case, requiring consideration of a person's actual influence "over the conduct of the corporation in relation to its criminal conduct". This test is also applied by the EPA when deciding whether to take proceedings against a lending institution, which may be concerned in the management of a company and therefore potentially liable under the environmental offences legislation.

In summary, when looking at prosecuting company directors, company employees or lending institutions, the key issue is the degree of culpability of the director, the employee or the institution.

The EPA can also bring proceedings against public authorities, so that the law can be seen to apply equally to the public and private sectors. Previous experience has shown that it is not enough to rely on the fact that public authorities are under the direction of a Minister who can require compliance with the particular laws.

Ultimately, the decision to prosecute will depend on whether it is in the public interest to do so.

In choosing the particular charges it wishes to prosecute, the EPA needs to make sure, they reflect the seriousness of the alleged criminal conduct. For example, although some acts may have an element of wilfulness or negligence, if they are of a minor nature then it is more appropriate to deal with them through the lower tier offences. The aspect of wilfulness or negligence can then be dealt with by the Court, when imposing sentence.<sup>32</sup>

#### 4.2.2 Prosecutions - History and Trends

In New South Wales, the EPA increased its legal action by almost 30% between 1990/91 and 1993/94. This included greater use of the full range of enforcement approaches from fines to prosecutions.

This contrasts markedly with the approach in the 1980's of the EPA's predecessor, the State Pollution Control Commission. At that time the emphasis was on "self-control and self monitoring" of compliance with licence conditions.<sup>33</sup> The Commission pursued a "cooperative enforcement strategy" which "aimed at securing compliance by companies, through bargaining and compromise, rather than punishing wrongdoers, although in part it was necessitated by a shortage of resources."<sup>34</sup>

This meant few prosecutions were undertaken. For example, from 1985 - 1989, the highest number of prosecutions under the *Clean Waters Act* 1970 in any one year was 31 in 1986-1987.

However, the late 1980's and the early 1990's saw a community call for tougher penalties against polluters. Industry was also wanting to ensure that those companies acting responsibly were not put "at a competitive disadvantage by those flouting the law particularly if the fines imposed are no real deterrent."<sup>35</sup>

The introduction of the *Environmental Offences and Penalties Act* in 1989 sought to respond to the changed mood.

The new regime allowed for penalties of up to \$1 million against corporations and \$125,000 for offences under the Clean Waters and Clean Air Acts. This was a substantial increase on the previous maximum penalty that could be imposed for a pollution offence of \$40,000 for a company and \$20,000 for an individual.

The new regime allowed the EPA Board to decide whether to consent to the institution of proceedings for offences. It is not subject to directions from the Minister on whether to prosecute, and as we have seen, there are clear prosecution guidelines that set out the EPA's approach to prosecution.

The decision to prosecute is still dependent upon the circumstances of the particular case, with the EPA given the discretion to choose non-prosecution options, if that is considered more appropriate for achieving the goals of pollution prevention and control. However, the new approach gives greater recognition of the role of prosecution in achieving environment protection objectives.

In particular, the change in approach is illustrated by the guidelines for prosecuting public authorities:

*"Public authorities are usually under the control and direction of a Minister who can direct compliance with the relevant legislation. However, the experience of the period pre-1991 indicates that sole reliance on that avenue does not make for the same rigid adherence as the requirements of the Court process."<sup>36</sup>*

With introduction of the new offences regime, there has been a big increase in the number of prosecutions vigorously pursued by the EPA.

In the past five years, the EPA has prosecuted a range of Tier 1 offences which have resulted in penalties of between \$60,000 to \$100,000 against companies and \$15,000 to \$25,000 against individual company directors. Each year there has been no more than a handful of prosecutions for Tier 1 offences with the majority of the more serious offences being prosecuted as Tier 2 offences. Tier 2 offences attract penalties anywhere from \$1000 to \$50,000 with the majority of orders being between \$5000 to \$15000.

The range of businesses that have been prosecuted for Tier 1 and Tier 2 offences is broad. They include petrol refineries, mining, manufacturing, food processing, cleaning, chemical, aerial spraying and waste disposal companies, autowreckers, building contractors, abattoirs, asphaltting and stonecutting operations, ship owners and operators, the electricity authority, water supply and local government authorities. Company managers have also been prosecuted in addition to company directors.

The offences for which they have been prosecuted relate primarily to the discharge in one form or another, of polluting substances into rivers, creeks and harbor, and the emission of air and noise pollution.

The level of penalties imposed will also be influenced by the EPA's decision to prosecute offences as Tier 1 or Tier 2. However, overall the amount of the penalties imposed has also increased.

In considering the trends towards higher penalties, commentators have noted the importance of looking at cleanup costs and not just the size of the fine. A company's assets may be better spent on cleanup costs, particularly if they are limited assets; "Fines can actually reduce the ability of particular industrial units to improve their pollution control technology."<sup>37</sup>

Fines have been the main sanctions imposed for securing compliance with pollution laws. Law makers have been slow to introduce nontraditional penalties for breaches of environmental laws. For example, it is only now with introduction of the new Operations Act, that Courts will have power to order publication of the facts relating to a conviction or the conduct of a specified environmental project for the public benefit.

Latest trends in the administration of pollution laws by the EPA show a continuing vigorous approach to prosecutions.

The EPA has a 95% success rate in its prosecutions, only prosecuting those offences where there are very high prospects of success. This is because there are important credibility issues at stake. It also has to pay the defendant's costs if it loses.

Year	Prosecutions Concluded by the EPA	Total Value of Fines, not including Fines from PINS
1992/93	53	\$406,000
1993/94	74	\$314,000
1994/95	59	\$357,000
1995/96	94	\$324,000
1996/97	141	\$697,010

Most recently in November 1997, the EPA was successful in a prosecution against a caravan park owner who had wilfully pumped sewage effluent from the park into a river in proximity to active oyster leases causing significant environmental degradation. For over two years, the owner had pumped an average per week of 128,710 liters of sewage effluent, through a concealed system of underground pipes and valves to avoid the pump out costs which over the period would have totalled \$138,621.70. The judge described the offence as "the most serious environmental crime to have come before this Court", sentenced the defendant to 12 months imprisonment, and ordered payment of the maximum penalty of \$250,000 and the EPA's costs of prosecuting the action.<sup>38</sup>

The issue of penalty infringement notices for Tier 3 offences also comprises an extensive portion of enforcement activities in New South Wales. Both the EPA and local councils have power to issue these notices. The largest infringement area relates to the issue of notices for smoky vehicles for which the EPA issued 3,079 notices in 1996/97. The next largest area relates to the pollution of waters, where the EPA issued 92 notices and local councils issued 516 notices in 1996/97. In that year councils also issued 725 notices for littering in a public place. Together EPA authorized officers and local government officers issued 5396 penalty infringement notices.<sup>39</sup>

The total value of fines imposed by way of penalty infringement notices can be substantial. In 1995/96, the total value of fines imposed by way of penalty infringement notices issued by the EPA was \$649,711. This compares with the total of \$697,010 recovered through prosecutions for that year. The value of fines imposed by councils for the same period was estimated to be \$472,200.<sup>40</sup>

More broadly, there are other factors that will influence enforcement trends in the future.

Due to constraints on resources the EPA is targeting particular industry sectors to try and improve their environmental performance. This trend is occurring Australia-wide:

*"...the main impetus for change has been the recognition that targeting the most environmentally critical industry sectors, and then working with the companies in those sectors, will produce the most effective outcomes."<sup>41</sup>*

There is also greater use of economic instruments. As the use of these instruments becomes more effective, compliance behavior may change, thereby affecting enforcement needs and approaches. This may include a reduction in the number or type of prosecutions, though not the need. However, this is still some way off as the introduction of economic instruments is still in its infancy.

For example, the relevant regulation detailing the operation of the load based licensing system is currently being developed. Implementation will involve a staged introduction of load based licences for different industry groupings. It will therefore be some time before these changes will affect compliance behavior.

In analyzing future trends, it will also be important to track the effect of particular powers, like the investigative powers of authorized officers, on the number and type of prosecutions, and the role of those prosecutions in achieving better environmental outcomes.

#### 4.3 Civil Enforcement for Environmental Harm

Rather than prosecuting an environmental offence, the EPA or any other person, with the leave of the Court can bring civil proceedings to restrain a breach or threatened breach of the Act or any other Act, if the breach or threatened breach, is causing or is likely to cause harm to the environment.<sup>42</sup> The EPA can therefore pursue civil enforcement in tandem or in lieu of criminal proceedings as part of its overall strategy for environmental improvement.<sup>43</sup>

The availability of civil enforcement recognizes that a criminal penalty may not be effective in deterring unlawful conduct or where there is an intention or significant risk of ongoing breaches.<sup>44</sup> In particular, civil enforcement can be useful in addressing recurring acts of pollution.

Although there is provision for any person to bring civil enforcement proceedings for environmental harm in breach of the pollution or other legislation, use of this provision by third parties has been very limited. According to the EPA, there have only been two cases in which leave of the Court has been sought and granted to bring civil enforcement proceedings. One case related to an alleged breach of the pollution legislation and the other to a breach of the water legislation.<sup>45</sup> However, it does not appear that use of the provision has been limited because the leave requirements are too rigorous as there has been no history of application for leave. Rather, it is likely that resourcing constraints have limited the exercise of these rights by third parties.

#### 4.4 Administrative Remedies

The new Operations Act in New South Wales provides for "environment protection notices".<sup>46</sup> These include:

- Cleanup notices;
- Prevention notices; and
- Prohibition notices.<sup>47</sup>

A cleanup notice can require a person to take such cleanup action as is specified in the notice and within such period as is specified in the notice.<sup>48</sup> A prevention notice may be issued to ensure that the activity is carried out in an environmentally satisfactory manner, and

can require a range of actions to be taken.<sup>49</sup> A prohibition notice is intended to require a person to cease carrying out an activity, and is issued by the Minister on the recommendation of the EPA.

Occupiers or polluters may also be required to provide reports on the carrying out of the cleanup or prevention action. If the EPA incurs costs relating to the notices, including costs for the monitoring of action under a cleanup notice, it can recover those costs as a debt by way of a compliance cost notice.<sup>50</sup> Public authorities that incur costs in taking cleanup action can also require the payment of their costs in doing so. These notices can be registered against the land of a person.<sup>51</sup>

Though not classified as an environment protection notice, the EPA can also issue a notice requiring an occupier to remove work where a licence was required but not obtained, and to restore premises to their previous state.<sup>52</sup>

It is an offence to fail to comply with any of these notices. However, there are rights of appeal in relation to a prevention notice or a removal and restoration notice.<sup>53</sup>

## 5 ENFORCEMENT IN SOUTH AUSTRALIA - THE FRAMEWORK AND PRACTICE

### 5.1 Introduction

A less prominent role for industry in the State has been reflected in the State's approach to pollution control legislation and, more particularly, the enforcement of that legislation. In recent years the State's economic woes have seen State Governments eagerly seeking investment from industry and manufacturing groups. The State does not want to develop a reputation for a heavy handed approach to enforcement of its environment protection laws and this attitude has been reflected in a very flexible approach by the regulators to this issue.

South Australia's pollution control legislation is found in the *Environment Protection Act 1993* which came into operation on 1 May 1995. The legislation is the first piece of comprehensive environment protection legislation adopted in the State of South Australia. Its most significant effect is to create in South Australia, a single integrated system of environment protection which replaces six piecemeal pollution measures which previously operated, and amends three other related statutes.

Under the legislation, a single environmental authorization addresses air, water, noise and waste aspects of activity regulated by the Act. Furthermore, there is a deliberate link between the processes which require that prescribed activities of environmental significance obtain an environmental authorization under the *Environment Protection Act 1993* and those processes requiring development authorization under the State's land use development control legislation, the *Development Act 1993*. It is the first time that South Australian environmental legislation has provided a recognized format for coordination between environmental agencies and development control authorities in relation to development having environmental significance.

The Act is a model for modern environment protection legislation.<sup>54</sup> It moves the State of South Australia away from the outdated 'command and control' methods of dealing with environmental problems to an approach centered around pollution prevention and wide community education. The overall aim is to provide South Australians with a cleaner, safer and healthier living and working environment.

## 5.2 Administrative arrangements

The Office of the Environment Protection Agency (EPA) is a six person authority established under the legislation with primary responsibility for decisions on all activities requiring environmental authorization under the Act and enforcement measures to be taken in relation to noncompliance with the State's environment protection legislation.<sup>55</sup>

The EPA has extensive powers of delegation<sup>56</sup> including to local government officers. It is supported by a nonstatutory Office of the Environment Protection Authority. The EPA is subject to the direction of the Minister for Environment and Natural Resources except in relation to a number of matters, one of which is the enforcement of the Act.<sup>57</sup>

In theory, this means that, like the position in New South Wales, the Minister has no influence on the EPA's enforcement decisions. However, the EPA is dependent on the State Government for its funds, and there is close and regular liaison between the EPA, the Minister and the Minister's advisers. If the government of the day was in favor of prosecution in a particular case or desirous of preventing prosecution in another, subtle pressure can arguably be brought to bear on the Authority.

## 5.3 Prosecutions

Offences under the *Environment Protection Act 1993* can very generally be placed into three classes: offences arising out of a breach of mandatory provisions in an environment protection policy;<sup>58</sup> general offences, such as the offence of causing environmental harm;<sup>59</sup> and offences associated with administrative matters under the Act.<sup>60</sup> 'Environmental harm' is any harm, or potential harm to the environment (of whatever degree or duration), and includes an environmental nuisance.

Substantial penalties may be imposed by the appropriate Court for offences against the Act. The most serious level of offence is that of causing serious environmental harm.<sup>61</sup> If done intentionally or recklessly and with the knowledge that such harm will or might result, a maximum penalty of \$1 million may be imposed on corporate offenders. If done negligently (that is, through a failure to take all reasonable and practicable measures to prevent commission of the offence), the maximum penalty for a body corporate is \$250,000. 'Serious environmental harm' is defined by Section 5 of the Act as:

- actual or potential harm to the health or safety of human beings that is of a high impact or on a wide scale, or other actual or potential harm (not being merely an environmental nuisance) that is of a high impact or on a wide scale; or
- harm which results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$50,000.

The term 'loss' includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent or mitigate the environmental harm and to make good resulting environmental damage. Thus, it can be seen that actions which result in relatively medium-level environmental damage and cleanup costs (that is, any amount beyond \$50,000) will attract the potential operation of the most serious offence provisions within the Act. It is also clear from the definitions that ecological harm which poses no direct threat to the health or safety of humans will still fall within the offence provisions.

A separate offence of causing material environmental harm<sup>62</sup> carries a maximum penalty for corporate offenders of \$250,000 where done intentionally or recklessly, and \$120,000 where done negligently. 'Material environmental harm' is environmental harm which involves:

- 
- a. an environmental nuisance of a high impact or on a wide scale; or
  - b. actual or potential harm to the health or safety of human beings that is not trivial or other nontrivial environmental harm; or
  - c. actual or potential loss of property damage of an amount exceeding \$5,000.

The offence of causing an environmental nuisance<sup>63</sup> carries a maximum fine of \$30,000. An 'environmental nuisance' is the lowest level of environmental offence and includes:

- a. any adverse effect on an amenity value of an area that:
  - is caused by noise, smoke, dust, fumes or odor; and
  - unreasonably interferes with or is likely to interfere unreasonably with the enjoyment of the area by persons occupying a place within, or lawfully resorting to, the area; or
- b. any unsightly or offensive condition caused by waste.

Where the offence committed by a person is one of a continuing nature such as the ongoing pollution of the environment rather than a "one off" incident, additional penalties may be imposed for each day during which the contravening act or omission continues.<sup>64</sup>

Offences under the Act lie within the criminal jurisdiction of the Environment Resources and Development Court, which is a specialist Court established expressly to deal with appeals and civil and criminal enforcement action under the *Environment Protection Act 1993*, the *Development Act 1993*, the *Heritage Act 1993* and related legislation.<sup>65</sup> In the case of the more serious offences of causing serious or material environmental harm, a defendant can elect to be tried by judge or jury.

### 5.3.1 Liability for Offences

As in New South Wales, where a natural person or a corporation has quite clearly breached a provision of the Act then liability for that offence will attach to them. Both corporations and natural persons who employ staff or engage contractors to act as their agents in particular matters may also find that the conduct and state of mind of those employees or agents will be imputed to them for the purposes of proceedings for offences against the Act providing the employee or agent was acting within the scope of his or her actual, usual or ostensible authority.<sup>66</sup> If a natural person is convicted of an offence as a result of the imputation of conduct or a state of mind of an employee or agent to that person the natural person cannot be punished by a term of imprisonment but only a fine.<sup>67</sup>

Liability under the Act can extend beyond the obvious examples of corporations and individuals and will in appropriate cases attach to what the Act describes as "officers of the body corporate", to include the directors or chief executive officer of the corporation, a receiver or manager of any property of the body corporate or a liquidator and in relation to the contravention of the Act by the corporation, includes an employee vested with management responsibility in respect of the matters to which the contravention is related. It is the last category which creates considerable interest. Arguably, a wide range of people may be included under the category of "persons with management responsibilities", particularly in large organizations.

The significance of the definition of "officer of the body corporate" becomes apparent upon consideration of the provisions of s129 of the Act, which provides that if a corporation commits an offence under the Act any officer of that corporation is, (subject to possible defences), also guilty of an offence. The penalty applicable to the officer will be the same penalty as would apply to a natural person who committed the offence except that the offender cannot be liable to be punished by imprisonment.<sup>68</sup> Thus if a corporation commits an offence by polluting the environment and causing serious environmental harm, an officer of that corporation is at risk of also being prosecuted and fined up to \$120,000. Where the officer knowingly promoted or acquiesced in the contravention of the Act by the corporation the officer is also guilty of an offence and has no immunity from punishment by imprisonment.<sup>69</sup> In March 1995 a company director in Western Australia was prosecuted and imprisoned for a contravention of the Western Australian *Environment Protection Act 1986* under provisions not dissimilar to the South Australian legislation.<sup>70</sup>

The provisions imposing liability on officers enable an officer of the corporation to be prosecuted and convicted regardless of whether or not the corporation has also been prosecuted. The provisions imposing liability on the officers of corporations are designed to make persons responsible for the day to day management of those corporations more aware of the corporation's environmental obligations and more diligent in ensuring the corporation meets such obligations.

### 5.3.2 Defences to Prosecutions

There are two defences which can be raised in criminal proceedings under the Act. The first relates to charges that a person has caused serious or material environmental harm or an environmental nuisance. To establish the defence, the accused person has to establish that any pollution or harm caused by them was consistent with existing limits set by Environment Protection Policies or conditions attached to an environmental authorization or harmed no person or property other than their own!<sup>71</sup>

This defence can also apply in civil proceedings under the Act.

The second defence known as the general criminal defence can apply to all offences under the Act whether or not the first defence is also applicable. It is the equivalent of the 'due diligence' defence in New South Wales.<sup>72</sup> To establish the defence, it must be proved that the alleged offence did not result from any failure on the part of the defendant to take all reasonable and practicable measures to prevent the commission of the offence or offences of the same or similar nature. It is available to both corporations and natural persons and in situations where conduct or state of mind has to be imputed to those persons.

Where an employer or corporation seeks to establish the defence by reference to the establishment of proper workplace systems and procedures then the Act requires that proof be given of the existence of an appropriate system for reporting contraventions or risks to the corporation's governing body or the employer and that the governing body of the corporation or the employer actively and effectively promoted and enforced compliance with the Act and with the established systems and procedures within all relevant areas of the workforce.

Thus, an employer or corporation wishing to obtain the benefit of the general criminal defence provisions, must do more than simply prove that the employer or corporation had undertaken an environmental audit which resulted in the production of a guide or manual for future sound environmental management. They must also prove that the recommendations in that guide were and are actually being implemented and promoted by the management of the organization. They should be able to produce evidence of proper systems for the reporting of incidents with pollution potential to the people at management level.

### 5.3.3 Expiation Notices

With some offences under the South Australian *Environment Protection Act* there is provision for the expiation of that offence. Offences involving breaches of mandatory provisions of the Environment Protection Policies may often be expiated by the issue of a notice known as an 'Expiation Notice' requiring payment of a penalty in a similar manner to the penalty infringement notices used in New South Wales..

Environment Protection Policies are policies prepared by the EPA following a period of public consultation. The draft EPPs are referred to the Minister who, if happy with the contents, then refers them to the Governor of the State for authorization. They only become operative and legally binding once authorized in this way. EPPs must be directed towards securing the objects of the Act. They are an essential management tool and are one of the matters which the EPA has to have regard to when assessing applications for environmental authorization or development applications under the *Development Act* which have been referred to the EPA for comment or direction. Those controls or requirements contained within the EPPs which are enforceable as offences are known as Mandatory Provisions. Other provisions can be enforced by the issue of Environment Protection Orders, one of the administrative enforcement mechanisms. EPPs can incorporate a standard or other document prepared or published by another body. In particular, national environment protection measures created by the National Environment Protection Council will be adopted by the South Australian Environment Protection Authority and become law in South Australia.<sup>73</sup> Upon adoption and over a period of time it is expected that there will be more uniformity of standards and pollution controls across Australia through this process.

An Expiation Notice must be served on the person in breach of the Act within six months of the breach occurring. Only the EPA, officers authorized by the EPA or the police can issue such notices.<sup>74</sup> If the alleged offender pays the expiation fee within the appropriate period, that person is not liable to be prosecuted for that offence or those offences, or any other expiable offence arising out of the same incident.<sup>75</sup> An offender may elect to be prosecuted in which case the matter will proceed to trial and the EPA will be required to support its allegations with evidence. Expiation fees are always much less than the maximum fine applicable for the offence as a means of encouraging payment.

It is suggested that expiation notices will only be appropriate where:

- a. the breach is minor;
- b. the facts are undisputed;
- c. the breach is a one off situation that can be remedied easily; and
- d. the expiation fee is likely to be a viable deterrent.

### 5.4 Observations on Prosecution as an Enforcement Mechanism

In South Australia the use of the criminal law to enforce environmental legislation has been an infrequent occurrence.<sup>76</sup> Prosecutions for breaches of such legislation were traditionally seen as a last resort. The bodies responsible for enforcement of previous environmental legislation in South Australia had a policy of persuading people to comply with the Acts they administer and resorting to legal action only when there remained no alternative. It appears from various public statements made by the office of the EPA that a similar policy will apply with respect to the *Environment Protection Act*. Prosecution for breaches of the Act

has its place but the EPA will seek to negotiate and achieve a resolution of problems by alternative means. Appropriate powers to achieve this purpose can be found in the provisions dealing with environment protection orders, cleanup orders and cleanup authorizations.<sup>77</sup>

Under the adversarial system, prosecutions can be costly and time consuming and often do not result in an ultimate resolution of the problems created by the breach of the Act. All too often they can become bogged down by legal technicalities. Days can be spent arguing about whether or not notices were validly issued or the proceedings properly commenced. While such issues are often raised as part of the defence case in a prosecution, many would argue that in the case of prosecutions for environmental offences, they do not assist in resolving the harm caused to the environment by the alleged breach of the legislation. There will, however, be some situations where prosecution has a significant deterrent effect.

Courts now have the power to impose orders on conviction for an environmental offence as well as a monetary fine or term of imprisonment. As in New South Wales, they include orders requiring the making good of any environmental harm, the carrying out of specified projects for the restoration or enhancement of the environment in a specific place, the publication of the contravention of the Act and its environmental and other consequences and the payment of compensation to others who suffer injury, loss or damage to property as a result of the contravention. These provisions add another dimension to the overall costs of breaching the Act. In some cases the remedying of environmental harm could be very costly and time consuming. Furthermore, the conviction for an offence against the Act and the imposition of a penalty does not prevent the use of other administrative remedies or civil enforcement under the Act in relation to the contravention.

The creation of offences under the *Environment Protection Act 1993 (SA)* and the use of the criminal law to ensure compliance with the legislation is only one option available to the Environment Protection Authority ("EPA") as an enforcement mechanism. The use of the administrative and civil remedies outlined below is also a powerful means of ensuring compliance.<sup>78</sup>

#### 5.5 Non-Criminal Enforcement Methods

There are a range of administrative remedies available to the EPA for enforcement purposes. They include Environment Protection Orders,<sup>79</sup> Cleanup Orders<sup>80</sup> and Cleanup Authorizations.<sup>81</sup> Civil enforcement orders made by the *Environment Resources and Development Court Act, 1993*<sup>82</sup> are the final enforcement method. The administrative and civil enforcement remedies can be collectively referred to as 'civil remedies' in contrast to the criminal remedies discussed above. The following table illustrates the range of administrative enforcement measures taken to date.

Orders Issued by the EPA<sup>83</sup>

	1994-95	1995-96	1996-97
Environment Protection Orders	5	99 (82 orders issued by SA police – parties and domestic noise)	315 (287 orders issued by SA police)
Cleanup Orders	-	6	2

It should be emphasized that the various civil remedies potentially apply to a wide range of activities, not only those requiring authorization under the legislation before they can operate. If a person causes environmental harm whilst undertaking an activity then they leave

themselves open to action involving one of the various forms of civil remedy. Furthermore, civil liability under the Act appears to be much closer to strict than fault based liability and will be imposed regardless of whether or not the person was negligent. The fact that a person can establish the exercise of all due care or diligence will not exonerate them from civil liability under the Act.<sup>84</sup>

## 5.6 Civil Enforcement Powers under the Act

Under Section 104 of the Act, an application can be made to the Environment, Resources and Development Court for orders to remedy a breach of the Act. A breach of the Act can include a breach of the general environmental duty set out in Section 25 of the Act and a breach of the repealed environment laws. Orders may be sought to restrain conduct, to require action to make good environmental damage, to prevent or mitigate further environmental harm or to pay compensation for loss, damage or expenses.<sup>85</sup> The courts powers even extend to ordering the payment of exemplary damages in appropriate circumstances.<sup>86</sup>

Such applications can be made by the EPA, any person whose interests are affected or any other person with the leave of the Court.<sup>87</sup> However, before the Court may grant leave it must be satisfied that:

- the proceedings are not an abuse of process; and
- there is a real or significant likelihood that the orders sought would be justified; and
- it is in the public interest that the proceedings should be brought.

Where civil enforcement proceedings have been commenced by someone other than the EPA, the EPA must be served with a copy of any such proceedings and must be joined as a party to those proceedings on its application.<sup>88</sup>

It is quite conceivable that any person able to satisfy the statutory standing test may seek to commence their own enforcement proceedings under the Act. If the action is unsuccessful, they could be ordered to compensate the respondent for any loss or damage suffered as a result of the proceedings.<sup>89</sup> Another factor of concern are the provisions which empower the court to order the applicant to provide security for the payment of costs and to give undertakings as to payment of the damages referred to above.<sup>90</sup> Whilst the court has a discretion on this matter, the making of such orders would in many cases make it impossible for a third party applicant to continue with their application. An applicant may also have to bear not only their own legal costs in prosecuting the action, but the costs of other parties to the proceedings. Though in New South Wales there have been a number of cases where the Courts have not required an unsuccessful litigant in a public interest environmental law case to pay the costs of those proceedings.<sup>91</sup> It remains to be seen whether a similar approach will be applied in South Australia.

## 5.7 Administrative Remedies

### 5.7.1 Environment Protection Orders

Environment Protection Orders (EPOs) may be issued by the EPA under Section 93 for the purpose of securing compliance with the general environmental duty, the mandatory provisions of an environment protection policy, a condition of an environmental authorization or to give effect to an EPP.

The EPA can require a person to discontinue or not commence a specified activity or limit the activity to specific times or conditions or take specified action. EPO's are normally required to be in writing, but can be issued orally (and confirmed in writing within 72 hours) where there is an emergency. A right of appeal to the ERD Court exists for a person served with an EPO.<sup>92</sup> An appeal does not automatically stay the effect of an EPO. Application must be made to the Court for that to occur.<sup>93</sup>

It is an offence to fail to comply with an EPO. The penalty applicable varies, depending on the purpose for which the EPO was issued: to secure compliance with the general environmental duty, or with a requirement imposed by the Act.<sup>94</sup>

Where an EPO was issued in relation to an activity carried out on land, the EPO may be registered on the title to the land if the EPA makes application to the Registrar-General of the Lands Titles Office. An EPO may also be registered on land owned by the person against whom the order was issued, even though that land is not the land upon which the activity, the subject of the EPO, is being conducted.<sup>95</sup> Where the EPO is registered on land on which the activity is taking place, it binds each owner and occupier from time to time of the land.<sup>96</sup> Accordingly, purchasers of land, lessees and other occupiers and anyone taking possession of land need to be fully aware of the details of the order and what it means for them once they commence occupation of the land. Although to date this device has been little used, it has the potential to be a very effective aid to enforcement.

The EPA has the power to take any action required by an EPO where the EPO has not been complied with and then recover the costs of doing so as a debt. Any such debt will become a charge on any land owned by the person.<sup>97</sup>

#### 5.7.2 Cleanup Orders and Cleanup Authorizations

Cleanup orders may be issued by the EPA under Section 99 to any person whom the EPA is satisfied has caused environmental harm by a contravention of the Act or a repealed environment law. Such orders basically require the person to make good any environmental damage. A breach of the order is an offence.

The EPA also may, where satisfied that a person has caused environmental harm by a contravention of the Act or a repealed environment law, issue a cleanup authorization which authorizes officers of the EPA or other nominated persons to take specified action to make good the environmental damage.<sup>98</sup> Cleanup authorizations can be issued whether or not cleanup orders have been made. A copy of the cleanup authorization must be served on the person alleged to have caused the environmental harm.<sup>99</sup>

Rights of appeal to the ERD Court against both orders are available on the same terms as for Environment Protection Orders.

Registration of both cleanup orders and cleanup authorizations on the title to land can be obtained on application by the EPA to the Registrar-General in a manner similar to that applying to environment protection orders.<sup>100</sup> The application for registration can state that the registration of the order or authorization is to operate as the basis for a charge on the land. This charge will secure the payment of the costs and expenses of the EPA either in undertaking the requirements of a cleanup order itself or in engaging someone to meet the requirements of its cleanup authorization, when the land is eventually transferred to someone else

#### 5.8 Training of Enforcement Officers

Finally, the success of any enforcement action whether of a criminal or civil nature will depend to a considerable extent on the quality of the investigation undertaken beforehand. Under the *Environment Protection Act* authorized officers appointed either by the EPA or local

government bodies, play an important role. To improve their abilities in that role the EPA's Training and Development Unit is requiring completion of an Environment Protection Certificate course prior to making persons authorized officers under the legislation.<sup>101</sup> The course assumes no prior knowledge or experience of the law or the *Environment Protection Act 1993*. On completion of the course participants have a basic understanding of the nature of laws in our society and environmental laws in particular, the background structure and purpose of the South Australian *Environment Protection Act*, the role and responsibility of authorized officers under that legislation and the available methods for dealing with breaches and enforcement action under the legislation.

## 6 CONCLUSION

In considering the three approaches to enforcement: prosecution, civil and administrative remedies, in New South Wales and South Australia, we have seen how the respective enforcement agencies have adopted a different focus in their implementation of these approaches.

In South Australia, the focus has been on civil and administrative remedies. In New South Wales, there has been a vigorous approach to prosecution in recent years, with it comprising a major thrust of its approach. Though it will be interesting to monitor developments there to see the extent prosecutions will feature in future enforcement as strengthened administrative remedies come on stream.

In particular, the comparison between States (and at different times in New South Wales), also highlights the different interpretation applied to the use of prosecution "as a last resort". In South Australia, prosecution is not or almost not perceived as a possibility. In New South Wales, it is seen as a real threat. In that State, the EPA has been active in taking strategic decisions about which cases to prosecute which incorporates consideration of their likely deterrent effect. The consequence is that in New South Wales enforcement is assisted by the deterrent effect of prosecutions. The absence of a similar deterrent effect in South Australia arguably lessens the overall effectiveness of enforcement in that State which may or may not be addressed by other enforcement strategies. Such an approach tends to a narrowing of compliance and enforcement options which contradicts current policy trends.

This is not to underrate the value of civil and administrative remedies as a powerful means of ensuring compliance. Indeed, if the experience of the use in South Australia of civil enforcement proceedings under the repealed *Planning Act 1982* and the present *Development Act 1993* is repeated in the environment protection area, arguably civil enforcement methods can be a more effective means of ensuring compliance.

More broadly, we have seen from the overview of the New South Wales and South Australian systems that each of the enforcement agencies now have a broader range of compliance and enforcement tools than existed in the past. This means there will be more scope to match the remedy to the problem and level of environmental harm: a range of powerful approaches for serious acts, a range of lighter approaches for more minor transgressions. Additionally, apart from the enforcement tools, improvement in the regulatory tools themselves, like more tailoring and the incorporation of economic instruments in environment protection licences, should assist compliance and enforcement.

These changes are, in 'administrative time', quite new. In both South Australia and New South Wales it has taken and will take further time to establish systems that allow full and flexible application of the different tools. This includes time for agency staff to become skilled and confident in the application of the various tools. That is, it will take time for the full scope of the new regime and its benefits to be realized in practice.

Importantly, it should also mean that resources can go further than they otherwise would because of the greater choice of enforcement approaches. Likely environmental outcomes can be assessed having regard to the different resource requirements of applying different approaches. That means, priority can be given to achieving the best environmental outcomes from the same resources.

In turn, this will require improved measurement of compliance and enforcement outcomes and environmental outcomes. With a greater choice of tools it will be necessary to gauge the effectiveness of those tools in achieving greater compliance and their significance or contribution to actual environmental outcomes. For example, an assessment of the impact of particular prosecution types rather than mere numbers of prosecutions will be useful in improving ongoing administration and in providing a clearer understanding of their relative contribution to environmental outcomes.

There are therefore numerous challenges in maximizing the effectiveness of the new regimes. However, the key challenge will be to ensure implementation leads to better environment protection outcomes and the achievement of ecologically sustainable development objectives.

## ENDNOTES

1. Please note that the views expressed in this paper are those of the authors, and do not represent views of the Healthy Rivers Commission
2. Section 5.
3. It is worth noting that this will be some time off, as NEPC is still in the process of developing its first measure relating to air quality
4. State of the Environment Advisory Council, Commonwealth of Australia *Australia State of the Environment 1996* CSIRO Publishing, Australia 1996.
5. IGAE Clause 3.5.1.
6. *Ibid* Clause 3.5.4.
7. In Australia, Government uses the term Ecologically Sustainable Development rather than Sustainable Development. The principles referred to here are included in *Protection of the Environment Administration Act 1991*, section 6(2)
8. NSW State of the Environment Report 1997, Environment Protection Authority, Sydney, Australia, 1997
9. *Environment Protection Act 1993 (SA)* Section 25.
10. In New South Wales, implementation of the framework is just being determined.
11. Administration Act, section 19
12. Operations Act, sections 50-51

13. Operations Act, sections 249-250
14. Operations Act, Part 6.2. Protection is also provided for documents prepared for a voluntary audit and for some other information, from admission into evidence.
15. EOP Act, Sections 5,6,6A. Operations Act, Part 6.2
16. EOP Act, Sections8A-8D, *Operations Act*, Sections 120-144
17. EPA Prosecution Guidelines, EPA (Sydney) July 1993, page 19, ("Prosecution Guidelines")
18. Administration Act, Section 7(2)(e)
19. *Ibid* Prosecution Guidelines, cl 2.
20. The criteria to be satisfied before the Court will grant leave for a private prosecution are stricter than those which are to be satisfied for leave to bring civil proceedings under s25 to restrain a breach of an Act threatening environmental harm. Environmental Offences and Penalties Act 1989, Section13(2A)(2B)
21. Prosecution Guidelines, *op cit* No 17 at cl 4.3.
22. Operations Act 1997, Section 203
23. EOP Act, Section 25, Operations Act 1997, Sections 252-3
24. EOP Act, Section 13(2)(B). In these circumstances prosecution by other parties is precluded under the Act c13.5
25. Prosecution Guidelines, *op cit* No 17 at cl 3.6.
26. Prosecution Guidelines, *op cit* No 17 at cl 10.3.
27. Prosecution Guidelines, *op cit* No 17 at cl 3.7.
28. Prosecution Guidelines, *op cit* No 17 at cl 6.2.
29. EOP Act, Section 10(4)
30. SPCC v Blue Mountains City Council, unreported LEC, 13 December, 1990 at page 20
31. Prosecution Guidelines, *op cit* No 17 at cl 8.3.
32. Prosecution Guidelines, *op cit* No 17 at cl 11.
33. SPCC Annual Report 1984-85 page 141.
34. Farrier, D. The Environmental Law Handbook, Redfern Legal Centre Publishing, Sydney, 1993 at page 199.
35. Australian Environmental Prosecutions, Newsletter Information Services, Sydney 1995, Introduction.
36. Prosecution Guidelines, *Op cit* No.17 cl 10.3
37. Farrier *op cit* No.34 at page 200.

38. Environment Protection Authority v Charles A.L. Gardner, No.50072 of 1996, page 3, Judgment Date, 7 November, 1997, Justice Lloyd, Land and Environment Court of New South Wales
39. Environment Protection Authority Annual Report 1996-97, Sydney, 1997, page 105
40. *ibid* Annual Report, page 105
41. Environment Business, Melbourne, July, 1997 page 1
42. EOP Act, Section 25
43. Prosecution Guidelines, *op cit* No 17 cl 4.2.
44. Peek v NSW Egg Corporation, (1986) 6 NSWLR 1 at 3-4, Kirby J.
45. Brown v EPA (1992) 78 LGERA 119 and Canyonleigh Environment Protection Society Inc vWingecarribee Shire Council No. 40286 of 1996, Judgment 8 August, 1997, Justice Bignold, Land and Environment Court of NSW
46. See Chapter 4 of the Operations Act.
47. Operations Act, Section 90
48. Sections 91-94
49. Sections 95-100
50. Section 104
51. Sections 106-7
52. Section 86
53. Sections 288-9
54. Both Tasmania and Queensland have adopted similar statutes.
55. *Environment Protection Act 1993* Section 11.
56. Section 12.
57. Section 11(4).
58. *eg Environment Protection Act*, section 34 *eg* Clause 4(1) Environment Protection (Air Quality) Policy 1994.
59. Discussed below.
60. Examples, include failure to assist authorised officers with enquiries (s90). Failure to comply with an Environmental Protection Order (s93). Failure to provide information about the change of ownership or occupation of land which is subject to an environment protection agreement (s94).
61. Section 79.
62. *Environment Protection Act 1993*, section 80.
63. Section 82.
64. Section 123.

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65. Section 132.
  66. Section 127.
  67. Section 127(2).
  68. *Environment Protection Act 1993*, Section 129(2).
  69. Section 129(3).
  70. *Environment Protection Authority (WA) v McMurty* - unreported Perth Court of Petty Sessions 9.3.95. see Case Note (1995) 1 AELN 14.
  71. Section 84.
  72. *Environment Protection Act 1993*, Section 124.
  73. Section 28a.
  74. *Expiation of Offences Act 1996* Section 6(3).
  75. *Ibid* Section 15(1).
  76. There have in fact been no prosecutions under the *Environment Protection Act* since it came into operation in May 1995. A prosecution conducted by the EPA but relating to offences under the previous *Waste Management Act 1987* was dismissed by the Magistrates Court in early 1997. See EPA Draft *Annual Report of the Environment Protection Authority for Period 1 July 1996 to 30 June 1997*, September 1997 at p50.
  77. See below at page 25
  78. Discussed subsequently at page 24 *et al.*
  79. Section 93.
  80. Section 99.
  81. Section 100.
  82. Section 104.
  83. EPA Annual Report 1996-97, EPA, Adelaide, page 50. Statistics for 1994-95 were only for May and June 1995, as the Act commenced on 1 May, 1995
  84. *Environment Protection Act 1993*, Section 124(4)
  85. Section 104(1).
  86. Section 104(4).
  87. Section 104(7).
  88. Section 104(9).
  89. Section 104(18).
  90. Section 104(17).
  91. *Oshlack v Richmond River Shire Council* [1998] HCA 11
  92. *Environment Protection Act 1993*, Section 106(1)(d)

93. Section 107
94. Section 93(8)
95. Section 94(1)
96. Section 94(4)
97. Section 95
98. *Environment Protection Act 1993*, Section 100
99. Section 100(3)
100. Section 101.
101. The course is run in conjunction with the Australian Centre for Environmental Law, at the University of Adelaide.

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## **ESTONIAN APPROACH FOR ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT**

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### **SUMMARY**

Agenda 21, produced by the UN Conference on Environment and Development held in Rio de Janeiro in 1992, stated that the effective environmental compliance and enforcement programs were key elements of environmental management, and recognized the need to build institutional capacity for effective enforcement in national environmental programs.

Since restoring its independence 1991, the Republic of Estonia has actively pursued a policy aimed at reestablishing ties with its Western neighbors and resuming its historic place amid the democratic European states. During the last 6 years, the Estonian Parliament has adopted more than 30 legislative acts and amendments which cover approximately 80% of necessary environmental legislation. Special attention should be paid to the adoption of the Act on Sustainable Development in 1995, as well as the National Environmental Strategy in 1997 and the Environmental Action Plan in 1998.

### **1 LEGISLATIVE AND ADMINISTRATIVE FRAMEWORK**

Estonia has embarked on a process to achieve "approximation" of its legislation with EU environmental law which is binding on the member countries. The status of an being a country in preparation for accession has given environmental authorities a stronger position in relation to various sector and exploitation interests, as compared to the situation where countries would have to comply with other types of non-binding international agreements. The need to implement EU legislation is speeding up the process of drafting national legislation. The entire environmental acquis of the EU consists of more than 200 different legislative instruments - regulations, directives, decisions and recommendations.

The authority responsible for enforcement of environmental legislation is the Environmental Inspectorate established in 1996 as an independent governmental institution. However, many of the present enforcement tasks are delegated to the regional environmental departments. The Inspectorate is responsible for the coordination of control and supervision of the use of natural resources and environmental protection. They prepare bills of legal acts and analyze relevant legislation. The Inspectorate claims through courts for compensation for the damage done to the environment or illegal use of natural resources.

Similar functions dealing with the sea are fulfilled by the Marine Inspectorate which is responsible for exercising surveillance over the state of aquatic environment in the coastal and territorial sea areas, within the economic zone and in Lake Peipsi-Pihkva, and for protecting marine environment and fish stock. All matters related to sea inspection, including oil pollution control, are dealt with by the Inspectorate. It carries out inspections related to environmental regulations of the marine environment and inspects the merchant fleet, including passenger vessels and the fishing fleet. It is responsible for matters related to shipping and

navigation in the context of the Helsinki Convention on the Protection of the Marine Environment of the Baltic Sea Area and the International Convention for the Prevention of Pollution from Ships (MARPOL), including oil spill contingency planning.

Environmental permits by media (air, water, waste) are currently required in Estonia for the operation of industrial and commercial facilities. Environmental permitting is linked to the environmental standards and norms. We are preparing for introduction of an integrated permitting system (IPPC).

An environmental impact assessment (EIA) often provides the basis for environmental permits for air, water and waste, based on information presented by enterprises. Permits are issued for one to five years.

One of the preconditions for successful compliance and enforcement is the availability of reliable data on pollutant loads discharged into the environment. The leading and coordinating office for monitoring is the Environmental Information Centre (EIC).

At the present stage, enforcement of laws is not an easy task because the technology to meet environmental standards is not available in many enterprises and upgrading or changing their current technology requires major investments. Also, the capacity of local authorities to monitor compliance is almost nonexistent. There is a major need for investment in new technology that could be provided with the help of foreign assistance. What drives facilities to comply with legislation is the need to do business with western countries, especially the EU member countries. Enforcement needs to be strengthened through improved compliance monitoring and an integrated permitting system.

Because Estonia is a small country and the Government's current resources are limited, cooperation between the national, regional and local authorities, and industry is all the more important. The lack of capacity within the Government could be compensated by, for example, establishing self-monitoring and reporting requirements for enterprises when issuing permits.

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## **ARMENIAN BOTTLENECK: BUILDING AUTHORITIES AND PUBLIC GROUPS CAPACITIES FOR ENVIRONMENTAL ENFORCEMENT**

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### **SUMMARY**

Since gaining its independence, Armenia has been trying to overcome the legacy of the Soviet era and implement an environmental management reform that will orient the country toward sustainable development. Some of the first encouraging legislative steps have already been taken, but much more has to be done: (a) to reassess the old and identify the newly-emerged regulated community; (b) to develop enforceable requirements and set up a completed regulatory framework; (c) to redesign compliance and enforcement institutions and develop their capacities; and (d) to increase public awareness, participation, and involvement in decisionmaking, as well as to strengthen knowledge and capacities within the NGO and academic communities. The lack of such a comprehensive program endangers the reforms and makes them potentially unsustainable. An intensive information inflow and capacity development would facilitate the transition from a resource-consuming curative approach to environmental protection toward a more sustainable integrated environmental management system.

### **1 INTRODUCTION**

Due to the lack of public awareness, experience and mechanisms incorporating environmental concerns into overall socio-economic development (both before and after independence), the current period of intensive social, economic and political change has unfavorably affected all aspects of the environment in Armenia.

Numerous environmental problems faced by Armenia include: wasteful exploitation of natural resources; intensive air, water, and soil pollution; industrial and agricultural contamination; and outdated technology and infrastructure. These conditions have negatively affected life expectancy and public health, as well as economically-important wild plants and animal species, ecosystems, and the economy in general.

Current perspectives for the environmental conditions improvement seem to be vague. There is a great disparity between the funds available and the numbers of polluted areas needing rehabilitation, and it is unrealistic to expect an increase in expenditures in the near future. Even economic recovery and increased funding for environmental protection will not greatly help in changing the still reactive, mostly resource-consuming curative (not preventive) management system or help improve public awareness and public involvement in decisionmaking. The main economic constraints in Armenia include: inadequate and inaccurate prices for the use of natural resources (e.g., no charge for drinking water), lack of appropriate taxation and sanctions policies, an inefficient financial and banking system in

general and directed to environmental problems in particular, lack of foreign capital allocated to the environment, centralized distribution of financial resources, and lack of entrepreneurial interest for environmental protection, environmentally-friendly products and services.

It is widespread in developing and transition economies that the financial shortcomings hamper development of effective environmental protection programs. However, analysis shows that, for the current stage in Armenia, the most acute problems are underdeveloped environmental institutions, human resource capacities, and the lack of public involvement in decisionmaking.

Recent breakthroughs on the legislative level have laid the foundation for the further evolution of environmental reform. However, the reform reflects a "top down" approach, mostly based on analysis and intellectual exercises. As practice shows, it is difficult to advance reforms past the legislative stage to work out specific regulations, enforcement, and compliance programs without management system change, training of officials and strong public interest. The role of the regulatory framework in the current stage of the Armenian legal system is essential, since regulations make law enforceable.

## **2 LEGISLATIVE REFORM**

### **2.1 The First Inefficient Phase of Legislative Reform**

Since independence in 1991, the transformation of the whole state structure has been creating an opportunity for Armenia to take advantage and benefit from that, to establish an effective environmental management system based on the worldwide experience. Unfortunately, at the very beginning of legislative activity (independent from Moscow) from 1990 to 1995, the Armenian Parliament imitated the world's current environmental protection practice and developed media-specific and field-specific laws. The world's environmental program development trends had not been analyzed and a path which had driven us in an ineffective direction had been chosen.

In 1991, the Parliament passed "The Principles of Environmental Protection Legislation of the Republic of Armenia" as a constitutional Act. The Act states an overall environmental protection policy and establishes a framework within which the Parliament had to develop specific separate Acts to protect the atmosphere (air), water, soil, mineral (mining) resources, forest, flora, fauna, especially protected territories, endangered species, and manage waste, etc.<sup>1</sup>

Accordingly, the Parliament developed several media- and field-specific laws and adopted the following Acts: "Water Code," "Law on Specially Protected Territories," "Natural (Mineral) Resources Code," "Land Code," "Law on Atmosphere (Air)," and "Forest Code." Along with these Acts, the Parliament adopted other laws such as "Act on Entrepreneurial Activity," "Act on Privatization," and "Act on Taxation" which contain some provisions related to environmental protection as well.<sup>1</sup>

At that stage of the environmental reform, it was assumed that some foundation for environmental protection reform had been established. However, the media-specific approach and the incompleteness of the regulatory framework (in terms of regulations and guidelines issued subsequent to adopted acts) and some controversial provisions caused tremendous constraints to the harmonization of those acts and subsequent regulations and development

of environmentally sound programs to equally protect all parts of the environment. Even now, none of the regulations needed to implement new acts are complete to support comprehensive implementation and enforcement.

New environmental legislation still has no real effective implementation and enforcement practice.

## 2.2 The Second Encouraging Phase of Legislative Reform

The scarcity of financial resources has not given the government an opportunity to rehabilitate or even alleviate the damages caused in the past, even those which impact health and life expectancy. The current system has not been capable of coping with increasing environmental problems. This hardship has forced specialists to review the selected path of the environmental reform in early 1995. The absence of an integrated policy and a unified conceptual structure of environmental legislation are the sources of that hardship. For that reason, the strategy of the government for the last years has become the development of environmental policy that could *prevent further deterioration of the environment by reducing the negative impact of new economic and other activities*.

Analysis of the worldwide experience and most advanced practices show that the key change entailed by integrated pollution control is a shift in the focus of decisions. Although now most environmental programs consider decisions separately to protect air and water, and on-land waste management, there were practices that could be used in developing our approach. The options for integrated pollution control to prevent pollution and increase protection of air, water, and land are achieved by focusing on *the pollution control management function, the substance, the source, or the geographical region*. Each of these focuses offers a way to take into account the environment as a whole rather than a single medium in isolation and, thus, gives an opportunity to make decisions that are more than the sum of their parts. *Environmental impact assessment* could be a form of integration at the source as far as it looks at impacts on all parts of the environment of a particular activity.

The experience of Germany has been particularly analyzed and taken into account. The Federal Republic of Germany has proposed implanting uniform principles and procedures of environmental assessment into laws such as those on air pollution and noise abatement, water management, waste disposal, nature conservation and land management, mining, and land-use planning. Sixteen laws would be affected by the proposal, which has been stimulated by the need to implement a European Community directive on environmental impact assessment. Germany is also exploring approaches in the longer term to codification of environmental law, based on the *Vorsorgerprinzip*, the principle of precaution or foresight. Other countries are also moving toward integration and unification in their environmental legislation and programs.

The Armenian Parliament has taken into account the world's trend in streamlining environmental programs. In 1995, the Parliament developed and adopted the Environmental Impact Assessment Act mainly to serve as the separate environmental act in addressing environmental, economic and social issues in a comprehensive way in order to establish an integrated pollution prevention, control, and management system. Moreover, the Act is designed in such a way that it could overcome many shortages in serving as a mechanism not only to alleviate the fragmentation of Armenian statutory base but also to unify existing environmental legislation.

The logic of the Armenian environmental legislation with this Act as a cornerstone supposedly has to work in the following order: separate Acts will regulate the current status quo whereas the Environmental Impact Assessment Act will ensure sustainable development

and reform. For that purpose, the Act implants uniform principles and procedures of environmental assessment into all passed and proposed Acts. Moreover, the Armenian Environmental Impact Assessment process is linked to the permit process, which is the exact mechanism that could serve as a basis for integrated pollution prevention and control type of Environmental Management.<sup>2</sup>

The development of National Environmental Action Plan which is underway with the World Bank's support within the framework of the "Strengthening Institutional Capacity of Environmental And Natural Resources Management" program could serve that purpose. This program will highlight and set cost-effective priorities to establish a new environmental management system. The deficiency of this program development is the obvious scarcity and/or mostly lack of reliable data and information. Simultaneous development of the Monitoring/Control System and capacity development of the Environmental Impact Assessment System could speed up, enhance and correct the National Environmental Action Plan development. However, there is no funding yet to work out a new Monitoring/Control System concept, structure, and development strategy.

### **3 PREPAREDNESS OF THE GOVERNMENT FOR REFORM**

Legislative breakthroughs toward environmental reform in Armenia have laid the foundation for its further evolution. In spite of such advanced reform on the legislative level, the reform may fail if there is not a simultaneous evolution in the public officials' education, raising of public awareness and public involvement in decisionmaking. The reforms are top-down approaches mostly based on analyses and intellectual exercises. Reform may remain pending by the lack of medium-level officials' and the public's involvement at the stage of working out regulations subsequent to legislation.<sup>3</sup>

The role of having a regulatory framework in the current structure of the Armenian legal system is essential. Before adopting the new Constitution, a usual practice in the environmental field was the development and adoption of laws by the Parliament. These laws were mostly declarative and general. Most enforceable provisions for the laws usually appeared in subsequent regulations. Ministries at that time had to prepare the subsequent regulations and rules and submit them to the Prime Minister's Office, which had the right to adopt them and complete the legislation. At that time, the Parliament only had the right to give general direction. The Government made real legislation.

After adoption of the new Constitution the situation changed. Parliament now only has the right to adopt or reject laws submitted by the Government experts. The Government is responsible not only for regulations but also for policy and laws. This structure is making government officials more involved in law-drafting and there is now need for special training. This kind of biased combination of legislative and executive branch duties and rights only in the hands of the government breaks a commonly-accepted rule of separation between legislative and executive functions. However, this is a broad issue, which needs some more deliberations that cannot be done here.

So far, working out the regulatory framework without wide involvement of NGO and academic communities and representation of the public endangers implementation and enforcement of the reforms.<sup>3</sup>

### 3.1 The Structure of Governance

The Ministry of Environmental Protection is responsible for the development and implementation of the strategy and policies in environmental protection, sustainable utilization of natural resources (excepting water and soil) and the development of public investment projects. The Ministry of Environmental Protection oversees the soil and surface water pollution. The Ministry of Agriculture carries out the responsibilities of managing and controlling the water resources and land utilization. This issue needs to be seriously discussed, since the priorities of the protection and utilization of resources are often conflicting.

After adopting the new Constitution on July 5, 1995, along with the overall transformation of the administrative structure of the Republic, the environmental protection responsibilities of marz (region) and community authorities are currently under development, and the decentralization of responsibilities has not been fully accomplished yet.

### 3.2 The Ministry of Environment's Current Structure, Capacities and Problems.

The Ministry of Environment has existed as a Ministry since December 1991. It took over from the State Committee for Nature Protection, which was created in 1985. In November 1995, the State Committees on Forest, Mineral Resources and Hydrometeorology were merged into the Ministry of Environment, which was renamed to "Ministry of Environment" (MoE). The Ministry Inspectorates' Central and 11 Regional Offices are responsible for overall inspection throughout the country.

The Ministry is headed by an appointed Minister, the first deputy Minister and three deputy-Ministers. The Ministry consists of the 18 following Departments and Inspectorates:

- Department for Water Protection Management
- Department of Mineral Resources
- Department of Forest
- Department of Flora and Fauna
- Department of Air Protection
- Department of Soil Quality Protection
- Department of Fishery Protection
- Department of Economic Instruments Development
- Department of Natural Resources Pricing Policy
- Department of Monitoring
- Department of Hydro-Geological-Investigation
- Inspectorate of Environmental Police
- Department of International Relations.

The Departments of Environmental Impact Assessment and Hydrometeorology, Central Control Inspectorate and 11 Regional Offices are currently becoming closed joint-stock enterprises under the Ministry's umbrella.

The Ministry of Environment, including 115 personnel in its central structure, employs 6000 people. Within the MoE, the Department for Water Protection Management established the Lake Sevan Ecological Implementation Office for the World Bank project (grant for the

Preparation of an Action Plan to Restore Lake Sevan), while the Department of International Cooperation is involved in the preparation of the World Bank National Environmental Action Plan.

Management within the Ministry is characterized by:

- a) lack of finance to cover current necessary expenses of the old resource-consuming management system;
- b) lack of, and outdated equipment and input supply;
- c) irregular and incomplete range of data and information collection for management and control;
- d) lack of coordination between different Ministerial Departments, Divisions, Inspectorates, and other state, private, academic and non-governmental institutions;
- e) overlapping of duties and responsibilities among Departments, Divisions, Inspectorates;
- f) lack of a unified structure on management within the Ministry.

The current situation within the Ministry is causing the following problems:

- a) lack of new strategy and structure matching the market-oriented and market relations' concept for a new efficient Environmental Management;
- b) lack of an opportunity for the Armenian specialists to formulate a new strategy and to develop an appropriate and cost-effective efficient Environmental Management strategy and structure prior to new conditions (due to the energy crisis during the last 5 years and the subsequent information vacuum);
- c) lack of an appropriate, fully developed and completed regulatory framework;
- d) lack of funding to obtain information and develop new efficient Environmental Management strategy and structure;
- e) after merging the State Committees on Forest, Mineral Resources and Hydro-meteorology into the MoE, no restructuring of management has been done in order to harmonize the functioning of the whole Ministry;
- f) this merging put more burden on the scarce communication carrying capacities of the Ministry, which, along with the increased responsibilities, resulted in the collapse of the communication system due to increased payment problems within the same financial budget of the Ministry.

### 3.3 Technical Assistance

Building capacity for authorities' institutional and human resources is an urgent problem. Government realized all these problems and asked for assistance. Technical assistance has been provided by international organizations to cover mainly the following areas:

- a) In September 1995, the Government of Armenia obtained a grant of US \$ 485,000 from the World Bank for the Preparation of an Action Plan to Restore Lake Sevan. The formal work started in January 1996 and lasted until March 1997. This program focuses on the areas of:

- institutional, regulatory and managerial issues;
- water resource management;
- industrial and municipal pollution;
- non-point source pollution;
- rehabilitation of fisheries;
- national park management and protection of biodiversity.

A wide spectrum of authorities will be invited to lead or participate in the above listed working groups, assisted by external consultants.

- b) A grant of US\$ 200,000 is allocated by the World Bank for Strengthening Institutional Capacity of Environmental and Natural Resources Management. The project is on the stage of problem formulation.
- c) The Food and Agriculture Organization (FAO) of the United Nations is providing a technical assistance program of "Armenian Forestry Sector Development" totaling US\$ 380,000, which aims at provision of support to the government of Armenia in managing the pressing fuel-wood crisis through strengthening the institutional and technical capacity of HAYANTAR (Armenian Forestry Administration), and assists in determining a strategy for the development of the forestry sector and in identifying investment priorities for national and international financing consideration.
- d) The World Bank funded "The Irrigation Rehabilitation Project" that is currently being implemented. The main objectives of this project are to maintain the level of irrigated agricultural production for food security and to improve the country's water resource management. This project's implementation will contribute to the prevention of the further soil erosion and salination as well.
- e) A program grant for a country study on "Climate Change" totaling US\$ 360,000 was allocated by the Global Environmental Foundation. This program is implemented by the Ministry of Environment with UNDP country office support during three years starting in 1996.
- f) A small-scale program for the Geographic Information System development totaling US\$ 12,000 was sponsored by USLA. The program is implemented by the Environmental Research and Management Center of the American University of Armenia.
- g) UNDP provided a grant totaling US\$ 130,000 on "Strengthening of Ministerial Capacities" to optimize the current management of the Ministry on Environment, capacity building, and supply up-graded equipment.<sup>4</sup>

Each of these programs is trying to solve one or several separate problems. There is a need to develop an umbrella for a comprehensive strategic program. Understanding that the problem of the Armenian Environmental Management System is rooted in the Soviet legacy and continues to have a resource-consuming approach instead of a preventive one causes this concern.

The environmental management in the country is characterized by:

- a) lack of a revised/adjusted environmental management policy in the new market conditions;

- b) scarcity of data, information, and analysis to set up updated realistic and achievable goals and priorities for further development of a new integrated environmental management strategy and system;
- c) incomplete and unenforceable legislative framework and underdeveloped and inefficient regulations framework to set up new economic incentives for the environmental protection liabilities and fund raising, including an inefficient tax and pricing policy, and outdated standards and norms;
- d) highly centralized and inefficient management systems with overlapping responsibilities;
- e) scarcity of financial resources available for environmental protection.

Analysis shows that even having advanced pieces of legislation, the mentality of regulators has not changed as a result of training provided. There is no complete understanding about the things to be changed.

### 3.4 Identification of Newly Emerged Regulated Community

Transition toward a market economy and, following this, toward privatization of land and enterprises, dramatically changed the regulated community. The community is changed not only in terms of activities but also in terms of people's attitude toward the environment.

Three major steps have to be conducted by government to identify the regulated community and set up the environmental enforcement priorities.

The first step has to be the development of a program on information collection about existing and acting facilities. The information currently available is based only on the following data:

- the name of facility;
- address;
- type of business and operation (incomplete); and
- any existing license, permit, or product registration numbers (incomplete).

The information on regulated materials or emissions is collected for only some of the facilities. No information exists on risk associated with the releases at restructured or newly established facilities. Moreover, there is no information on compliance status, schedules, violations, and status of responses. For some facilities, certain information could be in the Government, but not collected on a regular basis or analyzed.

The second step has to be the development of the Monitoring and Inspection Concept in Armenia. Until now, these approaches are under consideration and discussion. The inspection structure and functions have been recently developed and the State Inspectorate, separate from the Ministry on Environment, has been established. However, interrelations with the Ministry and the monitoring approach are under discussion.

The third step has to be the development of compliance incentives and assistance programs. This step could be the most difficult for both public and private actors due to the Soviet legacy and lack of experience. Mutual suspicion has to be overcome by targeted government programs and the development and implementation of public relations programs.

#### 4 MAIN PROBLEM TO BE URGENTLY ADDRESSED: LACK OF PUBLIC INVOLVEMENT IN DECISIONMAKING

Before independence, Armenia had a strong but an extreme environmental movement fighting for the closure of all hazardous industrial enterprises in the country. The impact of the movement was so strong that it could initiate shutting down many units crucial to the economy in Armenia. On that wave, many leaders got to power. That extremism has caused the collapse of the economy and has led to environmental disasters. These include: widespread poverty of up to 80% of the population; the overuse of Lake Sevan water for energy generation; and cutting down of three percent of Armenia's forestland for cooking and heating (eleven percent of Armenia is forestland). After independence, due to energy and economic crises, new leadership has been strained to reopen those units. As a consequence, the Armenian environmental movement has lost credibility. While there exist hidden environmental concerns, the distrust toward environmentalism is a widespread attitude among the public, as well as the leadership in Armenia.

During the last two years, along with energy supply increase and economic revival, a new environmental movement has emerged. Unfortunately, as is common for environmental activists, the movement has to deal with the lack of access to environmental information (Soviet traditions in government attitude are still in place?), the lack of support and funding and, what is the most difficult task, regaining credibility and public trust. Transition hardships, the lack of experience to act in new circumstances, and the lack of public support create an unfavorable climate for an environmental movement to raise public awareness and involvement in decisionmaking to shape environmental reform toward enforceability and sustainability. Despite these problems, environmental NGOs try to contribute to the formation of new environmental reform and public attitude.

Positive signs from the environmental NGO community growth in Armenia can be seen. Today there are more than 1700 NGOs registered at the Ministry of Justice of the Republic of Armenia. Two hundred of them claim to focus on environmental issues. However, the Armenian Assembly of America's NGO Training and Resource Center (NGO Center) believes that only about 20 of these are considered actively working in the area.<sup>9</sup>

These NGOs realize the necessity of forming a legislative basis for environment protection and promoting sustainable development, as well as advocating for public participation, and linking concerned groups with decisionmakers. They have worked to establish cooperation and develop collaboration with the ministries and the government, i.e., the Ministry of Environment, Ministries of Education and Social Welfare and Academy of Sciences. This has met with some success, and the NGO community has participated at seminars and meetings at the Ministry of Environment, and vice versa.

Although, with one exception, none of the NGOs have funding either from domestic (public or private) or international resources, their number, membership, activity, and cooperation are rising rapidly. The financial and organizational conditions of the Armenian NGOs have a long way to go for improvement. Government support is almost nonexistent. The overwhelming majority of these organizations cannot be self-supporting, since income generating projects are just starting. Usually they do not have membership fees, and the members' contribution consist of volunteer work, knowledge, and skills. Sources for funding for NGOs are limited, mainly dependent on grants from international organizations. That phenomenon creates strong competition between NGOs and prevents them from forming associations by the focus of activities, or umbrella centers with common technical facilities.

Out of the total number of registered NGOs, fewer than 30 percent have office space. The majority of them are located in the apartment of a member. Only five to ten percent of the total number have their own equipment; the rest mostly rely on equipment available at members' work places, and 80 percent use the equipment services provided by the NGO Center (computer access two hours per day, printing/copying limited to 50 pages per month, fax machine, mailing service). Since local NGOs generally do not have access to computer networks, they are unable to establish themselves and expand contacts with counterparts in other countries.<sup>5</sup>

It is worth underlining that from the beginning, there was almost no training provided on the conceptual and structural basis of such NGO organizations. Ninety percent of Armenian NGOs are club-based organizations that lack knowledge about the real function, structure, recruitment policy, and mission of a public organization. The exceptions are a few professional associations.

A few environmental NGOs have received training on NGO operation and management and funds for small projects from the NGO Center. Activities were not sufficient to meet the growing needs of environmental NGOs in information flow, and experience exchange. That is why environmental organizations in Armenia are one of the weakest NGOs (along with Women's organizations).

Weak collaboration between environmental NGOs is another obstacle in their work, particularly given financial constraints and competition for sharing grants from international donors. The majority of them are still at a consumers' level with short-term strategic plans for their own benefits. That issue prevents environmental NGOs from forming associations in which they could jointly work on their concrete objectives and tasks (*i.e.*, scientific, educational, legislative, energy, forestry, etc.). It is still early to expect any environmental association with a global idea, but an idea of a center with common technical facilities might be realistic.

The most discouraging reality is the lack of access to either domestic or international environmental information. The first is caused by the legacy of Soviet era traditions, which, having access to international information and lobbying experience, is not too rigid to breakthrough. The second is caused by the lack of access to communication to gather international information and be aware of current events and emerging problems and solutions. The insufficient experience in running NGOs and lobbying hampers the organizations' involvement in both decisionmaking and/or raising public awareness to enhance and shape reform.

In fact, the state of public involvement in decisionmaking gives a clear idea of the lack of public involvement. The NGO community, whose role in society cannot be underestimated, should be given an opportunity to take part in training and projects oriented toward the development of their management skills in mass media activities. The lack of cooperation between environmental NGOs in Armenia has prevented them from carrying out their main function - to control and monitor the activities of the government. Another deficiency of their activities is their limited involvement in the discussion of the national environmental management programs and other strategic decisions. In general the public of newly independent countries, and Armenia's public in particular, is concerned about environmental issues and can be active in decisionmaking on a local level. Despite this, the public's opinion is not taken into account by authorities. Unfortunately, lack of experience, training, and funds leaves that powerful public group an almost unutilized force for environmental control and management.

This underutilization certainly may make development of the enforcement stage of environmental reform inefficient or even fail. In the current stage of political, economic and social development in Armenia, the country is not ready either to understand fully the vital

power of public involvement in constructing a sustainable statehood, or to provide capacities for promoting it. It is obvious that only joint actions of the public and its changed attitude can bring essential improvements in the state of the environment through involvement and utilization of the human potential. This factor forms a basis for enabling the public to participate in a country's decisionmaking and orient it towards the future in a sustainable direction. In this sense, the role of international organizations' intervention is crucial in supporting the strengthening of environmental NGOs. Unfortunately, an obvious disparity in supporting all transitional reforms is recorded in Armenia. The share of support to the government is overwhelming. This raises an imbalance in the development of any reform. Still, efforts of any international organization are more than welcome to enhance Armenian environmental NGOs.

## 5 CONCLUSION

The ultimate goal, to develop compliance and enforcement programs, could be reached by intensive information inflow, experience, and management skills from abroad. The officials are receiving some information, training and they are gaining experience. Somehow, this gap is being filled but not in a comprehensive way. In the area of environmental compliance and enforcement reform, the Armenian public, however, is neglected by the government and receives little international technical assistance. Although public participation is a practicable working mechanism capable of improving the state of the environment and ensuring environmental compliance and enforcement in Armenia, an effective working of participatory mechanisms requires the fundamentals of environmental education for each and every person involved at all stages of the environmental management scheme. This participation can, in turn, influence decisionmaking. If environmental education is not promoted, the reforms could fail.

## ENDNOTES

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3. Ter-Nikoghosyan, V., *Surviving Together*, vol.15, issue 3, 1997, pp. 47-48.
4. Ter-Nikoghosyan, V., *Natural Resources: Environment and Agriculture, Spanning to Development*, UNDP/Armenia, 1997, (in Press).
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## **LEGISLATIVE TOOLS FOR INCREASING COMPLIANCE AND ENFORCEMENT**

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### **SUMMARY**

This paper presents some effective legislative tools for increasing compliance and enforcement which have been adopted in Israeli legislation. These tools include such measures as the clear formulation of prohibitions which are oriented at results, preventative measures, inspections, orders, penalties and public participation.

### **1 INTRODUCTION**

Changing environmental behavior norms may be achieved in two main ways: education and legislation. To be effective and beneficial, environmental legislation should be focused, measurable and must serve a deterrent function. Several measures have been successfully integrated into Israel's environmental legislation in order to achieve environmental goals. These may be divided into several stages: prohibition, prevention, licensing and inspection, orders, restoration of previous conditions, penalties and public participation.

### **2 PROHIBITION**

The prohibition stipulated in the legislation should be clearly and concisely formulated with an orientation on results alone. The prohibition should be absolute, dispensing of the need to prove intent, impulsiveness or negligence (MENS REA).

In cases of pollution violations (e.g., prohibition of water pollution, soil pollution, etc.), it should be emphasized that the condition of the area prior to contamination is not a factor in the considerations leading to conviction. The very act of pollution is prohibited, not the results.

### **3 ANTICIPATORY PREVENTION**

Environmental legislation should anticipate, as far as possible, the weak points which may allow environmental damage to occur and should create the necessary planning tools to analyze the problem and prevent or mitigate it. For this purpose, it is advantageous to incorporate requirements for environmental reviews or environmental impact assessments in the legislation. In cases of high-risk projects, all alternatives should be reviewed at this early stage including a no-action alternative. Furthermore, the "polluter pays" principle should be integrated in this stage and potential polluters should be required to cover the costs of environmental reviews.

## **4 LICENSING AND INSPECTION**

### **4.1 Licenses and permits**

An especially effective means of ensuring compliance is the authority granted within the law to establish a system of licenses and permits. This grants the inspection authority the power to issue the license, revoke it, or incorporate conditions in it. In fact, the very act of managing a business without a license, even if no environmental damage was done, constitutes an offense under the law.

### **4.2 Hazardous Substances Law**

Israel's Hazardous Substances Law prohibits the sale of hazardous substances by anyone holding a "poisons permit" to anyone not holding such a permit. This measure enables the authority to prevent the distribution of hazardous substances to anyone not authorized to deal with them.

### **4.3 Professional inspectors with full police powers**

Several of Israel's environmental laws empower the Ministry of the Environment to appoint inspectors who are granted investigative powers commensurate with those of police officers. Such inspectors are professionals both in the realm of investigations and in the realm of the environment. Their very presence in the field plays an important role in increasing enforcement.

## **5 ORDERS**

### **5.1 Personal decrees and personal consequences**

The Abatement of Nuisances Law authorizes the Minister of the Environment to issue a "personal decree" to an owner of an industrial plant directing him to adopt specific measures in order to abate a nuisance. Failure to act according to the instructions of the Minister is deemed a personal offense of the owner of the plant irrespective of the impact of the action on the environment.

### **5.2 Cleanup order**

The Maintenance of Cleanliness Law authorizes the Minister of the Environment to issue a Cleanup Order which requires a person who litters the public domain, an owner of a property in which the waste was disposed or a local authority in whose jurisdiction the waste was disposed, to remove the waste to an appropriate site in accordance with a set timetable and to require restoration of pre-existing conditions. The Minister may execute the Cleanup Order independently, if the person responsible for carrying out the order fails to do so. In this case, the person who received the order is to be charged with double the cleanup expenses. The entire process does not require judicial intervention.

Use of this order is especially effective and successful in overcoming the problem of the "midnight dumper" in cases where it is not possible to identify the person throwing the waste.

### 5.3 Mandatory or prohibitory injunctions

Several laws allow the authority to apply to the court, at the same time as submitting an indictment, to issue a mandatory or prohibitory injunction which instructs the defendant to act in a certain manner even prior to sentencing in order to prevent, stop or minimize the nuisance. This measure is most effective in achieving immediate results.

## 6 RESTORATION OF PREVIOUS CONDITIONS

### 6.1 "Polluter pays" principle

Restoration of previous conditions lies at the heart of the "polluter pays" principle. The law should allow the authority to require, in addition to the penalty imposed, also restoration of previous conditions, even in cases in which the specific polluter is not responsible for the pollution of the entire site and other polluters are known to exist as well.

### 6.2 Special funds

Provisions may be established within the law for the allocation of the moneys received from the imposition of fines and penalties to a dedicated fund whose purpose is to advance the aims of the law (e.g., maintenance of cleanliness, prevention of marine pollution, etc.) and to restore pre-existing conditions.

## 7 PENALTIES

### 7.1 Penalties to corporate managers and heads of local authorities

Many environmental offenses are committed by people who are not "criminals" in the normal sense of the word. Many are respected members of society such as plant managers or heads of departments and mayors in local authorities. It is therefore essential that appropriate penalties should be imposed accordingly.

### 7.2 Punishment through public service

In lieu of imprisonment or fine, it may be appropriate to impose "public service work" with an environmental orientation on the offender. This may include cleanup of a nature reserve, animal care, etc.

### 7.3 Publicity

An effective enforcement measure is the possibility of obligating a person convicted in court to publish, at his own expense, a clearly visible notice in the press in which he admits that he polluted the environment and expresses regret for his actions.

### 7.4 Personal payment of a fine

Israeli law prohibits a corporate body or an employer to pay a fine on behalf of an employee. Furthermore, conviction is accompanied by a personal criminal record, even if the employee acted on behalf of the company or according to the company's instructions.

### 7.5 Liability of a corporate manager and prohibition of a violation by a corporate body

Several Israeli laws stipulate that in cases in which an offense is committed by an employee of a corporation, and the corporation did not take all possible measures to prevent such violation, the corporate body and each of its managers personally will be legally responsible. This measure has the added benefit of encouraging corporate bodies to allocate the necessary budgets and skilled manpower to prevent environmental damages.

### 7.6 Additional penalties

In addition to the fine, the law may provide for the possibility of imposing incremental daily fines, doubling of fines for recurring violations and doubling of fines for corporations.

## 8 PUBLIC PARTICIPATION

### 8.1 Volunteer trustees

Public participation in the enforcement of environmental laws is achieved by special provisions within the law which allow for the appointment of volunteer "trustees" from the general public. Such trustees are authorized to file complaints against offenders of the law and to submit them to the relevant authority. In Israel, some 140,000 "cleanliness trustees" serve as volunteers under the Maintenance of Cleanliness Law.

### 8.2 Public participation in the review and approval of plans

Israel's planning and building legislation provides for a public notification and participation process. The Israeli public may participate in planning and building processes and in environmental impact assessments and may submit objections to plans.

### 8.3 Public participation in filing legal claims

Israeli law allows the public or green groups and non-governmental organizations (NGOs) to file private criminal suits in cases of environmental pollution or nuisances, when the authority chooses not to file a claim.

## 9 CONCLUSION

Since similar environmental problems are known to plague different countries, examples of successful environmental legislation from different countries may play an important role in increasing environmental compliance and enforcement. In all cases, it is vital to remember that effective environmental legislation must always be accompanied by increased environmental education and public awareness in order to achieve environmental protection and changes in behavioral norms.

## **INDUSTRIAL ESTATE AUTHORITY OF THAILAND STRATEGY FOR ENVIRONMENTAL COMPLIANCE**

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### **SUMMARY**

Industrial Estate Authority of Thailand is a state enterprise established in 1972 under the Ministry of Industry. It is chartered to develop and operate industrial estates in order to promote systematic industrial growth.

All newly industrial estate projects of the Industrial Estate Authority of Thailand must be approved and allocated budget for investment by the Government. The environmental impact assessment must be approved by the Office of Environmental Policy and Planning of the Ministry of Science, Technology and Environment before commencing operation.

Currently, there are 28 estates of which 9 of them are owned and operated by the Industrial Estate Authority of Thailand. Others are joint venture between the Authority and private developers. All estates are provided with public utilities i.e. water supply, telephone, electricity and transportation systems as well as central wastewater treatment system and solid waste disposal facilities.

The Authority manages and regulates all activities in industrial estates i.e. grants the Land Use and Operation Permit; operates utility systems including wastewater treatment system, solid waste disposal; monitors environmental quality; regulates industrial operation; and controls pollution and safety.

In order to encourage industrial operation in compliance with environmental regulations, the Authority sets up measures as follows :

### **1 ENFORCEMENT**

Industrial Estate Authority of Thailand is authorized to control industrial operations in industrial estates. The major legal tools are set forth in the Industrial Estate Authority of Thailand Act B.E. 2522, B.E. 2534 and B.E. 2539. (1979, 1991, 1996)

The Authority grants Land Use Permits for industrial operation inside industrial estates. An industrial operator must notify of its facility operation 30 days before the commencing date. The permit has to be renewed at 5 year intervals. In case of any violation, the Authority must give a warning notice or an order to terminate operation at a specified period of time or an order of permit cancellation depending on the degree of violation. Authorized officers inspect industrial operation regularly and in case of an emergency event or accidents.

The Authority issues rules and regulations to control pollution, e.g., wastewater treatment charges, fines and penalties; discharge criteria to central treatment; and solid waste disposal.

The environmental regulations issued by other ministries with which industrial operators must comply are as follows:

- Factory Act B.E. 2535 (1992) was issued by the Ministry of Industry to enforce all industries. Industrial Estate Authority of Thailand and Industrial Works Department use this act as a tool to regulate industrial operations inside industrial estates. Rules and regulations were issued in accordance with this act to control industrial pollution:
  - Notification of Ministry of Industry No.2 B.E. 2536 (1993) (Emission Standard)
  - Notification of Ministry of Industry No.2 B.E. 2539 (1996) (Effluent Standard)
  - Notification of Ministry of Industry No.6 B.E. 2540 (1997) (Hazardous Waste Management)
- Enhancement and Conservation of National Environmental Quality Act. B.E. 2535 was issued by Ministry of Science, Technology and Environment. Relating regulations issued in accordance with the Act. are as follows :
  - Notification of Ministry of Science, Technology and Environment No.3 B.E. 2539 (Effluent Standard for Industrial and Industrial Estate Sources.)  
Industries and industrial estates have to comply with higher standard comparing the standards issued by Ministry of Industry and Ministry of Science, Technology and Environment.
  - Emission standards of different sources e.g. industry, incinerator, etc.
  - Environmental quality standard.
- Hazardous Substance Act. B.E. 2535  
Industry concerning hazardous chemicals e.g. import, export transport, storage, package, manufacture etc. such chemicals has to comply with the Act.
- Public Health Act. B.E. 2535  
This Act was issued by Ministry of Public Health concerning public health, sanitation and environmental e.g. municipal waste

Violation of any laws or regulations, the authorized officials of the mentioned agencies shall take legal action against industrial operators.

## 2 MONITORING

Industrial Estate Authority of Thailand is responsible for the quality of environment of industrial estates.

### 2.1 Wastewater monitoring

All industrial estates provide central wastewater treatment facilities. Discharge of industrial wastewater to central treatment systems must comply with Industrial Estate Authority of Thailand's criteria. If the wastewater exceeds the criteria, the factory must have a pretreatment system. The effluent of the central treatment systems must conform to the standard.

Monitoring of individual discharges to the central treatment systems and central effluent has been carried out by a contractor, the Authority also monitors effluent from central treatment plant to comply with effluent standard.

## 2.2 Air Pollution Monitoring

Any factories which have to submit an environmental impact assessment to the Office of Environmental Policy and Planning have to monitor stack emissions and ambient air according to the environmental impact assessment requirement and report the monitoring results to the Office.

## 2.3 Hazardous Waste Monitoring

Industrial Estate Authority of Thailand has to monitor hazardous waste transportation, storage and disposal according to the Notification of Ministry of Industry No.6 B.E. 2540. If the factories have contractors that handle hazardous waste management, the industrial operators must report to the Authority the contractors' name and qualifications, method of disposal, disposal and landfill site, and quality and type of wastes of each transfer.

## 2.4 Monitoring of the Industrial Estate Environment

At present there are 28 industrial estates under Industrial Estate Authority of Thailand, nine of which are operated by the Authority with remainder being joint venture projects. The Authority has contracted consultant firms for monitoring the environmental quality of the Authority's industrial estates, i.e. ambient air, incinerator stack emission, noise level, groundwater, surface water, sea water and silt.

Developers of joint venture industrial estates are responsible for the environmental monitoring program in regard to the environmental impact assessment. The analytical reports are sent to Industrial Estate Authority of Thailand before forwarding to the Office of Environmental Policy and Planning of the Ministry of Science, Technology and Environment.

## 2.4 Automated Environmental Monitoring System

Industrial Estate Authority of Thailand has planned to set up automated monitoring stations to check the quality of the ambient air and central effluent of industrial estates. The telemeter system will record real time information and transmit it to the Authority's headquarters by means of transmission line. Hence it will enhance immediate response to any environmental problems.

## 3 INCENTIVES

In order to enhance environmental compliance, the Authority offers incentives for industrial operators

- **Awards**

Industrial Estate Authority of Thailand grants annual awards for industrial operators for the best environmental performance. A committee of the Authority evaluates the facilities and environmental management by the end of the year.

- **ISO 14000 Promotion**

The Authority promotes ISO 14001 certification. In this regard, the Authority encourage consultant firm to organize seminars/training for industries for better understanding and knowledge of the standard. It is a steering wheel for environmental management system of industries which will enhance

environmental performance. In addition, it can reduce or eliminate trade barrier for export sector. The Authority itself has planned to achieve the certification for the headquarters' office and some estates by 2000.

- **Environmental Performance Rating**

The Authority is planning a project on rating environmental performance of industries in several classes. The result will be publicize annually. The project will be the cooperation between the Authority, local and international organizations as well as industries.

With these measures, environmental compliance should be improved and environmental quality will be better.

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**Acceptable Characteristics for Central Wastewater Treatment, Process**

1.	Average BOD5	500	mg/l
2.	Average Suspended Solids	200	mg/l
3.	pH	5.0 - 9.0	
4.	Temperature	45	°C
5.	Sulphide as hydrogen sulphide	5	mg/l
6.	Cyanide as hydrogen cyanide	2	mg/l
7.	Oil and Grease	10	mg/l
8.	Tar	10	mg/l
9.	Formaldehyde	2	mg/l
10.	Phenol and Cresols	1	mg/l
11.	Free Chlorine	5	mg/l
12.	Insecticide	none	
13.	Radioactive compound	none	
14.	Fluoride (F)	5	mg/l
15.	Free Ammonia	5	mg/l
16.	Total ammonia Nitrogen as N	50	mg/l
17.	Mercury and Mercury Compound	0.005	mg/l
18.	Soluble Iron and Manganese	10	mg/l
19.	Chromium, Arsenic, Silver, Selenium, Lead, Nickle, Barium, Copper, Cadmium, Total or Each	1	mg/l
20.	Other materials that should not discharge into the waste water pipeline - High viscosity material - Settleable solids that Cause pipe clogging - Calcium Carbide Sludge		
21.	Synthetic Detergent	30	mg/l
22.	Chloride (Cl) as Chlorine	2,000	mg/l

**Notification of Ministry of Industry**  
**No. 2 B.E. 2536 (1993)**  
**Issue in Accordance with the Factory Act B.E. 2535 (1992)**  
**Emission Standard**

1. Emissions from factory stacks must not be greater than the following standard:

<u>Item</u>	<u>Pollutants</u>	<u>Source</u>	<u>Quantity (mg/Nm<sup>3</sup>)</u>
1	Particulate	Boilers using fuel:	
		- heavy oil	300
		- coal	400
		- others	400
		Steel, Aluminium Furnace	300
		Manufacturing process	400
2	Antimony	Manufacturing process	20
3	Arsenic	Manufacturing process	20
4	Copper	Smelting or refining	30
5	Lead	Manufacturing process	30
6	Chlorine	Manufacturing process	30
7	Hydrogen chloride	Manufacturing process	200
8	Mercury	Manufacturing process	3
9	Carbonmonoxide	Manufacturing process	1,000 or 870 ppm
10	Sulfuric acid	Manufacturing process	100 or 25 ppm
11	Hydrogen sulfide	Manufacturing process	140 or 100 ppm
12	Sulfer dioxide	Sulfuric acid Manufacturing process	1,300 or 500 ppm
13	Oxide of nitrogen	Boiler using fuels:	
		- Coal	940 or 500 ppm
		- Others	470 or 250 ppm
14	Xylene	Manufacturing process	870 or 200 ppm

2. Sampling and measurement of pollutants must be conducted during industrial operation.

3. Measurement of pollutants must be conducted at normal pressure and the temperature of 25°C

**Industrial Estate Authority of Thailand Owned and  
Operated Industrial Estates**

<u>Location</u>	<u>Estate</u>
<b>1. Existing</b>	
Bangkok	1. Bangchan
	2. Ladkrabang
Samutprakarn	3. Bangpoo
	4. Bangplee
Chonburi	5. Laem Chabang
Rayong	6. Map Ta Phut
Lamphune	7. Northern Region
<b>2. Under construction</b>	
Songkhla	1. Southern
Pichit	2. Pichit
<b>3. Proposed Projects</b>	
Rayong	1. Map Ta Phut phase III
Surat Thani	2. NA
Ranong	3. NA
Supanburi	4. NA
Buriram	5. NA
Khonkaen	6. small industrial estate

**Joint Venture Between Industrial Estate Authority of Thailand  
and Private Developers**

<u>Location</u>	<u>Estate</u>
<b>1. Existing</b>	
Bangkok	1. Gemopolis
Samutprakarn	2. Bangpoo (expansion)
Chachoengsao	3. Wellgrow
	4. Gateway City
Chonburi	5. Chonburi (Bowin)
	6. Bangpakong II
	7. Pinthong
Rayong	8. Eastern
	9. Padaeng
Samut Sakorn	10. Samut Sakorn
Ratchaburi	11. Ratchaburi
Ayudhya	12. Hi-tech
	13. Bang pa-in
	14. Saharattana Nakorn
Saraburi	15. Kaengkhoi

**2. Under construction**

Udon Thani  
Rayong

**3. Proposed Projects**

Rayong

Prachuab Kirikhan  
Nakornsawan

Ayudhya

**16. Nongkhae**

1. Udon Thani
2. Eastern Seaboard
3. Amata City

1. Thai-Singapore 21
2. CP Land
3. Tuntex
4. SV Western Seaboard
5. Network
6. Tapchumpol
7. Chutikarn Factory House

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### Calculation Pattern of Central Treatment Charges

- $TC = C_g + C_f + C_v + C_p$   
 $= K_0 + K_1 V_i + K_2 \frac{V_i S_i}{1,000} + K_3 V_i$  or  $3[C_g + C_f + C_v]$  or  $5 [C_g + C_f + C_v]$
- $TC =$  Total Cost
- $C_g =$  General Cost (equally fixed charge for 100 baht/month)
- $C_f =$  Fixed Cost (depreciation cost of treatment plant)
- $C_v =$  Variable Cost (operating and maintenance cost upon BOD loading)
- $C_p =$  Penalty Cost (Discharge over IEAT's standard)
- $= K_3 V_i$  if SS is higher than the criteria
- or  $= 3(C_g + C_f + C_v)$  if toxic pollutants are 1-1.5 times higher than the criteria
- or  $= 5(C_g + C_f + C_v)$  if toxic pollutants are more than 1.5 times higher than the criteria

The constant values ( $K_0, K_1, K_2$ ) vary from estate to estate. They are depended on construction cost and treatment process.

- $V_i =$  Volume of wastewater from each factory
- $S_i =$  BOD<sub>5</sub> (mg/l)

**Notification of Ministry of Science, Technology and Environment  
No. 3 (B.E. 2539)  
Effluent Standard for Industrial and Industrial Estate Sources**

1. pH	5.5 - 9.0	
2. TDS	3,000 - 5,000	mg/l *
3. SS	50 - 150	mg/l *
4. Temperature	40 °C	
5. Colour or Odour is unobjectionable		
6. Sulfide (H <sub>2</sub> S)	1.0	mg/l
7. Cyanide (HCN)	0.2	mg/l
8. Heavy metals		
8.1 Zn	5.0	mg/l
8.2 Cr <sup>6+</sup>	0.25	mg/l
8.3 Cr <sup>3+</sup>	0.75	mg/l
8.4 As	0.25	mg/l
8.5 Cu	2.0	mg/l
8.6 Hg	0.005	mg/l
8.7 Cd	0.03	mg/l
8.8 Ba	1.0	mg/l
8.9 Se	0.02	mg/l
8.10 Pb	0.2	mg/l
8.11 Ni	1.0	mg/l
8.12 Mn	5.0	mg/l
9. Fat, Oil & Grease	5 - 15	mg/l *
10. Formaldehyde	1.0	mg/l
11. Phenols	1.0	mg/l
12. Free Chlorine	1.0	mg/l
13. Pesticide	Nil	
14. BOD	520 - 60	mg/l *
15. TKN	100 - 200	mg/l *
16. COD	120 - 400	mg/l *

Remarks \* The standard depends on the condition of receiving waters and type of industries, under consideration of the Pollution Control Committee.

**Notification of Ministry of Industry  
NO. 2 (1996)  
Industrial Effluent Standards**

<u>Parameter</u>	<u>Acceptable Concentration</u>
1. pH	5.5 -9.0
2. TDS	
2.1 Discharged into fresh waters	3,000 - 5,000 mg/l, depend on effluent volume, receiving waters or types of industries
2.2 Discharged into receiving waters with salinity > 2,000 mg/l	Less than TDS of receiving waters+ 5,000 mg/l
3. SS	50-150 mg/l, depend on effluent volume, receiving waters or types of industries
4. Heavy metals:	
4.1 Mercury	0.005 mg/l
4.2 Selenium	0.02 mg/l
4.3 Cadmium	0.03 mg/l
4.4 Lead	0.2 mg/l
4.5 Arsenic	0.25 mg/l
4.6 Chromium	
Cr <sup>6+</sup>	0.25 mg/l
Cr <sup>3+</sup>	0.75 mg/l
4.7 Barium	1.0 mg/l
4.8 Nickel	1.0 mg/l
4.9 Copper	2.0 mg/l
4.10 Zinc	5.0 mg/l
4.11 Manganese	5.0 mg/l
5. Sulphide as H <sub>2</sub> S	1.0 mg/l
6. Cyanide as HCN	0.2 mg/l
7. Formaldehyde	1.0 mg/l
8. Phenols compound	1.0 mg/l
9. Free chlorine	1.0 mg/l
10. Pesticide	Nil
11. Temperature	40° C

12. Colour	Unobjectionable
13. Odour	Unobjectionable
14. Oil & Grease	5 -15 mg/l, depend on effluent volume, receiving waters, or types of industries
15. BOD <sub>5</sub> - 20° C	20 -60 mg/l, depend on effluent volume, receiving waters, or types of industries
16. TKN	100 - 200 mg/l, depend on effluent volume, receiving waters, or types of industries
17. COD	120 - 400 mg/l, depend on effluent volume, receiving waters, or types of industries

## THE NEW BASIS FOR ENVIRONMENTAL ENFORCEMENT IN ROMANIA

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### SUMMARY

Today the Romanian environmental legislation is based on two fundamental laws: The Environmental Protection Law and The Water Law. A new series of regulations derived from these laws create real work-tools for environmental enforcement. Inspection, monitoring and environmental enforcement are done through legal institutions for inspectors. However, a change in their activities has taken place. It consists of a new way of tackling environmental problems. The mainly coercive feature in environmental enforcement has been transformed into a balanced mixture of compliance programs and enforcement.

Romania's present environmental policy tends to match the worldwide trends in the field.

### 1 LEGAL FRAMEWORK

In Romania, environmental laws are established through Acts of Parliament. These Acts provide the general framework for:

- regulation of economical and social activities having an environmental impact;
- protection of natural resources and conservation of biodiversity; and
- pollution control.

They provide the authority to issue more detailed requirements, regulations and standards.

The responsibility for preparing the legal acts belongs to the Ministry of Waters, Forests and Environmental Protection (MoWFEP). The Ministry collaborates in this activity with other ministries: the Ministry of Health, the Ministry of Public Works and Territorial Planning and with other institutes in the field.

The environmental legislative system has been revised according to the European legal system. It provides laws for different parts of the environment: air, water and soil. It also provides laws related to these environments: dangerous substances, the fight against floods, forestry, food and nuclear activity.

Today the Romanian environmental legislation is based on two fundamental laws that guide the whole environmental protection at the national level: the Environmental Protection Law (EPL) and the Water Law (WL).

#### 1.1 Environmental Protection Law (EPL)

At the end of 1995, the Romanian Parliament passed the Environmental Protection Law carried out by the Ministry of Waters, Forests and Environmental Protection with all the other ministries and those involved in related activities.

The objective of this law is to regulate environmental protection on the basis of the principles and strategic elements that lead to sustainable development. These principles and strategic elements, that lay at the foundation for this law, are inspired by European environmental principles that are generally accepted:

- the principle of precautionary decision making;
- the principle of prevention of ecological risks and damage occurrence;
- the principle of conservation of biodiversity and ecosystems specific to the natural biogeographic structure;
- "polluter pays" principle;
- the removal on a priority basis of the pollutants that directly and severely jeopardize public health;
- setting up of the integrated national environmental monitoring system;
- sustainable use;
- maintenance, improvement of environmental quality and reconstruction of damaged areas; and
- developing international collaboration to ensure the quality of the environment.

The Law also includes a new principle in our environmental legal system. It sets up a framework for the participation of non-governmental organizations and the public in decision-making and implementation.

The Environmental Protection Law shows the ways to implement the principles and the strategic elements presented above. It recognizes the right of all persons to a healthy environment. It also guarantees access to information regarding environmental quality. The right of association in organizations defending environmental quality is also stated, including the right to be consulted in the decision making process regarding the development of environmental policies, legislation and regulations, as well as the issuing of environmental agreements and permits. Through the Environmental Protection Law, one has the right to appeal directly or by some associations to the administrative or juridical authorities to prevent or stop direct or indirect damage from occurring.

The Environmental Protection Law stands out as a most important legislative improvement of the Romanian legal environmental system. This is a source for many norms that will be elaborated in the near future.

## 1.2 Water Law (WL)

The Water Law, passed by the Parliament in September 1996, rules the way we know about value conservation and protect water resources. To preserve the ecological balance, it legislates the implementation of a new economic leverage system in water management. It solves many important problems for qualitative and quantitative water management:

- public participation in the development and implementation of any kind of regulation;
- the establishment of the Basin Committee, which will coordinate the efforts of all parties involved in water management and who use the water resources of a basin river and contribute to its pollution;
- more efficient use of water resources;
- improvement of water quality and environmental condition.

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To enforce the Water Law, the Ministry of Waters, Forests and Environmental Protection established regulations which take several forms: Governmental Decisions, Orders of the Minister, norms. At the same time, actions were initiated to:

- Update basin planning schemes;
- Develop a water management strategy to accompany programs for achieving water management and build related public works;
- Include the water management strategy as a necessary action for Romania's preparation to accede to the European Union;
- Update the main water norms and standards.

The water management strategy is designed to contribute to the entire complex evaluation of water resources, to both the demands for water supply and water resource quality.

An in-depth comparison of the Water Law with the former ones (the first one was passed in 1924, and the second one in 1974) shows that some technical provisions for the water management were preserved. Some new principles were introduced to harmonize with the legislation and Directives of the Europeans Community. Most importantly, a new series of regulations provide real tools for their enforcement. (see Appendix).

## **2 PLAN IMPLEMENTATION**

The responsibility for implementation of norms and for achieving compliance with the Water Law devolve upon the following institutions:

- at the ministerial (governmental) level:
  - the Ecological control corps;
  - the Water State Inspection.
- at the local level, the representatives (inspectors) from:
  - the environmental protection agencies;
  - the water quality protection bureau from the Romanian Water Authority branches.

The authorities and missions of these institutions are established by law. The control and environmental enforcement institutions existed before completing the two major laws. However, the actual control structure is evolving to correspond to changing environmental policy evolution. Some important new changes are expected in the last part of this year to achieve more integrated control.

These institutional changes reflect the new ways of tackling environmental problems developed from European laws and international environmental conventions. Some of the new principles are used in current practice: the precautionary principle, the "polluter pays" principle, and the removal of priority polluters that directly affect and seriously harm public health. These new principles echo throughout governmental policy regarding the natural resources and commitment of capital.

### 3 COMPLIANCE AND ENFORCEMENT

Viable compliance programs and coercive measures have been adopted which can lead to imprisonment for law violators. However, what had been mainly coercive features in environmental enforcement have been changed so that there is now a mixture of compliance and enforcement program elements. This balanced and efficient control approach is solved at governmental and local level by:

- compliance programs (for the environmental inspectors);
- staged plans (for water inspectors).

These approaches are used when the water management authorization is part of the environmental permitting.

Negotiated "compliance programs" constitute an important new instrument for encouraging enterprises to undertake pro-environmental activities for both compliance and pollution prevention. It will enable enterprises to adjust to requirements for environmental protection from their current position. Some of them must adopt these compliance programs while participating in privatization programs, changing ownership, and suffering through a whole process of restructuring.

Staged programs are useful for inspectors who evaluate the position of facilities concerning water quality protection. Meetings play an important role in compliance activities. They are initiated by the Water State Inspection with different companies. These companies work in the fields of: coal mining, oil extraction and refining, municipal water management. The meetings provide the possibility for bilateral exchanges between inspectors and managers rather than unilateral enforcement response.

There are many violations, in spite of significant reductions in water discharges due to industrial restructuring. Last year, approximately 1.5 billion lei in penalties have been collected for routine exceedances and 250 million lei in penalties. In the future, the penalties for major violations will be more significant. The amount of penalties will be revised for this purpose.

Inspection activity now consists not only of applying penalties. The inspectors' duties focus on a number of industrial plants that are important polluters. For the first time, the Water Law establishes a special inspection scheme this kind of facilities. The purpose of the regime is to decrease the quantity of industrial discharges and to place their activities in compliance.

Romania's transition to the market economy transforms the inspection activity into a difficult task. It assumes greater flexibility and adaptation to reality combined for achieving compliance, with continued and strengthened environmental enforcement. The foundation for this activity is the new legal frameworks established under the Environmental Protection Law and the Water Law.

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**APPENDIX: Orders derived from the Water Law**

Order no. 148/1997 - the procedure and the components for editing the permits for water management;

Order no. 275/1997 - the procedure and the establishment special supervision regime;

Order no. 276/1997- the methodology for elaboration and approval of water restrictive plans;

Order no. 277/1997 - guideline of the technical documents for permitting necessary;

Order no. 278/1997 the methodology for elaboration the plan of perspective and struggle against pollution

Order no. 279/1997 - the methodology for editing settlement permit;

Order no. 280/1997 - the notification procedure;

Order no. 282/1997 - the procedure regarding the water users participation, the riverside residents participation and public participation to consulting activities;

Order no. 281/1997 - the procedure regarding the access of people to water management information;

NTPA 001-97 - guidelines regarding the establishment of limits charges for pollutants from waste water evacuated in water resources;

NTPA 002-97 - guidelines regarding the establishment of limits' charges for pollutants from waste water evacuated in sewerage system.

GOVERNMENTAL DECISION no. 101/1997 - regarding special norms for the position and the dimensions of sanitary protection areas.



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## **AN ENFORCEMENT PROGRAM THAT WORKS: TOXIC AND HAZARDOUS MATERIALS MANAGEMENT IN SUFFOLK COUNTY**

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### **SUMMARY**

This is a success story, not a dry and lengthy theoretical treatise on administration and law. This is the story of how one county at the lowest governmental level succeeded in creating a powerful and effective environmental program that became the model for many communities around the U.S. and contributed to the creation of the federal program to regulate tanks. This is a summary of many of the practical lessons learned along the way.

### **1 THE PROBLEM**

Suffolk County makes up the eastern two thirds of Long Island which protrudes out into the Atlantic Ocean from New York City. The 1.3 million people of the county are totally dependant on the high quality groundwater aquifer beneath their feet which is supplied solely by the precipitation which falls on the island. The sand and gravel geology of the island contributes to the easy contamination of the groundwater resource by the normal activities of the population. This is particularly a problem since many areas are not served by municipal sewers, relying instead on individual septic systems.

Many years ago in the early 1970's, while trying to bring industrial point-source discharges under control, it became increasingly obvious that there was an additional serious pollution problem related to the storage and handling of toxic and hazardous materials that would have to be addressed. Flammable vapors were starting to appear in basements and manholes from leaking fuel tanks. Up to that time, chemicals, solvents and fuels were stored almost exclusively in plain steel tanks with no effective protection against corrosion. Leaks were not considered to be of any great concern since no one realized that groundwater was at risk. The technology to analyze for organic contaminants was unavailable until the late 1970's and therefore, the true extent of the problem was not fully understood until after that time.

When efforts were initiated to try and address the subject, it soon became evident that there were no comprehensive laws anywhere in the country dealing with the problem of storing and handling toxic and hazardous materials except for some fire regulations. A search in Europe disclosed that several countries had been wrestling with the problem for several years. However, it was difficult to obtain accurate and current information on regulations since there were at that time no international organizations concentrating on environmental matters. There were no systems in place for easy exchange of information. It quickly became obvious that this was a new area of law that had never been considered in the United States. Innovation would be necessary if a successful local law was to be created to address the problem.

## **2 DEVELOPING A NEW LAW**

The application of common sense led to the development of several basic principles that guided the creation of the new law. It was decided that all storage facilities should be constructed of non-corrodible materials using the concept of secondary containment. This came after the realization that there is no other simple and near foolproof method of both containing and detecting a leak from a primary container with no release to the environment.

It was also decided that the definitions for toxic or hazardous materials and for storage facilities should be written as broadly as possible to include all types of materials that could contaminate the groundwater and all types of facilities that could leak. This was to hopefully avoid the need for more law on the subject at a later time. It seems to be a common if not universal error that laws are written in a piecemeal fashion leaving enforcers with the problem of trying to deal with several different laws covering one subject. Much legal effort is wasted thereafter defining which category a particular problem falls into. The county law, therefore, as it was finally passed in 1979, covered all types of tanks, piping systems, transfer facilities and portable containers such as drums. The regulated materials included raw materials as well as wastes and even bulk materials such as road salt that could leach into groundwater if exposed to precipitation.

A third principle was that all existing facilities would have to come into compliance with the new standards. There would be no categories of facilities exempted or exceptions made for individuals. The only variation from this rule was the exemption granted for small heating oil tanks from the removal and replacement requirement. All others were given ten years to come into compliance. When the job was considered finished by about 1992, more than 15,000 tanks had been replaced in Suffolk County. This is the only area in the country known to have actually completed such a comprehensive program.

## **3 LESSONS LEARNED IN CREATING NEW LAW**

There were three useful lessons learned in the process of creating this new law. The first is that help should be sought from the affected parties in drafting legislation. They should be given the opportunity to present ideas before the original draft is written. They should then be encouraged to comment on subsequent drafts as they are developed. By answering all questions and complaints and incorporating as many as possible of the suggestions from the affected public, most opposition to a new law will melt away.

Next, the limits of the law should be clearly defined in all respects to minimize argument over where it does and does not apply. Similarly, each required action should be concisely stated so there is no doubt about what constitutes a violation.

Finally, every effort should be made to write the law in a way that minimizes the need for exceptions or exemptions to what is written. Any variation from a uniformly applied statement of law immediately leads to complications in definition, application and enforcement.

## **4 ENFORCEMENT**

Once the new law was passed and took effect, attention turned to the creation of an efficient and effective enforcement program. The goal was to achieve 100% county-wide compliance. Conscientious business people would have to spend significant amounts of money to bring their storage facilities into compliance with the law. It would be unfair to them for their competitors not to be required to make the same improvements. New construction

had to be in conformance with the double-walled standards, but existing facilities had ten years to comply as long as periodic tightness testing proved the tanks leak-free. The first step in the enforcement process was to create a tank registration system and computerized data base to locate, track and manage all tanks in the county. A computerized system is essential for an effective enforcement program. Total compliance requires that every tank be located and brought under control. This can only be accomplished with flawless tracking of thousands of items.

Any similar enforcement program must have society-wide compliance as the ultimate goal. This can only be achieved by voluntary action by the general public. People must believe that the required action is necessary for the general good and be willing to conform without the use of regulatory force. Therefore, there must be a way to educate and inform the affected public about what is required of them in fair time for them to react before they become violators. In the case of the tank law, the key was to get all tanks registered and into the data base. From then on owners could be notified by mail of requirements or due dates. Ideally every affected individual must be reached and informed in a documentable manner. Then when enforcement time comes they cannot use lack of knowledge as a defense.

All available forms of support and encouragement should be provided by the regulating agency to assist the public during the compliance period in an attempt to absolutely minimize the number of individuals that become violators. An essential key to a successful enforcement program is to keep the number of cases to a minimum. Any enforcement program, to be effective, must be able to deal with offenders in an efficient and timely manner. This cannot be done if the system is swamped with too many cases. Therefore, voluntary compliance by nearly all of the regulated community is essential.

Another requirement of effective enforcement is that the vast bulk of all enforcement activity must be handled at the lowest possible regulatory level in the simplest possible way. In most cases this means a multi-layered administrative system, managed by local authority in a routine dependable manner. For such a system to work, however, it must be backed up by a criminal enforcement program that is organized to swiftly investigate and prosecute any willful violation of the law using all the resources of the criminal system. Environmental crimes should be treated just as seriously as other crimes. If the administrative system is working smoothly and handling most of the work, the number of criminal cases will be kept to a manageable minimum. But, people will only be convinced to yield to and cooperate with the administrative enforcement process if they are convinced that the "heavy stick" of criminal enforcement is readily available to wield against willful violators.

In Suffolk County, the administrative enforcement of the hazardous materials law is handled by the Health Department. The criminal aspect is the responsibility of the Environmental Crimes Unit of the District Attorney's office. Whenever a willful intent to violate is discovered or suspected, the case is referred to the Environmental Crimes Unit and from then on they have the lead and the Health Department acts in a support role providing technical services.

## **5 THE ADMINISTRATIVE ENFORCEMENT SYSTEM**

The administrative enforcement program of the Health Department comprises several layers. The first and lowest level involves the use of a simple field violation notice. This is in many respects similar to a traffic ticket except that it is mailed to the responsible party instead of being handed out at the scene of the violation. Passing out environmental violation tickets

in the field was found to be a problem. It was hard to get them reliably into the hands of the responsible party of record. Many facilities have absentee owners who cannot be reached at the site.

The mailed ticket is used for simple, unequivocal violations that are easily identified and easily corrected. The respondent can admit the violation, pay the fine by mail, correct the offense before the next inspection and go on about his business with a minimum of inconvenience. This system takes care of the majority of the routine, minor offenses and the public willingly responds with very few objections.

The second layer of enforcement is also handled through the mail but is just a little more complex. It consists of the use of consent orders sent out by mail. This program developed when the Health Department was faced with the problem of how to manage the cases of about two thousand facilities that suddenly were in violation the day the compliance period ran out for replacing underground tanks. They had to be handled quickly and simultaneously making the normal hearing process impossible. Since the violations were all similar, a standard consent order was developed that could be signed and returned like a ticket. It provided a fine for each tank for missing the compliance date and one year without a further penalty to allow the facility to come into compliance. Any tank still not meeting the standards after the expiration of the extra year would be fined on a daily basis until compliance was achieved.

The enforcement problem was solved and most people complied within the year, but there was a group that did not and began, therefore, to accumulate a daily fine. It was necessary to keep these people informed to prevent anyone from inadvertently accumulating an insurmountably large fine. To do this, a system was devised to use the computer to generate monthly statements, like utility bills, to remind each respondent regularly that the fine was growing rapidly and could only be stopped by correcting the violation. The system worked perfectly. People began paying the fines on a monthly basis and quickly replaced their tanks. Though the tanks are now all replaced, the method of using consent orders by mail has been retained as a permanent and very effective enforcement tool.

The third level of enforcement is the compliance conference. A violator with a problem more complex than that which can be solved with a standard consent order, may be called in for a compliance conference. At the conference, a consent order will be developed that fits the particular situation.

If voluntary compliance is not possible, then the fourth level of enforcement is used and the respondent is ordered to attend a formal administrative hearing. This is similar in many respects to a court proceeding but it is held by the Health Department. It results in the issuance of a Commissioner's Order which does not require the consent of the respondent. Not obeying such an order is a criminal offense and would result in the case being referred to the court.

## **6 CRIMINAL ENFORCEMENT**

The last level of enforcement, as previously mentioned, is criminal prosecution through the District Attorney's Office and the Environmental Crimes Unit. It is the knowledge of the availability and ready use of the services of this unit that makes the rest of the system work effectively.

## **7 INNOVATIVE SOLUTIONS AND NEW LEGISLATION**

At the end of the tank replacement program there were still a few tank owners who simply ignored all efforts to bring them into compliance. They could have been referred for criminal action but that is a cumbersome and expensive enforcement task. It was decided to try something more direct first. The violators were all gasoline station owners who had refused to replace their tanks. It was decided the most effective way of getting their attention was to put them temporarily out of business. To do this through the courts again was a lengthy process, however, the Health Department had another tool to use.

As with most Health codes, the Suffolk County Sanitary Code grants embargo powers to the Health Department to correct health threatening situations. It was decided to use this power to embargo the offending tanks to prevent their use. A crew was sent to each station with a truck of concrete. The fill ports of all the tanks were sealed over with concrete. An embargo notice was embedded in the surface of the wet cement stating that it was against the law to unseal the tanks. The stations were allowed to continue to sell gas until the tanks were empty but they could not be refilled. Within days all the owners had signed consent orders and begun the process of replacing their tanks.

The lesson learned by this experience was that ingenuity and boldness can often solve an enforcement problem without the need for complicated procedures or new legislation. Innovation and creative thought should be applied. Often there is a simple and direct solution available if regulators are willing to look beyond the traditional or well-used approach.

At times, however, this is not enough and new legislation is necessary. As with the county tank law, if higher level law does not exist to accomplish the task at hand it may be necessary to take the initiative and pass local law tailored to fit the situation. Local law often is the best solution because it provides local power to control conditions in the manner most acceptable to the affected citizens. It is less frustrating because the persuasive power lies close to the regulated population and there is no one else to blame.

## **8 LESSONS LEARNED ABOUT ENFORCEMENT**

Through the years of development of the tank law several principles of good practice came to light. First, it became clear that to be effective, enforcement must be applied absolutely uniformly. Everyone should be treated the same with no exceptions made and no favors granted. This sounds obvious but in fact is very hard to hold to in practice. The effort produces a rapid return, however, because the public learns very quickly whether or not to trust the system to be fair. With most people, their willingness to comply depends mostly on their perception of how fairly they are being treated.

Another point of success deals with the same concept of fairness. When compliance deadlines are created in the law, it is the obligation of the enforcement system to see to it that they are kept. Extension of a deadline is not an acceptable means of relief for an overburdened or unprepared enforcement program. When law-abiding citizens have spent money to bring their businesses into compliance within the deadline, an unfair advantage is given to their competitors who have not complied if the deadline is extended without a penalty.

Finally, high quality cannot be achieved in compliance work without thorough review and regulatory approval beforehand of plans and reports to insure conformance with standards and requirements. Likewise, high quality field work; whether it is construction, investigation, remediation or demolition; cannot be achieved without high quality inspection to ensure that

regulations, standards, plans and legal agreements are being adhered to. The success of any enforcement program depends on the quality of the inspectors in the field more than anything else.

In order to complete the task of upgrading and replacing all the tanks and storage facilities in the county in a timely manner, it was decided to divert personnel from other programs temporarily, thus suspending progress on most other projects. An intense concentration of effort was necessary to drive the project through to completion and prevent it from dragging out interminably. This too, became a lesson learned, that to complete a difficult task it is sometimes necessary to concentrate available resources at the expense of other work until the job is done.

## **9 CONCLUSION**

The toxic and hazardous materials management program of Suffolk County has proven itself to be an outstanding success. The law it was based on was used as a guide in developing the New York State Petroleum Bulk Storage Code and was studied by the team developing the federal underground tank regulations. Many communities across the nation have referred to the law in creating their own local codes. It survived all legal challenges and proved to be sufficient to support and enforce the program that accomplished the replacement of all the tanks in Suffolk County. It demonstrated the power, effectiveness and versatility of local law.

## THEME #2

### COMMUNICATIONS, PUBLIC ROLE, AND COMPLIANCE MONITORING

This theme covers two important and often interrelated aspects of environmental compliance and enforcement. To correct and prevent violations of environmental requirements one must be able to assess compliance status and detect violations in the first instance. To deter future violations, one must communicate effectively about requirements, why compliance with them is important, and what consequences will befall those who do not comply. Communications about compliance status to the public becomes a powerful means not only to foster compliance but also to support critical program functions such as compliance monitoring.

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#### Theme #2 Workshops:

- 2 A *Communications and Enforcement*
- 2 B *Encouraging Public Role in Compliance Monitoring and Impact of Public Access to Environmental Information/Community Right to Know Laws on Compliance and Enforcement Programs*
- 2 C *Compliance Monitoring*
- 2 D *Multi-Media (Integrated) Inspections and Permitting*
- 2 E *Source Self-Compliance Monitoring Requirements*
- 2 F *Detecting Hidden Operations Outside of Legal Frameworks*



## WORKSHOP 2A COMMUNICATIONS AND ENFORCEMENT

Participants in this workshop will engage in a role-play "game" which was first introduced at the Fourth International Conference during which participants will work in small groups in roles to develop a "communications strategy" for a particular compliance and enforcement problem within realistic resource constraints. Subsequent discussions will benefit from a capacity building support document on "Communications for Enforcement" prepared for the Fourth International Conference and papers on this subject in Conference proceedings.

Papers and workshop discussions will address the following issues:

- The role of communications as a compliance tool, as an enforcement sanction and as a means of enhancing program effectiveness.
- Ways to identify and to understand the different needs of a target group for communications about enforcement including the regulated community, enforcers, licensees or permittee, the general public, politicians.
- Legal problems in using information about non-compliers in communications.
- Ways to develop a strategic approach for communications and enforcement for a group of significant non-compliers; how communication is made part of the total enforcement process.
- Attracting press interest in "positive" enforcement stories and communication results.
- Special activities enforcers can undertake to ensure effective communications: such as press release policies and requirements, contributions to newsletters or trade press, video, broadcast, other.

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1. Up-date: Information Sharing as an Environmental Policy Tool: The Indonesian Experience, *Makarim, N. (Volume 2)*

See also Information Sharing as an Environmental Policy Tool: The Indonesian Experience *Makarim, N. and Butler, J.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 881 - 891

2. Communication on Enforcement in the Netherlands, *Rauwerda, Elizabeth J.J.* .... 129

See also *Workshop 2B: Encouraging Public Role in Compliance Monitoring and Impact of Public Access to Environmental Information/Community Right to Know Laws on Compliance and Enforcement Programs.*

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See related papers from other International Workshop and Conference Proceedings

1. Development and Implementation of Information Exchange by Enforcement of Environmental Legislation, *van Dijk, J.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 106 - 107

2. Information Campaigns Benefit Enforcement of Environmental Laws, *van der Voet, M. and van Ekeren, J.*, Volume 1, Budapest, Hungary, 1992, Pages 283- 291
3. Information Sharing as an Environmental Policy Tool: The Indonesian Experience *Makarim, N. and Butler, J.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 881 - 891
4. The City of Kitakyushu's Experience Concerning the Implementation of Countermeasures for and Compliance with Environmental Protection Legislation, *Hitsumoto, R.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 893 - 901
5. Media Challenges in Environmental Enforcement Initiatives: Maximizing Enforcement Impact, *Uwejamomere, O.O.*, Volume1,Oaxaca, Mexico, 1994, Pages 301 - 308
6. Planning and Executing Strategic Environmental Enforcement Initiatives: Maximizing Enforcement Impact, *Fontaine, P.J. and van Heuvelen, R.*, Volume 1, Oaxaca, Mexico, 1994, Pages 309 - 320
7. Summary of Theme Discussion:Experiences in Compliance and Enforcement, *van Heuvelen, R., Moderator, Bronkema, D., Rapporteur*, Volume 2, Oaxaca, Mexico, 1994, Pages 109 - 110
8. Summary of Workshop: Communications and Enforcement, *Wise, J, Glaser, R. and Veenman, J.C.M., Facilitators, van Klaveren, J.J., Rapporteur* Volume 1, Chiang Mai, Thailand, 1996, Pages 505 - 507
9. The Mexican Experience on the Enforcement of Environmental Normativity, *Bahamonde Torres, F.*, Volume 2, Oaxaca, Mexico, 1994, Pages 139 - 147
10. The Role of Communication for Implementing Enforcement Policy, *Veenman, J.C.M.*, Volume 1,Oaxaca, Mexico, 1994, Pages 293 - 300

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## COMMUNICATION ON ENFORCEMENT IN THE NETHERLANDS

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### SUMMARY

This article deals with developments in communication with regard to enforcement of the Netherlands' environment legislation.

Environmental issues became the focus of increased attention in the mid 1980s. Initially there were separate environment laws. In 1989 the strategic approach to environmental issues was enshrined in the first National Policy Plan. This document signaled the start of the so-called target group policy, because implementation is a responsibility of the whole society. This target group policy brought with it that the development of the environmental policy became a collaborative effort involving the target groups.

More regulations and more policy necessitate also an increase in communication. Communication is necessary in order to foster understanding and create a base of support among target groups. Since 1985 the ministry has taken a three-track approach to communication on the subject of enforcement: informing the target groups, the administrative staff and officials, and the enforcers. The Ministry makes use of various channels of communication to reach this groups: enforcement journal *HandHaving*, Inspection Series and Information Sheets, Progress Reports, Enforcement Congresses, Enforcement Pocket Book.

There are also new communication developments. Communication can be used particularly effectively as a instrument of influencing the perception of target groups. The key concept in this regard is the perceived risk of being caught. By announcing inspections in advance and publishing the results afterwards, the Inspectorate for the Environment shows that it makes serious work of its inspections. This influences the behavior of companies in terms of compliance. This basic idea is applied to a number of the Inspectorate's projects. The results are not so far that is known that this concept works for the target groups industry.

Communication of results is another new development. The communication of results can function as rewarding target groups, as stimulating and activating target groups and as demonstration that other parties are doing their share. The Inspectorate is applying results communication to its monitoring of local authority environmental policy and inspections relating to the compliance of the Cadmium Decree. In autumn 1998 there comes an evaluation of the results.

The use of publicity is important for the Inspectorate for the Environment. So the Inspectorate attracts attention to the results of its work, often in the form of a press release. Sometimes also journalists has been invited to be present during an inspection. Also the media are informed about an enforcement campaign in advance by telephone or press release. Publicity in the magazines of other organizations is often a very good supplement to ministerial publications and press releases and can make an ideal substitute. Publications in the magazines of other organizations are a very credible medium, have a wider circulation and the information they contain is targeted to the needs of the readership.

## **1 INTRODUCTION**

This article deals with developments in communications with regard to enforcement of the Netherlands' environmental legislation. The Ministry of Housing, Spatial Planning and the Environment is responsible for a large proportion of environmental legislation. The Ministry's Inspectorate for the Environment is responsible for the enforcement of these regulations and laws, with the Minister as competent authority. In addition to these tasks, the Inspectorate also monitors the implementation of environmental policy by other government bodies.

## **2 TARGET GROUP POLICY**

Environmental issues became the focus of increased attention in the mid 1980s. A great deal of new environmental legislation came into force, initially in the form of separate environment laws which were later integrated to form the Environmental Management Act. In 1989, the strategic approach to environmental issues was enshrined in the objectives and themes of the first National Environment Policy Plan (NMP). This document signaled the start of the so-called target group policy, which recognized that implementation of environmental policy was not only the responsibility of government, but also of society as a whole. Within this society, industry, agriculture, consumers and traffic and transport were identified as the primary target groups. This target group policy brought with it implications for the level of autonomy in the Ministry's way of working. Policy was no longer created by government alone, but became a collaborative effort involving the target groups.

## **3 ENFORCEMENT**

Regulations and legislation only accounted for part of the story. It was also essential that these regulations were complied with and enforced, a need which accelerated developments in the enforcement of environmental legislation. The government, the local authorities and the provinces, together with other enforcement organizations such as the police, invested a great deal of time and money to make enforcement more extensive and effective.

## **4 DEVELOPMENT IN COMMUNICATION**

More regulations, more policy and more enforcement also necessitate an increase in communication. Communication about regulations takes place by means of the government's public information channels. The Ministry has a legal obligation to publicize new and modified legislation, so that the target groups are aware of the environmental regulations with which they must comply. These information channels include publications in the Government Gazette 'Staatscourant' and announcements in the media.

Communication on policy matters is necessary in order to foster understanding and create a base of support among target groups. The government also seeks attention and support for its policies amongst the population as a whole. Television and radio announcements and advertisements in the press are the most commonly used methods.

Increased enforcement calls for greater numbers of enforcers and for transfer of knowledge. In the first instance, communication is focused on transferring knowledge to enforcement agencies such as other government bodies, police and customs, and enforcement partners. Another very important factor is the creation of a sense of solidarity among the enforcers, which is related to the realization that all these organizations are confronted with a complex task and can learn a great deal from one another. This forms the main focus of communication on the subject.

Officials from the world of politics, central government, the provinces and the local authorities are just as important as the target groups. If individuals in these positions recognize the importance of enforcement, this will have a positive effect on the approach taken. More funds, more time and more manpower will then become available. This, in turn, is important for the people doing the work, the enforcers themselves.

Since 1985, the ministry has taken a three-track approach to communication on the subject of enforcement:

- 1 informing the target groups about environmental regulations;
- 2 informing the administrative staff and officials;
- 3 informing and motivating the enforcers.

#### 4.1 Informing the target groups

New policy often comes into being in cooperation with the target groups. Agreements between government bodies and the business community with regard to environmental regulations are not laid down in legislation and regulations but instead take the form of covenants and declarations of intent. The organization representing a particular sector ensures that affiliated companies are made aware of the content of the covenant and the measures they are expected to take. This process takes the form of information meetings or the distribution of brochures.

In addition to this, the ministry communicates details of the covenant or declaration of intent via the media by means of press releases, press conferences and articles in trade publications.

#### 4.2 Informing administrative staff and officials

Senior administrators and officials at provincial and local authority level are an important target group for the implementation of environment policy. In recognition of this fact, regular executive and administrative consultations take place between the Ministry, the Association of Provincial Authorities (umbrella organization for the provinces) and the Association of Netherlands Local Authorities (umbrella organization for the local authorities). In addition to these measures, the journal *Milieu in Uitoering* (Environmental Implementation) has been set up. This is a monthly publication with a circulation of 30.000 containing information on environmental legislation.

#### 4.3 Informing and motivating the enforcers

Effective enforcement benefits from good communication. Communication with the enforcers from the various organizations has a number of different aims:

- providing information on legislation and developments with regard to enforcement;
- creating a sense of solidarity among enforcers from various organizations;
- obtaining support for new developments pertaining to enforcement;
- influencing the perceptions and expectations which the 'outside world' has of the Ministry and the Inspectorate for the Environment and their tasks and responsibilities;
- stimulating cooperation with enforcement partners and other relations.

The Ministry makes use of various channels of communication to achieve these aims.

##### **Enforcement journal HandHaving**

The enforcement journal Handhaving is a very important instrument for the transfer of knowledge, creating support and reinforcing solidarity. This publication gives information on the approach and structure of the enforcement, the regulations, examples of cooperation, new enforcement instruments and future developments. A readers' survey has shown that the journal is highly regarded. 'HandHaving' gives its readership the chance to keep up with relevant information and developments in an attractive and compact format. It is published by the Ministry of Housing, Spatial Planning and the Environment and 1998 is its 14th year. Approximately 10.000 people subscribe to the journal, the majority of whom work for other government bodies or the police. The number of readers is much larger. Enforcers and executives receive the journal free of charge. Other parties have to pay for a subscription.

##### **Inspection Series and Information Sheets**

The Inspectorate for the Environment has been authorized by the Minister to enforce a number of environment laws. In addition to this task, the Inspectorate also supervises the issuing of licenses and enforcement as carried out by the provincial and local authorities in their role as competent authorities. In performing these tasks, the Inspectorate carries out inspections and supervisory activities, the results of which appear in the form of a report in the so-called Inspection Series. These reports contain a wealth of information.

In 1996, the Ministry began to make this information more accessible by publishing it in the form of Information Sheets, which contain a summary of each national inspection together with the main conclusions. These sheets are written in a fairly informal style to ensure their readability and are sent out to the sector under inspection, the relevant authorities, the Lower House and related sectors.

##### **Progress Reports**

Every second year, a report of the enforcement activities of the various enforcement organizations is made available to the Lower House of the Dutch Parliament. These take the form of so called Progress Reports, describing the

work carried out and the results achieved. The Progress Report is a collaborative project involving the various enforcement partners. In 1997, the Seventh Progress Report was issued, covering the period 1995/1996.

#### **Enforcement Congress 'Work in Progress'**

Five years ago, the Ministry decided to organize a biennial congress entitled Work in Progress (Werk in Uitvoering) especially for enforcers. The objective was to provide a stimulus to enforcement in The Netherlands and to build expertise in this area. The idea was a huge success and October 1997 saw the Congress celebrating its third anniversary. The theme of the last Congress reflected the uncertainty among the enforcers with regard to the content of their future work and the continuation of their jobs. In keeping with this mood, much attention was devoted to future developments in enforcement. Evaluation among the visitors of the last Congress learns that the Congress was very successful and reached his goals like transfer of information.

#### **Enforcement Pocket Book**

The Enforcement Pocket Book (Zakboek Handhaving) contains all kinds of practical information on enforcement in The Netherlands, including legislation but also addresses of enforcement organizations. It is published annually, with the Ministry providing assistance in terms of content.

## **5 NEW COMMUNICATION DEVELOPMENTS AT THE INSPECTORATE FOR THE ENVIRONMENT**

The Ministry recognized the importance of good communication. The Inspectorate for the Environment too began to devote an increasing amount of attention to communication and felt the need for a more structured approach. The question arose as to whether the Inspectorate was using its communication possibilities to the fullest. This led to the initiation of a Communication Strategy project in 1996.

The aims of the Inspectorate were:

- to present a more unified front to the outside world (more visible and recognizable);
- to apply the principles of enforcement communication to environmental enforcement in The Netherlands (influencing the perceived risk of being caught);
- to give communication a place as a natural element in the working methods of the Inspectorate as an organization and among staff.

In a framework document, the role and significance of communication for the Inspectorate was set out, together with an action plan aimed at putting this communication vision into practice in the years to come.

## **6 FUNCTIONS OF COMMUNICATION**

Enforcement communication can be divided into three functions:

- 1 The function of perception instrument: influencing the perceptions/expectations that target groups/companies have of the Inspectorate and its tasks/activities.

- 2 The function of relations instrument: communication as facilitator in the cooperation with enforcement partners and target groups. The most important factors in the relations with other enforcement partners are positioning and stimulation/motivation.
- 3 The function of information instrument: this encompasses the provision of information in and by the Inspectorate, both internally and externally. The Inspectorate and target groups should be permanently informed. The journal *HandHaving* plays an important role in this respect.

These three functions apply to the organization as a whole and also to the Inspectorate's three areas of responsibility: Enforcement, Monitoring of Implementation and Connecting Link (between policy and practice). From 1996, the possibilities of communication as an instrument of perception formed the main area of exploration.

## **7 COMMUNICATION AS INSTRUMENT OF PERCEPTION**

Communication can be used particularly effectively as an instrument of perception in areas where the Inspectorate has the primary responsibility for enforcement. The key concept in this regard is the perceived risk of being caught. By announcing inspections in advance and publicizing the results afterwards, the Inspectorate shows that it makes serious work of its inspections. This influences the behavior of companies in terms of compliance. It works in the Inspectorate's favor by increasing the efficiency of the enforcement actions, thereby producing more positive results.

This basic idea has been applied to a number of the Inspectorate's projects: cadmium, livestock production and coatings containing polycyclic aromatic hydrocarbons. These projects were initiated in 1997 and are not finished. In order to familiarize the project workers with the principles of enforcement communication, a workshop was held for each project, with an emphasis on practical application. At the moment the projects are still going on and so it is unknown whether the concept of the perceived risk of being caught works for the target group industry.

For a detailed description and evaluation, see Appendix 1.

## **8 COMMUNICATION AS INFORMATION INSTRUMENT**

More extensive communication takes place about the results of the environmental policy. First of all, this is important because the Netherlands' environmental policy is currently in the implementation phase. Many target groups have made tremendous contributions and continue to do so. In this phase, it is important to make the results of this policy and commitment known in order to maintain the level of involvement and support for the environmental policy and environmental measures. However, even more can be achieved by communicating results.

The communication of results can have a number of functions:

- Reward: showing target groups that their efforts with regard to the environment have an effect and that the government values their contribution. The basic principle at work here is the positive reinforcement of good behavior.

- Stimulating and activating target groups: results are used to generate discussions, thereby encouraging certain actions. No one wants to feel left behind.
- Demonstrating that other parties are also doing their share: fair distribution of the burden and the effort involved in environmental policy is regarded as an important precondition for ensuring support for the policy.

Results can be divided into the following categories:

- General results: what is the general state of the environment?
- Government results: what has central government achieved?
- Intermediate results: what has been achieved in terms of implementation?
- Specific results: what have individual companies/organizations/households achieved?

The interest in results varies per target group. Politicians and administrators are interested in other results than the consumer. The Inspectorate is applying communication about results to its monitoring of local authority environmental policy and inspections relating compliance with the Cadmium Decree in the toys and household goods sector.

#### **Local authority policy**

Each year, the current state of knowledge on the implementation of local authority environment policy is published. This indicates that some local authorities perform better than others do. In 1997, a book was compiled containing the good examples set by a number of local authorities. This volume was then sent to all local authorities. In 1998, an evaluation will take place to see whether other local authorities have followed these examples.

#### **Cadmium Decree**

The Inspectorate and the Consumer's Association have examined the subject of compliance with the Cadmium Decree in the toys and household goods sector, with positive results:

- A considerable improvement in compliance was evident: the number of household goods and toys containing cadmium has decreased significantly.
- The retail trade took its own measures. Retailers wrote to suppliers and ordered cadmium-free products.
- The Consumer Association and the Inspectorate worked well together.

The results were communicated with various objectives in mind and at various levels:

- With the objective of rewarding the sector: the retailers received a letter and an article was published in the magazine of their organization.
- To show evidence to other target groups and to stimulate: to importers of cadmium and PVC in household goods and toys the results of the campaign were sent as encouragement and evidence.

- To stimulate other target groups: the results were presented to consumers by means of newspaper articles, the media and consumer programs. An article in the plastics trade magazine informed plastics manufacturers of the positive results.

## **9 USE OF PUBLICITY**

The Inspectorate uses publicity to attract attention to the results of its work, often in the form of a press release. Press releases with details of investigations and enforcement campaigns are issued regularly.

Other resources employed include:

- Inviting a journalist from a regional or national newspaper to be present during an inspection.
- Informing the media about an enforcement campaign in advance by telephone or press release. The Ministry's Department of Information and External Relations makes sure that the media have the opportunity to film and talk to the enforcers, while the Minister's presence at certain actions generates added publicity. After the event, a press release detailing the results is issued.

Other enforcement organizations adopt a different approach to publicity in the press. The Rijnmond Environmental Protection Agency for example has an information center where residents can complain about odorous emissions by local companies. If more than thirty complaints from citizens are received about any one incident, a press release is issued. Each month a summary of the most notable events is published complete with the names of the companies concerned. In practice it appears that companies are now taking measures to prevent such pollution, since they regard the published summary as negative publicity, which is more damaging than having to pay a fine for a violation.

## **10 FREE PUBLICITY**

Publicity in the magazines of other organizations is often a very good supplement to ministerial publications and press releases and can even make an ideal substitute. Publications in the magazines of other organizations are a very credible medium, have a wider circulation and the information they contain is targeted to the needs of the readership. For an example see

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**APPENDIX 1: COMMUNICATION AS PERCEPTION INSTRUMENT****1 EXAMPLE PROJECT: LIVESTOCK PRODUCERS**

The local authorities have invested years of hard work in clearing their licensing backlogs. While the majority of local authorities have been reasonably successful in this, the issuing of licenses to one specific target group, livestock producers, is still lagging behind. On 1 January 1997, there were still a considerable number of livestock producers without an adequate license as required by the Environmental Management Act. In 1997, the Inspectorate spurred the local authorities on to give high priority to clearing this backlog. This project was subsequently selected as a project for the application of enforcement communication.

**2 WORKING METHOD**

At the start of 1997, the Inspectorate began by listing the local authorities where livestock producers without an adequate license were operating. A project group was set up with the participation of the Information Department. First, a number of basic principles were formulated:

- Commitment to the campaign from within the Inspectorate was essential. Support from the Minister was also desirable.
- Use of extreme measures was to be prevented.
- The message from the very beginning was: we are taking this very seriously. Sanctions will be imposed where necessary, with the deliberate use of publicity as a sanction.
- Before the campaign, a single spokesperson was designated to coordinate contact with the press.

An action plan was then drawn up for the entire process, with communication as an integral element.

**3 COMMUNICATION**

Communication measures included in the plan were:

- letter to all local authorities announcing campaign;
- letter to the local authorities at fault;
- telephone contact with the local authorities who failed to respond;
- visit at administrative level;
- visit to non-cooperative local authorities at executive level;
- letter to local city council requesting intervention;
- letter to local city council requesting exertion of administrative coercion;
- take action.

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## 4 PUBLICITY

- announcement of campaign via press release;
- when letter is sent to the local authorities at fault, press release should also be sent to regional media;
- during interim report stage, issuing press release and map of the Netherlands showing the current licensing situation;
- press release on the subject of sanctions;
- press release on the subject of campaign results, interview in trade publications.

These activities were done through the Department of Information and External Relations together with the Inspectorate for the Environment.

A survey was carried out again at the start of 1998, showing a far more encouraging picture than one year previously. For this reason, only a report and a press release were issued. The other communication measures were deemed unnecessary.

## 5 EVALUATION

A number of provisional conclusions can be drawn during the course of the projects:

- The major delaying factor during the project was the reorganization of the Inspectorate.
- This approach to communication was new to the staff of the Inspectorate. Sound guidance was essential.
- The staff who took part in the workshops quickly mastered the principles of enforcement communication and were also considerably more enthusiastic after completing the workshops.
- The Inspectorate drew up a project plan in which parameters such as the number of company visits, manpower and funding were established to a great extent. Communication often called for changes in these parameters and a measure of flexibility. It proved difficult to realize this in practice.
- If the schedule of the project plans cannot be adhered to, this has a disastrous effect on communication. Timing is essential.

## 6 LEARNING EXPERIENCES

Accordingly, the following lessons can be learned:

- The project leader must have the freedom to make adjustments in terms of manpower, resources, number of company visits.
- Strict project management is necessary in accordance with the schedule set.
- Commitment within the Inspectorate management is necessary in order to ensure the realization of these projects.

**APPENDIX 2:           EXAMPLE OF FREE PUBLICITY**

On 1 January 1995, the CFC Decree came into force. The abbreviation CFC is used to refer to chlorinated fluorocarbons. These substances affect the ozone layer and are used in such appliances as refrigeration and freezer systems, ice machines, cold stores, air conditioning equipment, refrigeration units and refrigerated display units. From 1-1-1995, owners and users of refrigeration units were confronted with more extensive restrictions for the application of CFCs and a ban on trading in products that contain CFCs.

They were informed about the CFC Decree and its consequences by means of an information campaign, which included a brochure. In spite of these measures, the impression remained that the target group was still not fully aware of the legislative changes and their consequences.

For this reason, a press letter was sent to the editors of trade publications in this field to once again draw their attention to the existence of the CFC Decree, the imminent changes and the fact that inspections were set to take place.

The result was a stream of publications in the magazines of the organizations and questions were even asked in the Lower House of the Dutch Parliament. These parliamentary developments prompted a ministerial reply in the form of a second letter to the trade publications, generating yet more publicity. The results of the inspections were also sent to the trade publications.

Through a targeted media effort the intended message was brought home effectively to virtually the entire target group at very low cost. The result was a huge leap forward in terms of information, encouraging the target group to take action to ensure compliance with the conditions of the CFC Decree, reinforced by the (communicated) threat of inspection and legal proceedings in the case of violations.

## **WORKSHOP 2B ENCOURAGING PUBLIC ROLE IN COMPLIANCE MONITORING AND IMPACT OF PUBLIC ACCESS TO ENVIRONMENTAL INFORMATION/ COMMUNITY RIGHT TO KNOW LAWS ON COMPLIANCE AND ENFORCEMENT PROGRAMS**

Discussions will build on papers published in the Proceedings of the Second, Third, and Fourth International Conferences. In addition, discussions will benefit from a new capacity building support document on the general subject of citizen enforcement commissioned for the Fifth International Conference to tie together past writings on the subject.

Papers and workshop discussions will address the following issues:

- The role of citizens and citizen organizations in compliance monitoring, from both government and citizen perspectives: what experiences have government officials and NGOs had in encouraging:
  - citizens to serve as "inspectors";
  - public-private partnerships for monitoring compliance;
  - citizen-business agreements for monitoring compliance; and
  - citizen initiatives and government responses.
- The impact of these activities in terms of:
  - increasing the general "enforcement presence" and deterrent effect of compliance monitoring;
  - detecting significant violations that would have otherwise gone undetected;
  - potentially diverting government resources to less significant environmental problems; and
  - supporting follow up enforcement response by the government.
- The support citizens need from government to carry out compliance monitoring activities in terms of information, training, education in how to identify or report complaints or problems for investigation etc.
- Community right to know policies and the program implications of public access to compliance and environmental monitoring information, including:
  - source self-monitoring, record keeping and reporting requirements;
  - toxic release inventories or pollutant release and transfer registers; and
  - community right to know provisions.

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- The impact on environmental compliance and enforcement program effectiveness, demands for quality data.
  - The various roles that the public and citizens may play in environmental enforcement and achievement of compliance:
    - the public role as an economic and social force for compliance;
    - the role of citizens in identifying violations;
    - the role of citizens in pursuing enforcement actions or forcing governments to pursue violators (citizen suit authorities and trends in recent environmental legislation creating environmental bill of rights); and
    - citizen roles in commenting on settlement of violations and disputes on compliance.
  - How the public role can be fostered as an effective force for widespread compliance.
  - How dependent an effective public role is on public disclosure of compliance information.
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*See also Workshop 3C: Citizen Enforcement*

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*Public Role: Creating/Supporting Effective Citizen Involvement in Compliance Promotion, Monitoring and Enforcement*

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## **CITIZEN'S ENVIRONMENTAL ENFORCEMENT IN UKRAINE**

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### **SUMMARY**

The democratic provisions of new Constitution and legislation of Ukraine in the sphere of protection of environmental rights of citizens are described in the article as well as the obstacles for their transfer to reality. Case studies and recommendations are provided on how to overcome these obstacles and to improve environmental citizens' enforcement in Ukraine.

## **1 LEGISLATIVE FRAMEWORK OF CITIZENS' ENFORCEMENT IN UKRAINE**

1.1 After the collapse of the Soviet Union the system of environmental legislation was created in newly independent states (NIS) including Ukraine. Many of democratic principles on citizens rights, access to information, transparency of decision making process and public participation in it as well as access to justice for citizens and NGOs were established in new legislation.

Article 50 of the Constitution of Ukraine, adopted in 1996, guarantees every citizen the right to an environment that is safe for life and health and to compensation for damages inflicted through the violation of this right. Everyone is also guaranteed the right to free access to information about the environmental situation and the quality of food and consumer goods and also the right to disseminate such information.

Article 16 of the Constitution of Ukraine declares the state's responsibility to ensure ecological safety and to maintain the ecological balance on the territory of Ukraine, to overcome the consequences of the Chernobyl catastrophe and other catastrophes of global scale, and to preserve the gene pool of the Ukrainian people.

Article 55 of the Constitution lays the foundation for court standing for citizens. It states, that every person is guaranteed the right to appeal the court decisions, actions and inactivity of state bodies, local authorities and public officials. Citizens also have the right to compensation from the state government or local authorities for physical and psychological (moral) damages caused by the unlawful decisions, actions and inactivity of state bodies, local authorities as well as by their public officials.

1.2 The Law "On Protection of Natural Environment" (adopted in 1991) contains the special chapter on citizens rights, among them the rights:

- to safe for life and health environment;
- to participate in discussion of draft laws, of the materials on siting, constructing and reconstructing of objects which can have negative impact on the environment and make a proposals to the state authorities;

- to participate in development and implementation of plans and measures for environmental protection and usage of natural resources;
- to assemble into public environmental organizations;
- to receive full and reliable information about the state of environment and its impact on the health of population;
- to participate in conducting of public environmental expertise; and
- to sue to the court versus state bodies, enterprises, institutions and organizations for compensation for damages caused to their health and property through negative impact on the environment.

Public organizations (NGOs) have most of these rights granted to them by article 21 of this law.

1.3 According to the Law "On Environmental Expertise" (adopted in 1995) the developer has to ensure publicity of Environmental Impact Assessment (EIA) procedures, publish the Statement about environmental consequences of planning activity in the mass-media and take into account public opinion. At the same time public organizations, NGOs, have the right to initiate and develop independent public environmental expertise.

This law also contains a possibility to create consultative councils in state bodies responsible for conducting of environmental expertise which consist of public experts and representatives.

## **2 OBSTACLES FOR CITIZENS' ENFORCEMENT**

The new democratic provisions in the Constitution and current legislation of Ukraine shows the establishment of a "rule of law" society in a post-communist country. However, the enforcement of these provisions is not so good because environmental rights granted by legislation are not used or exercised enough by the public and are not supported enough by governmental officials. Unfortunately, little has been done during the last seven years to translate legal provisions into the practice. Many of these principles are "democracy on paper". Analyzing the reasons for this phenomenon, we can certify the following.

2.1 The laws in this sphere are very new. Citizens do not often know about their environmental rights granted them by the law. The low level of environmental consciousness and legal culture of the population and lack of traditions of public participation in environmental decision-making make citizens' enforcement in Ukraine very weak and undeveloped.

It should be noted, that the level of environmental consciousness of judges and other governmental officials, dealing with environmental enforcement, is rather low too, as well as their knowledge of complicated environmental legislation.

2.2 The principle of separation of legislative, executive, and judicial branches of power has been implemented in Ukraine just from 1995 after the adoption of the Constitutional Agreement. So, the court system is just forming now as an independent branch of power. Citizens' suits versus state or governmental bodies or their officials for protection of public environmental interests are a very new phenomenon. Such a practice is in the process of birth and creation.

2.3 The laws in this sphere are rather general and do not contain concrete mechanisms for their enforcement. For instance, the most powerful tools for citizens' enforcement in Ukraine are the Environmental Impact Assessment (EIA) and Environmental Expertise (EE) of the projects which can have a negative impact on the environment and on the health of the population. The general obligation of the developer to conduct public hearings is contained in the legislation of Ukraine. However, it is violated very often in practice without any liability.

It is difficult to enforce these provisions because the procedure of public involvement, especially public hearings, submitting of public comments and proposals are not regulated in the legislation.

One of the most significant obstacles for enforcement of the above mentioned provisions is the lack of access to information about EIA or EE being conducted. The developer and local authorities should be made responsible for informing the public about planned activities which can have a negative impact on the environment, and for taking into consideration public comments and proposals, otherwise public participation provisions will be no more than declaration.

2.4 Access of citizens and NGOs to environmental information plays a very important role in citizens' enforcement. However, the duty of the state bodies and governmental officials to give the public full and reliable information on the state of the environment and its impact on the health of the population in requested form and terms, determined by law, is violated very often in practice.

The substantial questions for citizens of payment for information or receiving it free of charge, forms of information available for public are not clearly regulated in current legislation. These questions should be addressed by the legislation of Ukraine in accordance with the Convention on Access to Information and Public Participation in Environmental Decision-making after its ratification by Ukraine. The possibility to place environmental information on the INTERNET would be welcomed by the public, although the opposite opinion of governmental officials and their arguments about the bad economic situation in the Newly Independent States (NIS) could be expected.

2.5 The Current economic crises in Ukraine is not a favorable situation for solving environmental problems. The stopping of economic development and activity of a huge amount of industrial enterprises has promoted the improvement of environmental situation in terms of reduction of pollution. On the other hand, the main obstacles for environmental enforcement are:

- The lack of financing for environmental protection measures and for introduction of purifying equipment, saving energy and other environmentally sound technologies.
- Inability to make payment of fees for pollution of the environment and penalties for environmental transgressions. Even in cases when the court or other state body responsible for environmental enforcement made the decision to impose fines or to compensate the damages inflicted by polluter, the decision is not implemented very often because of the absence of money even to pay salaries for the employees.

2.6 The next substantial obstacle for citizens' enforcement is lack of finances to pay state duty and other court expenses which are usually huge (from one to one hundred minimum salaries for a month) in order to bring a suit.

For example, in the case called "Sosnivka" for the name of a small town in which more than 2000 children are sick on fluorosis and osteoporosis because of fluoride pollution of underground waters used for drinking water supply, the amount of state duty which NGO Ecopravo-Lviv had to pay for bringing the case to arbitration court on behalf of an NGO of mothers whose children suffered from fluorosis was 9 000 grivnas (about US \$ 4 500). It made access to justice for citizens unaffordable. The amount of state duty is calculated as 5% of the value of the suit - costs for the construction of fluoride treatment plant by the polluter, a coal mining company. According to the Arbitration Procedure Code it is impossible to waive payment of state duty even for an NGO which is trying to defend environmental rights of citizens. As a result, the amount of sick children has grown from 600 up to about 2500, as well as the territory of pollution and aggravation of diseases.

According to the legislation only a few groups of citizens are released from paying of state duty and court fees (for instance citizens who suffered from the Chernobyl catastrophe, disabled veterans of the Great Patriotic War and their families, all Ukrainian and international unions and others).

The most expensive part of the court expenditures is the cost for a court to obtain the ecological expertise that is necessary to prove causation between the fact of pollution of the environment, violation of environmental legislation, activity of some enterprise and damage caused to the environment and the health of the population.

The party whose requirements were satisfied by the court decision has to be reimbursed for all court expenses (state duty, court expenses including conducting of the court expertise) from the other party.

2.7 The principle of filing a lawsuit about termination or prohibition of some kind of activities of enterprises, institutions and organizations which pollute the environment is missing in the legislation of Ukraine. However, there is such a provision in the draft Civil Code of Ukraine which will be adopted soon.

In this case it is possible to use provisions of the Law "On Environmental Expertise." This law contains a possibility for citizens to sue illegal construction of some objects without a positive conclusion of state ecological expertise but which can have a negative impact on the environment.

The successful example of citizens' enforcement against both government and business is represented in the NGO Ecopravo-Lviv case called "Terminal".

The project, a chemical fertilizer terminal to be located in Mykolaiv, is financed by an Irish/Russian/Ukrainian joint venture. On the day the joint venture registered to do business, it donated thirty trams and thirty trolley buses to the city. Local authorities subsequently approved the project, and construction began in August 1995, in violation of environmental laws requiring that an Environmental Expertise be conducted prior to project approval.

However, the local Ministry of Environmental Protection and Nuclear Safety (Ecosafety) ordered the company to conduct an Environmental Expertise of the project, and a prosecutor with the Sanitary Epidemiological Station (SES) ordered the company to stop the work.

The company then submitted the project to the local EcoSafety office for Environmental Expertise. The company failed, however, to publish the Environmental Impact Assessment Statement, in violation of the Law on Environmental Expertise. Local EcoSafety officials subsequently rejected the project on the grounds that it might have unacceptable negative environmental impacts. However, the company then requested the national

EcoSafety office in Kiev to review the local EcoSafety office's Environmental Expertise, and officials in Kiev reached a positive conclusion in their Environmental Expertise, overturning the local EcoSafety office's rejection of the project.

The Ecopravo-Lviv sued the Minister of EcoSafety in the High Arbitration Court, claiming that the Environmental Expertise it conducted was deficient on procedural grounds. The Ecopravo-Lviv represented two clients in the action filed in the High Arbitration Court: Zeliony Svit (Green World), an environmental non-governmental organization and a shipbuilding company that claimed that the health of its workers would be adversely affected by the terminal. Over 10,000 local citizens also signed a petition opposing the project. By the conclusion of the case, this number had increased to 100,000, including the members of the representative bodies such as local cooperatives and labor unions.

In its lawsuit, the Ecopravo-Lviv claimed that the Ministry's Expertise was invalid primarily on the following grounds:

First, the Ministry failed to require the company to publish the Environmental Impact Statement prior to commencement of the Environmental Expertise, thereby depriving the public of the opportunity to participate meaningfully in the process.

Second, construction of the project began before the Ministry completed its Expertise. This is strictly prohibited under the Law on Environmental Expertise.

Third, the Ministry failed to publish the Conclusion of the Environmental Expertise. A news article announcing the Expertise was published after the fact, and differed from the actual Conclusion.

Fourth, the Ministry failed to take public opinion into account, as required by the Law on Environmental Expertise. In the face of 100,000 citizens voicing opposition to the project, and a public expertise that found the project to be unsuitable, the Ministry approved the project.

Fifth, the Ministry failed to consider adequately the negative environmental impacts associated with the project, including but not limited to possible impacts on endangered species, the surrounding estuary, and pre-existing elevated contaminant levels in the South Bug River. In fact, a representative of the shipbuilding company recently observed significant numbers of dead fish in the estuary. This was brought to the judge's attention during the hearing.

The judge G. made a decision in favor of the Ecopravo-Lviv, and ordered the Ministry to require the company to cease the work on the project. The Court exercised its authority under the Law on Environmental Expertise to find the conclusions of an Expertise invalid when procedural requirements are violated. The Court found that the Environmental Impact Assessment (EIA) Statement was published two months after the Expertise was completed, in violation of the public's rights to be informed and to participate in the Expertise process.

The Ministry argued that its failure to publish the EIA Statement did not affect the outcome of the Expertise, because the public knew about the project. The Court rejected this argument outright, since the Expertise Law does not provide for substitution of the notice requirement. Because of the absence of the notice of the Expertise, the Court observed that the citizens could not fully take part in the process.

This case represents a landmark victory for environmental NGOs on issues fundamental to a meaningful citizens' enforcement. Not only does the decision uphold basic principles of participatory democracy, it sends a clear message to governmental officials and citizens that public officials can be held accountable under the law for their actions. This case proves the citizens currently suffering violation of their environmental and civil rights, those rights can be enforced.

The Ministry of Ecosafety has filed an appeal to the Collegium of High Arbitration Court. The battle is continuing.

2.8 Citizens can obtain an interim or injunctive relief against governmental bodies or polluters. However, the problem in this case is that the court can oblige the plaintiff to make a bond which would guarantee the compensation of the damages which would be caused to the defendant by the injunctive relief. Usually, the sum of such bond in environmental cases against polluters is huge and citizens or NGOs can not pay it. It makes the provision a "paper rule" which is impossible to enforce and leads to discrimination of public interests.

2.9 The next obstacle for citizens enforcement is the lack of lawyers, specialized in the sphere of environmental law and the shortage of public interest environmental lawyers in Ukraine. Only the network of Ecopravo public interest environmental firms is working pro bono for citizens and NGOs in three cities of Ukraine - Kyiv, Lviv and Kharkiv. They consult citizens and NGOs and represent their interests in the state and governmental bodies as well as in the court. Three Environmental Public Advocacy Centers (EPAC) are doing great and new job-creating precedents of court defense of environmental citizens rights, citizens' enforcement with the financial support of Central and Eastern Environmental Law Initiative American Bar Association (CEELI/ABA) realizing the joint EPAC project.

2.10 Lack of traditions to solve environmental problems and to protect environmental rights of citizens in the court, lack of people's trust to the independent court connected with the corruption of judges and governmental officials are the next groups of hurdles for citizens' enforcement in Ukraine.

What could be recommended in order to improve citizens' environmental enforcement?

### **3 RECOMMENDATIONS**

Accordingly to the mentioned above are the following:

- a) To make environmental information more accessible for the public. To exercise and to enforce the right of information by writing requests for information to different state and governmental bodies, and to appeal to the high level authority or to the court in case of refusal of the request; to place the most important environmental information in the Internet.
- b) To develop environmental legislation in order to promote mechanisms of enforcement of general democratic provisions of transparency and public participation in environmental decision-making; to create and to lobby the adoption of regulations on procedure of public hearings in EIA, EE, and mechanisms of public participation in siting, permitting, licensing, management of environmental funds and other types of decision-making.
- c) To include the provisions about the possibility of waiving state duty and court expenditures or at least its reduction for the citizens and NGOs which sue to the court to defend public interests in order to improve affordability of citizens' enforcement.
- d) To create precedents and to develop court practice on citizens' suits against state and governmental bodies and its officials which violate the law or are inactive in compliance of their duties in the sphere of environmental protection, as well as the court defense of environmental rights of citizens.

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- e) To develop and support the network of public interest lawyers, to create new public interest environmental law firms, to exchange experience with colleagues in Central and Eastern Europe and Newly Independent States (NIS) region.
  - f) To promote environmental education, especially in the sphere of environmental law and environmental rights of citizens and NGOs;
  - g) To conduct training programs for lawyers on environmental enforcement including explanation of the importance of citizens' enforcement and court defense of environmental rights of citizens.
  - h) To actively spread information about successful court cases in mass-media in Ukraine and NIS. That could encourage people to go to the court for solving environmental problems or for defense of violated citizens' rights and to overcome people's disbelief in independent justice.



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## **UN ECE CONVENTION ON ACCESS TO INFORMATION, PUBLIC PARTICIPATION IN DECISION-MAKING AND ACCESS TO JUSTICE IN ENVIRONMENTAL MATTERS: TOWARDS MORE EFFECTIVE PUBLIC INVOLVEMENT IN MONITORING COMPLIANCE AND ENFORCEMENT IN EUROPE**

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### **SUMMARY**

This paper discusses the Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice in Environmental Matters (the so-called "Aarhus Convention"). It draws on the experience of the author who served as Vice-Chair of the Working Group negotiating the Aarhus Convention on Public Access and provides a brief overview of recent developments in international instruments related to access to information and public participation in environmental matters. It presents basic features of the entire Convention aiming at regulation in detail of all relevant issues.

### **1 INTRODUCTION**

Cooperation with the public is commonly considered around the world as a prerequisite for efficient implementation of environmental policy by environmental authorities. In particular, as evidenced by the results of the previous International Conferences on Environmental Compliance and Enforcement, there is a growing recognition that public involvement contributes largely to effective compliance monitoring and enforcement. Bearing in mind the limited monitoring capacities of the government organizations responsible for administering environmental law, granting the public access to information is considered the best guarantee of the accuracy of data supplied by companies. Public control, enhanced by transparency, is not only considered important, it is, in relative terms, the least expensive of all instruments for implementing environmental policies and enforcing environmental legislation. Similarly, there are clearly recognized benefits from transparency of decision-making processes and openness of administration to public participation, not only in concrete decisions whether to authorize certain facilities or operations, but also in developing draft laws, rules, policies, etc. Broad public participation in the preparation of such documents also advances educational goals and mitigates negative attitudes toward decisions in controversial matters. Often it also prevents significant mistakes in decision-making that might cause problems with implementation, or later, with enforcement.

Countries that have decided to grant the public broad access to information and participation rights have benefitted a lot from voluntary activities by citizens willing to protect the environment. These positive experiences have no doubt had a big influence even in countries which, due to their legal and administrative traditions, have been rather reluctant to accept as a rule the concepts of participatory democracy, open government and transparency of decision-making.

There are various ways of exchanging experience and disseminating good practices between countries, with big international conferences being among the most effective. However, the most formal way of getting the message across is by using international legal instruments. And here the issues of public participation and access to information concerning environmental protection and sustainable development have been present for years.

## **2 ACCESS TO INFORMATION AND PUBLIC PARTICIPATION IN INTERNATIONAL ENVIRONMENTAL LAW**

The need for legal guarantees for public involvement is increasingly reflected in international environmental law. Virtually all recent instruments mention the necessity of assuring access to information and public participation in environmental decision-making. More developed provisions to this effect, recommending, *e.g.*, creation of mechanisms and procedures for cooperation with - and support for - the public, can be found in documents from the United Nations Conference in Rio de Janeiro (in particular in Agenda 21) and in the Guidelines on Access to Environmental Information and Public Participation in Environmental Decision-Making (herein after referred to as "ECE Guidelines"). Such attempts to regulate public involvement in a complex way so far have been limited to the instruments of so called "soft law," *i.e.*, having no binding legal nature but only a form of recommendation or political declaration. However, there are a number of international instruments that address some public participation issues without attempting comprehensive coverage.

### **2.1 Access to information**

The right of access to information recently may be regarded as a binding standard in the international environmental law. A number of conventions (signed in the 90's) include relevant provisions in this field, including the following: The Lugano Convention on Civil Liability (1993), a new Helsinki Convention on the Protection of The Baltic Sea (1992), The Convention on Industrial Accidents (1993) and The Convention on Transboundary Watercourses (1992). The obligation to ensure access to environmental information also is repeatedly referred to in a number of "soft law" instruments, including the Rio Conference documents (Agenda 21) and the Organization for Economic Cooperation and Development (OECD) Guidance Manual on Pollutant Release and Transfer Registers.

In most countries the public enjoys access to information via so-called Freedom of Information (FOI) laws, which provide everyone, without having to state any interest, access to all information (except for few clearly statutory exemptions) about both the state of the environment and its protection, including information about individual permits, emissions or enforcement actions. On the international level the most comprehensive of such laws is European Commission (EC) Directive 313/90.

In some countries the right of access to governmental information is supplemented by far reaching mechanisms concerning collecting, maintaining and making public some information held by governmental authorities, including such mechanisms as public registers or publicly accessible databases. At the international level obligations to this effect may be found, *e.g.*, in OECD Guidelines on Pollutant Release and Transfer Registers.

## 2.2 Public participation

Public participation in environmental decision-making may presently be considered a well-established concept in international law. A number of instruments can be quoted here, but in particular Agenda 21 devotes Chapter 8 entirely to this issue. One has to distinguish here between public participation in policy- or rule-making and public participation in concrete decision-making.

In international environmental law, the issue of public participation in policy- and rule-making gradually gets certain recognition, though it is far from being sufficiently regulated. In this respect Agenda 21 gives certain guidance while recommending on many occasions (particularly in provisions referring to the environmental protection against factors which may have a significant adverse impact on the environment) the need for active public participation at all different levels of environmental decision-making. Similar provisions can be found in binding instruments. The Desertification Convention of 1994, for example, requires participation of Non-Governmental Organizations (NGOs) and local people in policy-making and public participation in concrete decision-making as is currently required by a number of international instruments. The key idea is to provide the opportunities for the public to participate early in the environmental decision-making process. This means that the public should be consulted before the actual decision has been taken. This issue is particularly well regulated in all instruments related to Environmental Impact Assessment (EIA). Obligations related to public participation in the Environmental Impact Assessment context can be found in the regional (but covering almost the whole northern hemisphere) 1991 Espoo Convention on Environmental Impact Assessment in Transboundary Context, as well as in a number of global international agreements (such as the Biological Diversity Convention and the Framework Convention on Climate Change). A new regional Helsinki Convention on Transboundary Effects of Industrial Accidents (1992) has similar provisions.

As far as participation in compliance monitoring is concerned, there is hardly any international law provision dealing with this issue specifically. It has to be noted, however, that so-called "post-monitoring," which is an element of the Environmental Impact Assessment Procedure requiring participation, is required under the Espoo Convention.

## 2.3 Access to justice

Another important issue is public participation in enforcement, often referred to as "access to justice." It usually means the right to be heard and to appeal the decisions, as it is guaranteed by the Human Rights Convention.

As far as environmental protection is concerned, the most important in "access to justice" is to have standing without having to state an individual interest. Some provisions to this effect may be found in the Rio documents and in the Lugano Convention.

The Lugano Convention reads: "*Any association and foundation which according to its statutes aims at the protection of the environment may, at any time, request: a) prohibition of a dangerous activity which is unlawful and poses a grave threat of damage to the environment, b) that the operator be ordered to take measures to prevent an accident or damage, c) that the operator be ordered to take measures, after an accident, to prevent damage, or d) that the operator be ordered to take measures of reinstatement.*"

## 2.4 Need for a comprehensive approach

All the above mentioned international instruments have contributed to common recognition of the need for access to environmental information and public participation. Simultaneously, most administrative systems in Europe are in the process of transformation towards open government and participatory democracy. It has been widely recognized,

however, that general obligations concerning access to environmental information and public participation, as well as good practices in this respect, will be standardized throughout Europe by a way of adopting an international instrument specifically and exclusively devoted to these issues. Significant breakthroughs in this respect were brought about in the III Pan-European Conference of Environmental Ministers held in Sofia in 1995 within the "Environment for Europe" Process.

### **3 TOWARDS A BINDING COMPREHENSIVE REGULATION OF CITIZENS PROCEDURAL RIGHTS IN ENVIRONMENTAL MATTERS**

#### **3.1 Roots of the Convention**

The III Pan-European Conference of Environmental Ministers held in Sofia in 1995 within the "Environment for Europe" Process adopted the ECE Guidelines, which reflected the political will of Ministers to make standard rules concerning these issues throughout Europe. The Guidelines, however, have only the nonbinding nature of a "soft law." Therefore, adoption of the Guidelines was paralleled by a mandate given to a Working Group to adopt an international legally binding instrument in the form of a UN ECE Convention on Access to Environmental Information and Public Participation in Environmental Decision-Making (herein after referred to as "the Convention"), a draft of which the Ministers requested to be ready at their IV "Environment for Europe" Conference held in June 1998 in Aarhus, Denmark.

#### **3.2 Negotiating the Convention**

About 40 of the 55 UN ECE member countries actively participated in negotiations. Worth mentioning is that both the U.S. and Canada did not participate, while - on the other hand - the European Commission participated actively with a view to consenting eventually to make the Commission institutions subject to provisions of the Convention on the same footing as any national public authority.

Beginning with the process of its creation, the Convention was arguably unprecedented in the history of international law as far as the degree of public participation in the drafting process. NGOs had taken part in this process right from the outset when a small group assisted the UN ECE Secretariat in preparing the Draft Elements for the Convention which served as the main basis for discussions for the first four sessions until a consolidated revised draft text of the Convention emerged. Ever since, NGO representatives have taken part in each small drafting group or advisory group that has been created by the Working Group to assist it in dealing with certain issues. Apart from this, NGOs have taken part in plenary discussions on a more or less equal basis. NGOs are being principally represented by an NGO Coalition, consisting of 4 persons representing NGOs from both Western and Eastern Europe with a mandate given by the Pan-European Conference of NGOs held in Brussels.

Apart from the NGO Coalition, the Regional Environmental Center for Central and Eastern Europe (REC) and the GLOBE (Global Legislators Organization for a Balanced Environment) also participated actively in the drafting process under their own flags.

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## 4 THE CONVENTION ON ACCESS TO INFORMATION, PUBLIC PARTICIPATION IN DECISION-MAKING AND ACCESS TO JUSTICE IN ENVIRONMENTAL MATTERS

### 4.1 The Convention and its 3 pillars

The Convention on Access to Information, Public Participation in Decision-Making, and Access to Justice (as it eventually was termed) was endorsed unanimously by the Committee on Environmental Policy at its meeting on March 16-17 1998 and submitted for adoption and signature at the Pan-European Ministerial Conference 23-25 June 1998 at Aarhus, Denmark.

The Convention, as well as being the first binding international instrument attempting to address comprehensively and exclusively the issue of Citizens Environmental Rights, also features a couple of specific provisions that might be considered precedential. First of all, Article 1 makes it clear that the objective of the Convention is to contribute to the protection of the right of every person of this and future generations to live in an environment adequate to his or her health and well-being (which is the first acknowledgment of such a human right in an international binding instrument). Another novelty is an obligation (Article 3 paragraph 7) to promote the application of the principles of the Convention in other international environmental decision-making processes.

The core of the Convention covers three main issues (sometimes referred to as the "three pillars of the Convention"): 1) access to, and dissemination of, environmental information, 2) public participation in environmental decision-making, and 3) access to environmental justice. These are addressed in Articles 4-9, while Article 2 (Definitions) and Article 3 (General Provisions) provide a background to all three pillars,

### 4.2 Access to - and dissemination of - environmental information

The Convention regulates the issue of access to environmental information in two separate Articles: Article 4 regulates so called "passive" disclosure of information while Article 5 addresses so called "active" disclosure of information.

Article 4 is designed in a similar way to other so called Freedom of Information Laws that precisely regulate rights to require information from the authorities, categories of information that might be exempted from disclosure, and the procedure for disclosing the information. The Convention takes into account, in particular, experience gained with the implementation of EC Directive 313/90 on access to environmental information.

The definition of environmental information is much broader in the Convention than it is in the Directive. According to Article 2 paragraph 2, it covers:

*"any information in written, visual, aural, electronic or any other material form on:*

- a) the state of elements of the environment, such as air and atmosphere, water, soil, land, landscape and natural sites, biological diversity and its components, including genetically modified organisms, and the interaction among these elements;*
- b) factors, such as substances, energy, noise and radiation, and activities or measures, including administrative measures, environmental agreements, policies, legislation, plans and programs, affecting or likely to affect the elements of the environment within the scope of subparagraph (a) above, and cost-benefit and other economic analyses and assumptions used in environmental decision-making;*

*c) the state of human health and safety, conditions of human life, cultural sites and built structures, inasmuch as they are or may be affected by the state of the elements of the environment or, through these elements, by the factors, activities or measures referred to in subparagraph (b) above”.*

According to the Convention, any natural or legal person may request, without an interest having to be stated, the environmental information that is held by any public authority. Public authorities, meaning basically government at national, regional and local levels (with the exemption of bodies acting in a judicial or legislative capacity) shall provide and make available such environmental information. The Convention applies accordingly to natural and legal persons (organizations and non-administrative bodies) with public responsibilities for the environment. In accordance with Article 4 paragraph 3 of the Convention, a request for information may be refused if:

- a) the public authority to which the request is addressed does not hold the environmental information requested;
- b) the request is manifestly unreasonable or formulated in too general a manner; or
- c) the request concerns material in the course of completion or concerns internal communications of public authorities where such an exemption is provided for in national law or customary practice, taking into account the public interest served by disclosure.

A request may also be refused (paragraph 4) if the disclosure would adversely affect:

- a) the confidentiality of the proceedings of public authorities, where such confidentiality is provided for under national law;
- b) international relations, national defense or public security;
- c) the course of justice, the ability of a person to receive a fair trial or the ability of a public authority to conduct an inquiry of a criminal or disciplinary nature;
- d) the confidentiality of commercial and industrial information, where law protects such confidentiality orders of a legitimate economic interest. Within this framework, information on emissions, which is relevant for the protection of the environment, shall be disclosed;
- e) intellectual property rights;
- f) the confidentiality of personal data and/or files relating to a natural person where that person has not consented to the disclosure of the information to the public, where such confidentiality is provided for in national law;
- g) the interest of a third party which has supplied the information requested without that party being under or capable of being put under a legal obligation to do so, and where that party does not consent to the release of the material; or
- h) the environment to which the information relates, such as the breeding sites of rare species. The aforementioned grounds for refusal shall be interpreted in a restrictive way, taking into account the public interest served by disclosure and taking into account whether the information requested relates to emissions into the environment.

Where only part of the information requested falls within one of the exempt categories, the remainder of the information should be separated out and supplied to the person making the request.

Public authorities should respond to a requesting person at the latest within one month unless the volume and complexity of the information justify extension of this period to up to two months after the request. The written refusal to comply with a request for information shall include reasons for the refusal and information on access to review procedures under Article 9. Public authorities are allowed to make a reasonable charge for supplying information.

Article 5 attempts to address the somewhat neglected issue of duties of authorities to actively collect and disseminate environmental information, in particular, by identifying various forms of doing so. For example, it requires authorities to regularly publish up-to-date information on the state of the environment, e.g., in written reports or periodicals. It also requires that environmental information becomes progressively available in electronic databases, which are easily accessible to the public through public telecommunications networks.

In article 5 paragraph 9, the Convention introduces the concept of Pollution Release and Transfer Registers (PRTR) - though without mentioning this term- by requiring Parties to take steps to progressively establish a coherent, nationwide systems of pollution inventories.

#### 4.3 Public participation in environmental decision-making

The Convention addresses the issue of public participation by distinguishing between public participation in concrete decision-making and public participation in policy- and rule-making.

As far as concrete decision-making is concerned, the Convention establishes in Article 6 quite an elaborated set of procedural rules to be followed by environmental authorities while taking decisions to authorize certain activities, categories of which are listed in the Annex to the Convention. The Annex is generally based on the list of activities subjected to EIA requirements under the Espoo Convention (combined with the list of activities subject to Integrated Pollution Prevention and Control Directive). The Convention also requires public participation in permitting deliberate releases of Genetically Modified Organisms.

As far as public participation in policy- and rule-making is concerned, the extent of relevant obligations resulting from the Convention is rather limited, in particular, leaving it up to the Parties to the Convention to determine the scope of the public to be consulted.

#### 4.4 Access to environmental justice

The scope of this pillar of the Convention addresses basically two issues: the right to legal remedies in relation to access to information and the public participation provisions of the Convention in regard to *actio popularis* (citizen's suits) in environmental matters, i.e., the right to file genuinely public interests lawsuits.

The second issue of primary importance for public involvement in environmental enforcement, was hotly debated. The outcome of the debate may be found in paragraph 3 which reads: "*In addition and without prejudice to the review procedures referred to in paragraphs 1 and 2 above, each Party shall ensure that, where they meet the criteria, if any, laid down in its national law, members of the public have access to administrative or judicial procedures to challenge acts and omissions by private persons and public authorities which contravene provisions of its national law relating to the environment.*"

It is worth mentioning that the Convention also requires, in paragraph 5, that Parties ensure that information is provided to the public about review procedures and consider the establishment of appropriate assistance mechanisms to remove financial and other barriers to access to justice.

## 5 CONCLUSIONS

The negotiations on the Convention have proved that all countries in Europe have made a huge step towards accepting the idea of open government and participatory democracy, though there are still different views as to the ways of achieving these concepts. It is also clear that, contrary to initial expectations of some participants to the negotiations, the Convention is not about "Eastern Europe" keeping up with the "Western Europe" in relation to access to information and public participation because, in many instances, some of the "Eastern" countries are more advanced than those in the "West." Altogether the Convention will promote progress for all European countries and encourage Europe to keep up with the best "world" standards and practices in relation to access to information and public participation. Despite the fact that the Convention does not specifically mention public participation in monitoring compliance activities, it will no doubt improve the effectiveness of monitoring compliance and enforcement of environmental laws and thus improve environmental conditions in Europe.

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## **GOOD GOVERNANCE AND COMMUNITY PARTICIPATION AS TOOLS TO MAKE ENVIRONMENTAL ENFORCEMENT AND COMPLIANCE HAPPEN**

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### **SUMMARY**

This paper discusses the role of good governance and community participation as tools to make environmental enforcement happen. Agenda 21 and other International conventions and agreements on environment emphasize the need for community participation in implementation of their objectives. To effect this approach, governments and other development agencies have developed tools to enhance environmental compliance and compliance.

In Kenya, Participatory Rural Appraisal (PRA) approach has been used to enforce environmental management initiatives and to mobilize community action in the implementation of objectives of various environmental conventions. Participatory Rural Appraisal works because information is made available and people participate in making decisions on issues they understand and that are in their interest.

This paper is divided into four sections. Chapter 1 introduces the concept of good governance and community participation in the context of environmental compliance and enforcement. Chapter 2 introduces the concept of Participatory Rural Appraisal. Chapters 3 and 4 deal with research and a Participatory Rural Appraisal case study the author of this paper carried out in Nzoeni Division in Kenya and the lessons learned. The case study and many others in Kenya show that good governance and community participation is an effective tool for environmental enforcement and compliance.

### **1 INTRODUCTION**

The United Nations Conference on Environment and Development (UNCED) process emphasized that the world is in a state of unsustainability due to destruction of the environment. The social and economic consequences of environmental degradation and depletion of biodiversity and other natural resources were and are still manifested in many parts of the world. Agenda 21, a programming tool that could set the planet on a new course towards global sustainable development recommended "the need for integrating environment protection into national development policies and practices". This is to insure that sustainable livelihoods are built on initiatives that provide the means of survival and prosperity without jeopardizing the natural resource base.

The Governments are the main actors in implementing agenda 21. Agenda 21 and all other sustainable development conventions emphasize the need for public participation in decision making and implementation of actions affecting peoples environment and livelihoods. Hence participation from grassroots to the national level remains a fundamental building block for effective environment and natural resources management.

Past environment conservation initiatives have failed due to communication gaps between those who design and manage project interventions and the intended beneficiaries. Lack of involvement in projects affecting their environment and natural resources make communities see conservation as a threat to their traditional lives. Hence community is critical to the effective environmental conservation.

Today many development agents have realized that economic development cannot be realized without conservation of the environment. They also realize that local communities have rights to their natural resources; have a lot of indigenous knowledge on conservation of the environment and have the power to implement and sustain natural resources management activities over a long time.

This paper argues that community participation is a necessary tool in making environmental enforcement and compliance happen. On the same lines, community participation cannot be realized without good governance. Compliance and good governance is associated with among others, assuring respect for human rights, i.e., all humans have a right to clean environment and natural resources including water air, and biodiversity. Community have the right to take decisions on matters affecting their environment and natural resources. Good governance encourage participation in resource management resulting to ownership.

The UNCED process emphasized need for governments to put in place institutions for natural resources management. Many governments have as a result been reviewing their institutions including environmental law and institutions and rearranging and strengthening institutions that deal with environmental management. Many Governments have also improved- access to environmental information, skills, technology and resources for peoples advancement.

For implementation of the Agenda 21, governments have developed several tools to enhance compliance and enforcement of environmental conservation. Some of the tools include Environmental Impact Assessment Tools and Participatory Rural Appraisal.

## **2 PARTICIPATORY RURAL APPRAISAL (PRA) IN ENVIRONMENT AND NATURAL RESOURCE MANAGEMENT**

As the cliché goes, "think globally act locally". This also goes for that little action on the ground to conserve the environment, which also counts globally. Participatory Rural Appraisal is rooted in the conviction that participation and particularly from the grassroots is an essential element of sustainable development.

For many years in Kenya, as in other countries, environmental conservation initiatives have been encouraged. Many of these efforts have failed because the intended beneficiaries do not own the conservation programs which are usually externally planned and imposed on them. This mostly lead to unsustainability of most conservation initiatives. As a result, the environment continues to deteriorate as manifested by among others soil loss, deforestation, destruction of biodiversity and multiple environmental problems in our urban environment.

As the Brutland commission report on the state of the environment in Africa "our common future" reports - "Project failures are especially dramatic in areas of environmental management including soil, water and trees, where adverse impacts have weakened Africa's long-term ability to feed and clothe itself". The Brutland report calls for new perspectives and ways to halt environmental decline and introduce sustainable rural development.

Participatory Rural Appraisal, a community based environment management and development tool, is being used in many parts of the world. The approach is to get the community together, sensitize them to gather environmental data, and develop an action plan to be implemented and monitored at community level.

Participatory Rural Appraisal was developed in the late 1980's by officers from the National Environment Secretariat in Kenya and Clark University in United States. The method has since been used as a tool for development in many parts of Kenya as well as other developing countries. Participatory Rural Appraisal helps local communities mobilize their human and natural resources to define problems, consider previous successes, evaluate local institutional capacities, prioritize opportunities and prepare a systematic and site specific plan of action - a community environment and resource management plan (CERMP) by communities for implementation and conservation of environment and enhancement of economy.

Participatory Rural Appraisal is an excellent tool to bring together development needs defined by community groups on one hand and on the other hand resources and technical skills of government donor agencies and non-governmental organizations. In so doing, it integrates traditional skills and external technical knowledge in the development process. Rather than importing and imposing foreign technologies, Participatory Rural Appraisal utilizes and enhances locally conceived sustainable approaches.

The methodology assumes that:

- a. Rural economic development cannot be realized without environment conservation;
- b. Community participation is a fundamental ingredient in project and implementation and it enlists sustainability of projects as the community internalizes development ideas as their own and, supports the initiatives.
- c. Communities have a good working knowledge of their environment and development needs, but do not necessarily have the means to systemize this information to mobilize commitment to action plan.
- d. Traditional resources management and land use practices are incorporated into contemporary environment and policy decision.
- e. Environment is a common good it and gives a chance to communities to reflect on the real value of environmental resources and services.

### **3 INTRODUCTION TO A CASE STUDY ON PARTICIPATORY RURAL APPRAISAL (PRA) DONE BY NATIONAL ENVIRONMENT SECRETARIAT (NES) IN NZOENI SUB-LOCATION IN KENYA**

The Participatory Rural Appraisal site in Nzoeni sub-location in Machakos District is about eight kilometers from Nairobi, the capital city of Kenya. The terrain is hilly, the climate dry and has an average rainfall in normal years of about 400 - 600mm.

The residents of Nzoeni are Akambas, an agro-pastoralists tribe who originated from Northern Tanzania and entered Kenya through the South East boarder at about 17th century. They settled at the North Eastern and Coastal districts of Kenya.

The National Environmental Secretariat Team (the Team) went to Nzoeni for participatory environment assessment on June 20th 1998. This was after El Nino rains that had spelled havoc in the whole of Kenya as in other countries in the region. These circumstances gave a false impression of Nzoeni as an environment with plenty of flowing water in streams and in marshes and plenty of green grass, shrubs and bushes.

Nzoeni environmental problem derive from the community way of life as follows:

- a. Traditionally the people of Nzoeni like the other Kambas, lived on hill tops for security reasons and especially from the Maasai who used to attack them and steal their livestock. Today many people are settled on very hilly areas;
- b. Increasing land pressures due to overpopulation and more people moving into the area in search of land;
- c. Extension of agriculture and the subsequent constriction of grazing lands are forces that led to accelerated natural resource degradation including loss of ground cover, biodiversity, soil erosion and reduced water availability (the volume of water in natural wells and streams was smaller than it was many years ago even after El Nino rains). By the time National Environmental Secretariat Team visited the area, infrastructure such as roads and bridges had been destroyed. This, coupled with environmental problems, had a lot of negative impacts on the economic, and social welfare of the people and had led to extensive shortage of agricultural production and poverty;

Women's groups in Nzoeni had approached various donor agencies for technical and technical support. The donor agencies felt that Participatory Rural Appraisal should be done before any aid is disbursed. The Assess prioritize communities development needs and commitment to implementation proposed development activities.

A preliminary visit was done by the Team on May 15, 1988 to meet local leaders and to let the leaders know what was expected of them.

This Participatory Rural Appraisal (PRA) exercise in Nzoeni took five field working days. Monitoring and evaluation of the impact will be part of this project. The PRA was carried out as follows:

### 3.1 Data Collection (First day)

On the first day, the chief mobilized the community members both men and women. After short introduction representatives of Nzoeni community were asked why they came to the meeting. The answers given and which were a reflection of community expectations were as follows:

- To learn from the visitors;
- To find out what the visitors brought for us;
- To tell the visitors about our problems;
- To find out whether the youth can be given financial support;
- To find out if our problems can be solved;

The rest of the morning was spent on discussion of seasonal calenders and division of work on gender lines.

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The afternoon of the first day was spent in group works. The community members were requested to draw their village sketch map and insert boundaries, physical features like streams and natural wells, infrastructure like roads and institutions like schools and churches.

The sketch map more than anything else gave an insight to the community on how much natural resources they have.

### 3.2 Village Transect Walk (Second day)

The Team and the community divided themselves into two groups and took a transect walks in two directions, to identify land use, type of soils, vegetation, environmental problems and potential for solving them. The walk also afforded an opportunity for members of the National Environmental Secretariat to interact with the community in an informal manner and learn more about their environment and social economic lives.

The transect walk provided a detailed look at land use practices, present problems and potential solutions. It also helped development agents get acquainted with details of the micro-zone.

Farm Sketches - drawn by the development agents illustrated the validity and potential that can be realized on the land.

### 3.3 Time Line (Third day)

The time line is an aggregate of historical events and their influence on present conditions. The elderly used their age long wisdom to give an account of historical events. This gave an indelible input of experience and understanding of the current state of environment , social and economic situations.

#### 3.3.1 Trend Lines

Trend analysis helped the community perceive change over time in various sectors including population, social development and education, environmental trends, wildlife charges, status of vegetation.

These two exercises reviewed to the community how over time their environment and natural resources had deteriorated.

#### 3.3.2 Village Institutions

The groups of residents ranked community institutions in order of importance and constructed diagrams to indicate the relationships between and among units. An understanding of institutional roles and relations is fundamental to sustainable development. In this analysis women's groups were identified as being in the best position to coordinate and follow up on any development work.

### 3.4 Ranking Problems (Fourth day)

Villagers came together to rank their problems. This work was done in two stages as follows:

- a. On their own, the community ranked their problems as follows
  - Soil erosion
  - Lack of water

- Lack of health/medical centre
- Lack of grain grinding mills
- Lack of boarding schools
- Lack of roads
- Lack of electricity
- Lack of firework
- Lack of firewood
- lack of market for their agricultural produce

The general feeling of the community at this stage was that aid to solve their environmental and economic needs will come from outside.

- b. In the second activity the local community was facilitated by the Team to prioritize their needs and to specify requirements and source of materials and budget. The following was the result in order of importance.

<u>Problem</u>	<u>Requirements/opportunities</u>	<u>Source of Materials/ Funding</u>
A. Lack of water	<ul style="list-style-type: none"> <li>• Build artificial wells</li> <li>• Roof catchment</li> <li>• Conserve natural wells</li> </ul>	<ul style="list-style-type: none"> <li>• Local community</li> </ul>
B. Lack of firewood	<ul style="list-style-type: none"> <li>• Start public and private tree nurseries</li> </ul>	<ul style="list-style-type: none"> <li>• Local community</li> </ul>
C. Soil erosion	<ul style="list-style-type: none"> <li>• Build gabion and bench terraces</li> <li>• Need technical advice on soil conservation activities</li> </ul>	<ul style="list-style-type: none"> <li>• Labor, materials and experience found in the local community</li> <li>• Local agricultural officer will be approached for technical advice if needed</li> </ul>
D. Lack of roads	<ul style="list-style-type: none"> <li>• Need cement and ballast to arrest soil erosion on the roads</li> </ul>	<ul style="list-style-type: none"> <li>• Labor and materials can be found in local community</li> <li>• Ministry of Transport officials will be approached if need be</li> </ul>
E. Lack of Boarding	<ul style="list-style-type: none"> <li>• Build hostels</li> </ul>	<ul style="list-style-type: none"> <li>• Money to be contributed by the community</li> <li>• Outside help to be sought if need be</li> </ul>

The important point about this exercise is that the community reduced and focused their needs better and felt that they had most of the technical, human and financial resources to carry out the Community Environment Natural Resource Management Plan.

### 3.5 Community Environment Resource Management Plan (CERMP) and Follow Up Activities (Fifth day).

The community formed a resource management committee along the lines of the five priority community needs. That way a water and soil conservation committee, road maintenance committee, tree nursery and planting committee were formed

When I visited Nzoeni village on July 15, 1998, work had started and particularly on the infrastructure destroyed by the El Nino rains. Roads and bridges were under repair and the various committees had worked out modalities on community labor and financial contribution towards the community development needs. The National Environmental Secretariat Team will be closely monitoring the progress of Nzoeni Community resource management implementation.

## 4 CONCLUSION AND LESSONS LEARNED

Participatory Rural Appraisal (PRA) provides an organizational structure that focuses and systemizes participation. It assumes that no economic, social and political development can be realized without environment and resource management. The case of Nzoeni is a micro example of good governance and community participation in the drawing of a Community Environment Natural Resource Management Plan for development in the area. In a transparent manner, the members participated in the discussions of their resource opportunities and prioritized their problems. The leaders of various committees were chosen in a transparent manner and after consideration of their commitment and expertise. The community group internalized ideas and recommendations arrived at during the five day PRA work in Nzoeni as their own and were committed to the implementation.

In conclusion, good governance and community participation as shown in the above case study is necessary if environmental enforcement and compliance has to happen. If the community is involved in the early stages of environmental management, they will also be engaged in ensuring and monitoring compliance with its terms.

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## EXPERIENCE OF MALAWI: PUBLIC ROLE IN ENFORCEMENT

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### SUMMARY

The environmental law reform process in Malawi has revealed "new challenges" in the protection, management of environment and the conservation and sustainable utilization of natural resources. A brief evaluation of the current legislation is given focusing on major weaknesses. An attempt is made to explain the low or non-existent enforcement. The "Issues Paper on Legislation, Policies and Institutional frame work" prepared for the National Environmental Action Plan (NEAP) catalogued various reasons for non-compliance ranging from defective legislation, poor arrangement of institutions, lack of political will, economic constraints to cultural and social attitudes. An attempt shall be made to explore the role of communities in enforcement and the effect of their contribution to natural resource protection.

With the current political changes and new initiatives and efforts in the protection and management of the environment resulting in the preparation of the National Environmental Action Plan, National Environment Policy and the Environment Management Act, is there hope of halting environmental degradation?

### 1 INTRODUCTION

#### 1.1 Nature of existing environmental legislation

The existing body of sectoral legislation on environment and natural resources dates back to the colonial era. Sectoral legislation with provisions on environment or natural resources spans across a 'forest' of over forty statutes which unfortunately does not appear to have any coordinating strand (Phiri, 1994). Its most glaring defect is an emphasis on penalties (command and control) rather than on incentives, public participation and co-management to induce compliance.

The situation is compounded by the lack of financial and human resources necessary for effective enforcement and compliance. With a dictatorship single party government and its broad interpretation of issues threatening "public security" there had existed a genuine aura of fear of crossing the thin line of political or economic interests<sup>2</sup>. Yet even in the cases where there was no such fear there is no evidence of any environmental case prosecutions. What exactly then is the problem?

#### 1.2 Institutions

The administration and enforcement of various sectoral legislation was conferred on a number of ministries and departments, city, town and district councils as well as some parastatal organization. The NEAP (Malawi Government 1994) identified not less than 13

central government departments which administer and enforce environmental legislation affecting land, water, fisheries, forestry, plants, wildlife and parks, pollution and public health in general.

In addition, city, town and district councils have been conferred wide powers to make regulations and by-laws affecting any segment of environment and natural resources. These range from provision and maintenance of health services, aesthetic and recreational facilities to enforcement of environmental standards. They are cross-sectoral and more exacting than those shouldered by the government department that deals with the environment.

For instance, councils are empowered to prohibit and control water pollution, to regulate closure of buildings that are unfit for human habitation as well as prohibit and control sale of any wares in the streets. In addition, much of the Public Health Act that deals with sanitation, control of communicable diseases and pests are also administered and enforced by City Councils.

This same observation also is true of parastatal organizations like Water Boards (Blantyre and Lilongwe) and Electricity Supply Commission of Malawi (ESCOM) who have powers to enforce environmental provision in their statutes.

How these institutions related to one another in the performance of these overlapping and sometimes conflicting functions is not clear from legislation (Banda, 1995) indeed, although there seems a clear division of labor between different government departments dealing with various segments of the environment, the weakness lies in the lack of coordination on cross-sectoral environmental issues.

Thus it will be observed that although the Malawi Bureau of Standards is supreme in the formulation of standards, on various fields including the environment, there are other institutions involved in the preparation of standards. A number of organizations, particularly the public sector including government ministries have an element of standardization built into their statutes, creating an apparent conflict and proliferation of standards (Phiri 1994). The glaring defect of this development is that there are other equally important segments of the environment that have not been addressed fully either because other institutions claim responsibility or just that uncertainty exists over who should perform which functions and exercise what powers.

Another inconsistency is that the enforcement of regulations made under the Land Act, which stipulate that 10% of all leased land for agriculture purposes must be devoted to forest cover, is supposed to be the province of the Ministry of Lands and Valuation and not the Department of Forestry (Malawi Government 1994:45). There is also lack of general environmental principles to provide guidance and coherence to natural resources (ibid. 13).

In order, therefore, to achieve effective environmental management coordination there is need for a comprehensive national environmental policy supported by umbrella framework legislation to operate like a kind of environmental constitution. Without such comprehensive and unified policy the result would be a collection of fragmented short term and often conflicting policies. This naturally would result in uncoordinated and sometimes confusing legislation. The Environmental Management Act therefore foregrounds the need for review, formulation and harmonization of sectoral legislation and implementing regulations.

## **2 LEGISLATIVE REFORMS**

### **2.1 National Commitment**

Malawi's statement of Development Policy (1997-1996) states that the country's development objective is sustainable economic growth with poverty reduction. Sustainable development is a people centered objective and it has at its core the need to meet peoples' basic needs without compromising the ability of future generations to meet their own needs (Khalikane, et al 1994: 4, 5) i.e. reconciliation of environmental and economic values.

It requires a change in attitudes and priorities toward population growth, environmental and economic values. The "laws" of nature are unaffected by human choice, but behavior that disregards those "laws" invites environmental degradation and ultimately economic and ecological impoverishment (Cadwell 1990: 210).

The current government has also taken as its major development priority the theme "poverty alleviation." Such a program can only be successful within the confines of sustainable development. It can be observed that nature is not wholly beneficent but is nonetheless the foundation of human welfare, survival and opportunity. It was in recognition of these reasons that when the Malawi Government launched the National Environmental Action Plan (NEAP) it stated that: "It should be used as a reference document by all planners and developers to ensure that environmental protection and management are integrated into development programs".

This is amplified in the Constitution (Section 13 and 13 (d) which requires the state to promote the welfare and development of the people of Malawi by progressively adopting and implementing policies and legislation aimed at achieving the following goals:

- 1) To manage the environment responsibly in order to:
  - (i) to prevent the degradation of the environment;
  - (ii) provide a health living and working environment for people of Malawi;
  - (iii) accord full recognition to the rights of future generations by means of environmental protection and sustainable development of natural resources; and
  - (iv) conserve and enhance the biological diversity of Malawi;

## **3 ENVIRONMENTAL MANAGEMENT ACT 1996**

In a serious effort to resolve some of the problems highlighted in this discussion the Government recently enacted the Environment Management Act. It confers the duty to promote the management and protection of the environment and the conservation and the sustainable utilization of natural resources' to the Minister for Forestry, Fisheries and Environmental Affairs (MOFFEA). It further outlines explicitly the role of MOFFEA as follows: to formulate and implement policies; to coordinate and monitor activities; and prepare plans and develop strategies for the protection and management of the environment and the conservation and sustainable utilization of natural resources and to facilitate cooperation between Government, local authorities, private sector and the public in the protection and management of the environment and conservation and sustainable utilization of natural resources.

MOFFEA is required to 'initiate, facilitate or commission research and studies' on 'any aspect of the protection of the environment and natural resources'. MOFFEA is given the duty to coordinate the promotion of public awareness on the protection and management of the environment and the conservation of the natural resources; monitor trends in the utilization of natural resources and the impact of such utilization on any segment of the environment, and to receive and investigate any complaint by any person relating to the protection and management of the environment and the conservation and sustainable utilization of natural resources. The Act recognizes the need for joint efforts in the protection of the environment and natural resources and calls upon MOFFEA to play a leading role in the promotion of international and regional cooperation in the protection and management of the environment and the conservation and sustainable utilization of natural resources shared between Malawi and other countries.

In addition there has been created under the Act a body called the Council which shall consist of private sector, academic and interministerial representation. This body shall be responsible for:

- a. advising the minister on all matters and issues affecting the protection and management of the environment and the conservation and sustainable utilization of natural resources;
- b. recommending to the Minister measures necessary for the integration of environmental consideration in all aspects of economic planning and development; and recommending to the Minister measures necessary for the harmonization of activities, plans and policies of lead agencies and non governmental organizations concerned with the protection and management of the environment and the conservation and sustainable utilization of natural resources.

This private sector/interministerial council has broad membership due to the multilateral Nature of Environmental issues and the need to ensure that concerns of all relevant sectors are taken into account in policy formulation. This council shall be served by a Technical Committee consisting of not less than ten members, each of whom shall have sufficient knowledge and training in the protection and management of the environment and the conservation and sustainable utilization of natural resources.

In keeping with the on-going decentralization process the District Development Committee has been given the duty to promote environmental management and ensuring sustainable usage of natural resources and confers on them the additional power to coordinate various activities of government and non-governmental organization in the protection and management of the environment at district level.

Malawi is a signatory to a number of international and regional treaties, conventions and agreements, and yet follow up and implementation of their obligations is still defective. In order therefore to ensure proper coordination the duty to recommend to Government which conventions, treaties or agreements Malawi should ratify is conferred to MOFFEA and the Council.

Finally, MOFFEA shall on recommendation of the Council prescribe projects or classes or types of Environmental Impact Assessment; environmental quality criteria and standards and take such steps and other measures necessary or expedient for the administration and achievement of the objects of the Act.

The Act goes on to allay fears of other Ministries, Departments and organizations of being "divested of their powers" conferred by existing pieces of legislation and emphasizes that MOFFEA shall act in consultation with the 'Minister responsible for any segment of the environment'.

It explicitly stipulates that all organizations and institutions shall continue to exercise the powers, functions, duties or responsibilities conferred or imposed on them by any written law relating to the protection and management of the environment and the sustainable utilization of natural resources (EMA Section 6). Further, the Act says, "all natural and genetic resources belong to the people of Malawi". This marks a departure from the previous position where all such resources were held by the President on trust for the people.

#### **4        SECTORAL LEGISLATION AND ENFORCEMENT**

Sectoral legislation consists of the largest body of environmental "regulations". Consisting of statutes spreading tentacles over a broad spectrum of environmental segments ranging from land, soil, water, fisheries, forestry, wildlife, pollution, physical planning and construction. In their "Issues Paper" the Legal Task Force No. 15 (Phiri 1994) observed that the corpus of environmental sectoral law in Malawi had developed in a rather reluctant, piecemeal and ad hoc fashion evidenced by rather numerous and sometimes apparently conflicting statutory instruments relating to environmental protection and sustainable development.

Another report prepared by the Government entitled the "Reform of Environmental Legislation in Malawi: Determining the Scope and Need for Sectoral Reviews" observed that Malawi relies heavily on a command and control approach, as evidenced by the heavy reliance on penalties to induce compliance with environmental and natural resource norms and legislation. The level of penalties was in some cases extremely low particularly among sectoral laws besides the obvious lack of capacity to enforce those penalties. This is mostly due to not having personnel to police natural resources and prosecute; not enough vehicles or fuel to monitor; no requisite equipment necessary to quantify the levels of violation in cases of pollution and low incomes for rangers (i.e. game, forest, fisheries and land) making them prone to bribes and not being motivated<sup>3</sup>. The Director of Public Prosecutions and Police are often overwhelmed by various crimes that have blossomed since multiparty system of Government was adopted. This has been worsened by the ending of the Civil War in neighboring countries which has resulted in most arms ending in the hands of criminals, hence the rise in armed robberies. With such background prosecutions have concentrated on the crimes regarded by society as more serious than cutting down trees, disposing waste carelessly and illegally or cases of pollution.

It is not surprising therefore that (Phiri 1994) concludes " that the laws are observed more in breach, and the observance of regulations in this regard seem to be more of an exception than the general rule."

#### **5        ENHANCEMENT OF PUBLIC ROLE IN ENFORCEMENT**

In order to improve environment management and the protection of natural resources there has been deliberate shift in policy and legal instruments to enhance the role of citizens at different levels. It is almost the practice now that chiefs, religious leaders, extension workers and other local leaders are consulted on most legal and policy issues concerning the environment and natural resources.

Further the Environment Management Act has provided for the participation of local communities at various stages.

### 5.1 Citizen Rights

The Act provides that every person shall have a right to a clean and healthy environment and any person may bring an action in the High Court. However, as experienced in other common law countries "locus standi" has been the problem and an attempt was made in Malawi to circumvent this hurdle by providing that " any person may bring an action without having to show that they have suffered any harm or injury " This however met with very stiff resistance so that the clause had to be amended before being tabled for debate in the National Assembly.

As observed by Susan Casey- Lefkowitz in her article "A Comparative Look at the Role of Citizen in Environmental Enforcement ", a substantial hurdle to citizen participation exists if government agencies and courts are reluctant to grant standing to citizen groups or individuals in administrative or court proceedings. This is so because citizen or local community participation has to be linked to a personal stake in the outcome of the case. The citizen must be able to show personal injury or harm or show potential threat of some personal harm.

It had been anticipated that NGO's and environmental groups with citizens support would have been able to fill the gap and force the Government in certain cases to act. It was a radical proposal and many feared that it would open " floodgates" of litigation, whilst others despite being sympathetic to the proponents, genuinely feared that it would have offered a chance to "dubious" groups, whose intention is to frustrate the Government with unnecessary, frivolous and vexatious actions. No wonder, Tracy Dobson in her article; " Radical Restructuring of Environmental Policy to Preserve Biodiversity in Southern Africa; Malawi at the Crossroads laments that the " loss of the standing provision will mean that the status quo prevails, in which, the government remains solely in charge of enforcement."

### 5.2 Role of Communities as Reflected in New Sectoral Legislation Regime

#### 5.2.1 Forestry Act, 1997

There is however, an improvement and hope in the new sectoral legislation relating to natural resource protection. The new Forestry Act (1997) has provided for community participation. In particular Part Five provides for the promotion of participatory forestry on customary land through protection, control and management of trees and forests by the people on customary land, the demarcation and management of village forest areas, ownership of indigenous forest trees, establishment of tree nurseries and regulation of forest produce.

The Director of forestry representing the government may allocate to any village headman or chief a village forest area which would be protected and managed by the village community in a prescribed manner. Further the Director may provide assistance, and allow the community to dispose of the forest produce and use revenue for their own needs. In view of this, various Village Natural Resources Committees have been formed and forestry management agreements concluded. The Blantyre City Fuelwood Project has provided assistance to Village Natural Resources Committee through the provision of equipment, training in forest management and organization and formation of Village Natural Resources Committees. These committees have formulated their own rules for the protection of forests and are able to enforce penalties on violators.

There is a need, however, to strengthen this concept through public awareness. One Forest Officer recounted that on one occasion a Village Natural Resource Committee member was arrested by the police when he tried to stop a group of people cutting their Village Forest Reserve. He observed sadly that when the committee member tried to stop the group of offenders from cutting the trees without authority from the Chief, a fight broke out and the police just arrested everyone, and worse still, the Committee member had no money to pay as security to be granted bail. The Director of Forestry eventually paid the security sum required to secure bail for the member. The Forest Officer felt that it was clear that the concept of public enforcement or participation needed to be imparted to the police force as well as the judiciary. Several chiefs and village headmen felt that the role of communities could be enhanced by the reintroduction of Traditional Courts. Traditional Courts were abolished in Malawi in 1994 because their notorious record during the previous one party reign of Dr. Banda<sup>4</sup>.

### 5.2.2 The Fisheries Conservation and Management Act, 1997

Just like the new Forestry Act 1997, the new fisheries legislation has gone a long way towards the strengthening of village communities to play a leading role in the protection of fish stocks. In particular the Act has provided for local community participation in Part Three. The purpose of this Part is to allow for the development of local participation in the conservation and the management of fisheries. It paves the way for the establishment of village community institutions, such as, Beach Village Committees referred to in the Act as fisheries management authorities (Section 2). It further outlines conditions for setting out such committees. It provides for the preparation of fisheries management agreements. These are mutually acceptable agreements that may be entered into between the Director of Fisheries and Beach Village Committees, on how best to set out regulations and manage fish sustainably. Further the Minister responsible for fisheries has been conferred powers to make rules and by-laws for the better operation of Fisheries Management Authorities (Section 9).

However, I regard to the role of the public or local community, the provisions in the fisheries conservation and management are more elaborate than in the Forest Act which has tended to limit the participation of community to customary land. This could be as a result of lessons drawn from a pilot community management on Lake Malombe, one of Malawi's lakes. This has been a carefully watched project that involves the formation of what are called Beach Village Committees (BVC). The Beach Village Committees cooperate in carrying out their tasks with the Fisheries Department to develop regulations and report violation cases where efforts to persuade offenders to change their behavior have failed.

## 6 THE WAY FORWARD

The examples set out by the two pieces of natural resource legislation i.e. Forestry and Fisheries need to be emulated and encouraged in Malawi. There is a need, however, to invest a lot more resources to continue meeting training needs of the communities and help them to acquire necessary skills to develop better agendas, maintain records and become well informed communities. There is a greater need for commitment on the part of Fisheries and Forestry Department officials, and enhancement to encourage communities by exploring more and more innovative ways of cultivating change of attitude towards natural resources and encourage sense of responsibility, and ownership. Susan Casey Lefkowitz (June, 1997) in her article makes similar observations when she concludes that "the strengthening of civil society around the world, allows citizens to have a better understanding of their role, rights and responsibilities related to social, political environmental conflicts and be more willing and able

to supplement government efforts in the enforcement of environmental and natural resources laws<sup>5</sup>. Another observation is that public involvement has the potential to transform environmental protection statutes and regulations from aspirations into reality<sup>6</sup>.

## 7 CONCLUSION

The crippling financial constraints which have resulted in reduced funding to various agencies responsible for the management and protection of the environment and natural resources in Malawi, lack of trained personnel to assist in policing, besides the obvious avalanche of problems besetting environmental and natural resource enforcement substantiated in this Paper, should encourage policy makers to invest in strengthening the role of citizens and community institutions to enable them to meaningfully and effectively supplement government efforts in enforcement. In return government should provide incentives and give tangible benefits to the communities. There is a need however, for patience, sacrifice and commitment by those involved in the implementation of this radical and pragmatic change of policy in environmental protection for it might take a little more time to yield positive results.

## ENDNOTES

1. Views expressed in this paper are not necessarily those of the Government of Malawi but of the author writing as a scholar of environmental law.
2. Malawi was ruled by a despot Dr. Hastings Kamuzu Banda, who for over 30 years ruled with an iron fist, resisting any kind of opposition and eliminating his enemies until he was defeated in 1994 Presidential Elections, following a referendum of 1992 which ushered in a multiparty system of Government.
3. This claim was refuted by various Departments but of late evidence has surfaced confirming claims that some forest rangers and land rangers have been involved in receiving bribes in exchange of various mal practices.
4. Tradition Courts which administered customary law were notorious because of their lack of independence due to obvious political manipulation in their proceedings. Their standard of proof was not "not guilty until proven guilty" but "no smoke without fire" (Republic versus Albert Andrew Muwalo and Focus Martin Gwede) (unreported) "The mere fact that one is alleged to have committed an offence, is itself enough evidence that he or she must have committed the offence.
5. Casey-Lefkowitz, Susan, Comparative Look at the Role of Citizens in Environmental Enforcement, National Environmental Enforcement Journal, June 1997, page 42.
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## **PUBLIC ACCESS TO COMPLIANCE MONITORING AND ENFORCEMENT DATA: A LOOK AT THE SECTOR FACILITY INDEXING PROJECT AND OTHER AGENCY INITIATIVES**

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### **SUMMARY**

Achievement of improved compliance and higher levels of environmental control requires a mix of new and old approaches to environmental regulation. One category of new approaches relies on increased public accountability through the dissemination of facility-specific compliance data to inform the local community and to enable the facility to benchmark its own performance. The U.S. Environmental Protection Agency's (EPA) Sector Facility Indexing Project is an example of such an approach. Other approaches provide easier public access to Agency guidance/policy documents and environmental data to allow independent analysis and informed decision making by communities, regulated facilities, and the government. Use of these methods to improve public access to information requires responsible data collection, continued attention to data quality, and resources to take advantage of automated, electronic means of communication. The U.S. and other nations may find that these new approaches to data collection, analysis, and dissemination can prove beneficial in addressing noncompliance problems with certain industries. This paper discusses current U.S. EPA public access initiatives, with particular emphasis on the Sector Facility Indexing Project.

### **1 INTRODUCTION**

The past 25 years of environmental regulation have brought about significant environmental improvement in the United States. Despite this progress, however, environmental problems still remain to be addressed. Forty percent of our lakes and rivers still don't meet water quality standards, one in five Americans live in areas where the air still does not meet public health standards, and there is an increase in illnesses or chronic conditions such as asthma and breast cancers that may be attributable to environmental pollution. As problems with more complex causes emerge and are brought under the regulatory umbrella, programs to monitor compliance need to look to new tools and approaches to collect relevant information and to improve facility performance.

While the Agency has long recognized the value of collecting compliance data to help in understanding compliance trends and in targeting enforcement efforts, the data have not been easily accessed by the public. Since the late 1970's, EPA regulations have required facilities to self-monitor and report the monitoring results to the appropriate regulatory authority (EPA, state, local). In addition, EPA and other regulatory authorities periodically check on the compliance of facilities via inspections. While the self-monitoring and inspection data have

been entered into the appropriate databases, these databases have not always been readily accessible to the public nor have they existed in a user-friendly format. Public knowledge of a facility's environmental performance can be a powerful incentive to that facility's achievement of compliance with environmental requirements. Now, with the evolution of computer and communications technologies, we are able to take the environmental data we require facilities to report and regulatory authorities to collect and make the data readily available to the public and to industry.

### 1.1 The U. S. Environmental Protection Agency's (EPA) Re-invention Agenda

Declaring that new approaches and techniques were needed to achieve desired higher levels of environmental improvement, the Administration issued in 1995 an agenda of actions to "re-invent" environmental regulation. Prior approaches to regulation featured performance requirements closely aligned with technology-specific solutions incorporated into regulations or permits issued by the regulating authority (EPA or the State). These permits allowed for discrete, limited opportunities for input by affected parties such as the facility or the community where that facility was located. The re-invented approach to environmental regulation features more collaborative decision making, open accountability for all parties (regulator, regulatee, community), and a greater emphasis on reaching a measurable environmental goal rather than the method(s) to achieve it. These three elements require shared information and targeted data analyses to be successful.

The 1995 Re-invention Agenda also noted that flexibility and creativity in setting and meeting environmental requirements must be premised on continuing and increasing compliance with those requirements. New incentives to comply and assistance to the regulated community can be provided, but only in a context of maintaining a level playing field and providing a deterrent threat through a strong targeted risk-based enforcement program.

### 1.2 Re-inventing Environmental Information

Compliance and risk-based enforcement in this new framework required new approaches to analyzing and presenting facility-specific information as well as a new perspective on the value and responsibility of disseminating information for public use. To direct the Agency's efforts in this, in 1998 the EPA Administrator issued a directive called "Re-inventing Environmental Information." It called for renewed efforts by the Agency to develop standardized data elements, to integrate its data systems, to work collaboratively with the States as co-owners of the data systems, and to promote new approaches to collecting and disseminating data such as use of electronic reporting and public access to Agency policies.

This paper discusses four very different Agency efforts to formulate and disseminate data to achieve, or at least contribute to, better performance by regulated facilities and to promote greater compliance. This paper provides expanded information on one project in particular, the Sector Facility Indexing Project, because it represents one of the first efforts by the Agency to provide up-to-date compliance data on specific facilities within certain industrial sectors, presented in a framework to promote comparison and bench marking. The other three public access projects described in this paper focus on the issue of making Agency data, guidance documents, and policies generally and broadly accessible.

## 2 SECTOR FACILITY INDEXING PROJECT

The Sector Facility Indexing Project is a pilot project that provides up-to-date environmental compliance information on a facility-specific basis, accessible to the public via the Internet at [www.epa.gov/oeca/sfi](http://www.epa.gov/oeca/sfi). This section of the paper will discuss the Sector Facility

Indexing Project, beginning with an overview, followed by a discussion of the project goals, the data included in the project, and finally, measures that were and are taken to address data quality concerns.

2.1 Introduction and Overview

The Sector Facility Indexing Project is a pilot project that makes it easier for the public to access, via the Internet, a wide range of environmental compliance information about regulated facilities. The Sector Facility Indexing Project currently contains records for 653 facilities in five industry sectors: petroleum refining, iron and steel production, primary nonferrous metal refining and smelting, pulp manufacturing, and automobile assembly. In the past, these records, although public, were very difficult for government and public users to access because they were spread across many different databases. Under the Project, EPA has integrated this information so it can be viewed in one place, and can be used to better understand overall facility environmental records.

The Sector Facility Indexing Project, in its current pilot stage, will allow EPA to gauge the level of public interest in examining records regarding government oversight of regulated facilities, facility compliance with environmental laws, and the overall pollutant releases that are reported. Initial statistics on the use of the Sector Facility Indexing Project Website provide some preliminary indication of interest in the facility data. Figure 1 shows that the Sector Facility Indexing Project Website usage for both user sessions and total hits has reached a relative steady state since the site was launched on May 1, 1998. (A "user session" is a discrete period of activity generated by a unique user, while a "hit" is an individual action such as page views or file downloads.)

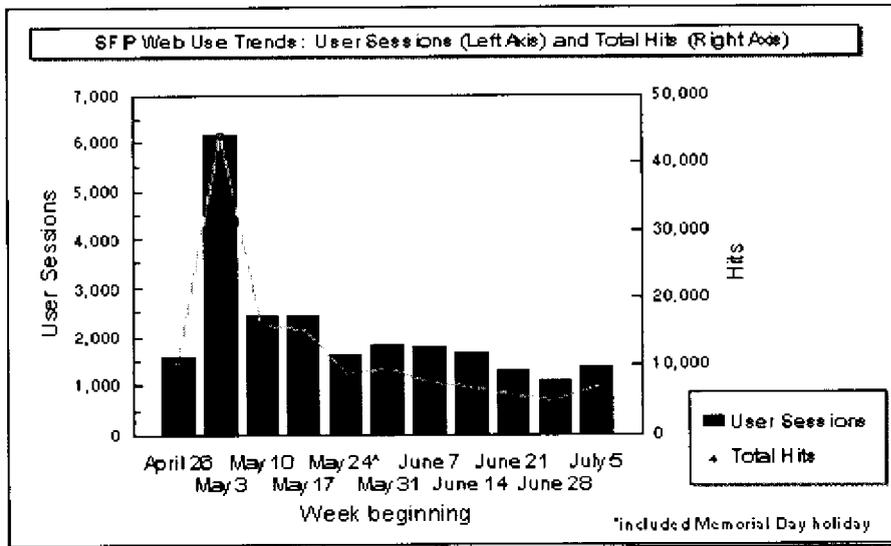
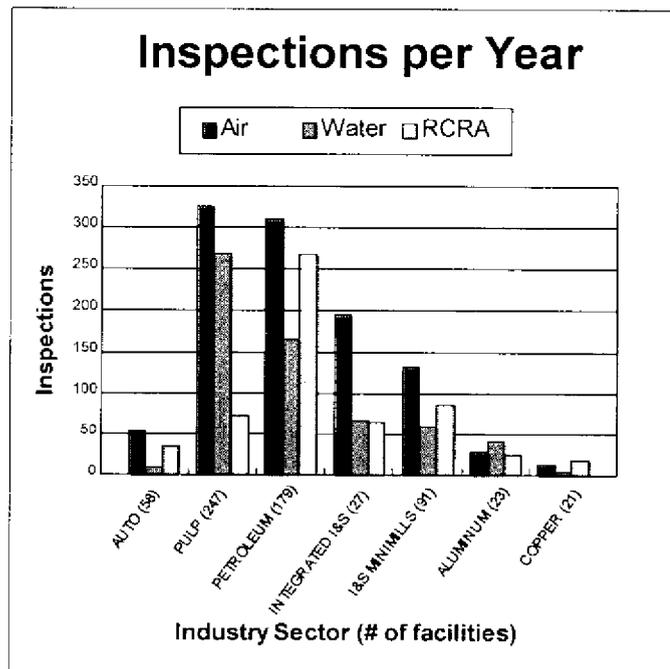


Figure 1 Sector Facility Indexing Project (SFIP) Website Use Trends (Website was launched on May 1st, 1998)

## 2.2 Goals of the Sector Facility Indexing Project

EPA anticipates that the Sector Facility Indexing Project will provide better public access to facility environmental records. It also will further the dialogue between regulated businesses, their surrounding communities, and state, local and federal governments. The Project will assist the public in examining and comparing records of individual facilities in nearby communities, will assist businesses and corporations in tracking their own performance, and also will be a useful planning and analytical tool for governments and regulatory agencies. For example, Figure 2 illustrates how regulatory agencies may use the Sector Facility Indexing Project to compare data across sectors to determine how often facilities within each sector are being inspected under the air, water, and waste programs.



**Figure 2** The Sector Facility Indexing Project allows for sector comparisons, here showing number of inspections (by federal, state, and local governments) per year by sector for each of the major regulatory programs.

While the Sector Facility Indexing Project examines only a limited number of facilities, the Project will be used to understand what data are important to the public so that access to a greater number of facility records can be provided in the future. This approach also will allow EPA to study the impact of public access on environmental performance by regulated facilities. EPA anticipates that improved public access to data will provide an additional incentive for companies to maintain exemplary environmental records, and may encourage some companies to improve their performance and solve existing problems without government intervention. It also should lead to increased accuracy in self-reporting.

The project is being released in two formats: hard copy and electronic. The hard copy Sector Facility Indexing Project Progress Report is a publication that provides aggregated, pre-formatted information. The Sector Facility Indexing Project Website is designed as an interactive tool that allows users to customize the information displayed for their analytical needs and delve into more detailed facility records than are included in the Report version. The Website platform also will allow EPA to provide more frequent updates than the hard copy version.

### 2.3 Overview of Data Presented in the Sector Facility Indexing Project

EPA presents several categories of information in the Sector Facility Indexing Project. The inspection, compliance, and enforcement data focus on three important environmental statutes: the Clean Air Act, Clean Water Act, and Resource Conservation and Recovery Act (which regulates the disposal of solid and hazardous wastes). In most instances, EPA delegates administration of these laws to state and local governments who in turn report their activities to national data systems. In the U.S., state/local authorities perform the majority of inspections under federally delegated programs. The federal EPA performs inspections when a program has not been delegated to a state or in a state oversight capacity. Therefore, while EPA Regional Offices do enter some data directly, the sources of most inspection, compliance and enforcement data presented within this project are from state governments and their local government partners. When assessing the compliance status of individual facilities, government inspections and/or data reported directly by facilities are used by states and EPA to determine whether these facilities are in compliance with environmental laws. These determinations are then logged into federal databases (see section 2.4).

EPA and state/local enforcement actions may be taken and penalties assessed when established enforcement policies indicate that government sanctions are necessary. These enforcement activities and penalties are then entered into the databases. In addition to basic compliance and enforcement data, the Sector Facility Indexing Project also provides information reported by facilities regarding the amount of chemicals released and transferred during plant operations, incidents in which chemical spills were reported, and overall facility production levels. The Project also provides demographic information, such as the estimated number of people living nearby, and the education and income levels of the surrounding population. The information contained within the Project is organized by industry sector so that users can view facility-level information for all facilities that make similar products. Users cannot assume that all facilities within a sector are exactly the same — they are not; however, the close similarities across facilities within each sector do allow some degree of comparison.

Table 1 provides an example of the Sector Facility Indexing Project facility-level information aggregated for all facilities within the pulp manufacturing sector. It illustrates, for example, that of the 247 pulp manufacturers included within the Sector Facility Indexing Project database, an average of 5.4 inspections (air, water, and waste) were conducted over the last eight quarters. It also indicates that while 19.4% of the pulp manufacturers currently are in significant noncompliance under the air program, none of the facilities currently are in significant noncompliance under the Resource Conservation and Recovery Act (hazardous waste) program. (Significant noncompliance provides an indication of whether violations or noncompliance events at a given facility may pose a more severe level of environmental threat; the term for significant noncompliance in the air program is known as a significant violation.) See Table 2 for a description of the indicators presented in Table 1.

**Table 1 Example of a Sector Facility Indexing Project aggregate data summary for the pulp manufacturing sector**

The following tables present the average values calculated for the facility-specific indicators generated and compiled by Sector Facility Indexing Project. For example, of the 247 Pulp Manufacturers included within the SFIP database, an average of 5.4 inspections (Air, Water/RCRA) were conducted over the last eight quarters. In 1996, pulp manufacturers released an average of 1,009,463 pounds of TRI chemicals of which 94,718 pounds were carcinogens.

Inspections (2 years)				Historical Noncompliance (Quarterly periods with 1 or more violations or noncompliance events)				Permit Exceedences - Clean Water Act (2-year data)			
Air	Water	RCRA	Total	Air	Water	RCRA	Total	# of Pollutants Over Limit	# of Pollutants Regulated	# of Reports Over Limit	# of Reports Submitted
3.1	2.7	0.5	5.4	1.0	1.6	0.6	2.6	2.0	12.5	6.0	382.4

Current Significant Noncompliance Indicator			Closed Enforcement Actions(2 years)			
Air	Water	RCRA	Air	Water	RCRA	Total
% of Facilities	% of Facilities	% of Facilities				
19.4%	7.7%	0%	0.3	0.2	0.0	0.5

Production Capacity	TRI Release	TRI Off-Site Transfers	Ration of Chemicals Released & Transferred to Capacity	TRI Releases-Carcinogens
Short Tons/CalendarDay	1996 - Pounds	1996 - Pounds		Pounds
1,016	1,009,463	201,719	1,178.0	94,718

TRI Releases & Transfers - Metals	TRI Production-Related Waste	Pollutant Spills (last 2 years)			Estimated Surrounding Population
Pounds	Pounds	% of Facilities with Spills	# of Spills	Amount Spilled - Pounds	Residents within 3 Miles
39,143	7,129,139	37.7%	3.6	11,879	24,957

**Table 2 Description of Indicators in the Sector Facility Indexing Project**

Indicator Type	Indicator Description
Inspection Data	Presents the number of state/local and federal inspections that have occurred at each facility examined under the project.
Noncompliance Data	<p>Historical Noncompliance - This indicator provides information regarding whether facilities were considered in noncompliance during any of the eight quarterly periods over the last two years. This measure indicates whether violations were detected, but does not indicate the severity of the violations. Background data are available through the Sector Facility Indexing Project in the detailed facility reports; such data provide more information regarding the actual problems that occurred. This indicator is most useful in assessing whether there are historical patterns of compliance or noncompliance at facilities.</p> <p>Current Significant Noncompliance - This indicator provides the most recent status for the facility in regard to whether more severe noncompliance has been detected. This indicator does not provide an historical measure, but is designed to capture current noncompliance events that are considered important by regulatory agencies. The determination of Significant Noncompliance status is made only by the state or federal government.</p> <p>Discharges Over Permitted Exceedances - This indicator, which is only available for the Clean Water Act, provides the user with information regarding the number of times facilities report their water discharges, and how often and for what pollutants these discharges are over permitted levels.</p>
Closed Enforcement Actions Data	This indicator shows whether administrative enforcement actions or civil/judicial enforcement actions have been taken by the state or federal government against each facility for violating environmental law. Background information available through the Sector Facility Indexing Project also provides more details regarding the nature of each action, and any associated penalties.
Production Data	Information regarding the production capacity is provided for each facility as an indicator of the overall production and a surrogate for size and complexity of the facility's operations. Data sources vary for each sector.
Chemical Release and Transfer Data	<p>Toxics Release Inventory (TRI) Data - Facilities meeting reporting thresholds are required to annually self-report the amount of chemicals released to the environment, and any that are transferred off-site. This information (known as ATRI data@) is provided for each reporting facility. It is not a measure of compliance as the reported releases are typically permissible under current laws.</p> <p>TRI Off-Site Transfers - Total pounds of TRI chemicals either discharged to a sewer system or shipped off-site for disposal or treatment.</p> <p>Ratio of Chemicals Released &amp; Transferred to Capacity - Pounds of TRI chemicals released and transferred offsite is divided by facility production or capacity (units differ by sector). The ratio of TRI chemical releases and transfers to production or production capacity is designed to indicate differences in chemical releases per unit of production for facilities producing similar outputs.</p> <p>TRI Releases-Carcinogens, Metals, Related Waste - Pounds of known or suspect carcinogens released to the air or water, disposed of via underground injection, or landfilled on-site; pounds of metals and metal compounds (only the metal portion of metal compounds) which were either released or transferred off-site; pounds of TRI chemicals contained in production-related waste prior to recycling, treatment, energy recovery or disposal.</p> <p>Pollutant Spills Reported to Emergency Response Notification System (ERNS) - Facilities are required to report spills or accidental releases to air, water, or land that are not a part of normal operations. The Sector Facility Indexing Project indicator shows whether a spill has been reported during the last two years. More detailed background information is available through the Sector Facility Indexing Project in the detailed facility report for ERNS which includes: when each spill occurred, what chemical or mixture was released, and the approximate amount released.</p>
Demographic Data	Estimates of the population living in the surrounding three miles are provided through the Sector Facility Indexing Project in the facility-level statistics. In addition, the detailed facility report provides more detailed demographic data (e.g., racial mix, education status and income level). Source of data is the Bureau of Census.

#### 2.4 Regulatory Program Data Contained within the Sector Facility Indexing Project

Facility data from three major EPA regulatory programs are included in the Sector Facility Indexing Project: the Clean Air Act, the Clean Water Act, and the Resource Conservation and Recovery Act. Facilities regulated by these programs are subject to federal/state/local authority inspections as well as self-monitoring protocols. The results of these inspections and self-monitoring events are ultimately entered into databases that feed the Sector Facility Indexing Project. A brief description of each of these regulatory programs follows.

- Clean Air Act (CAA) - Facilities releasing air pollutants that are subject to Clean Air Act requirements are inspected to ensure that established emission levels and regulated operating procedures are being followed. The result of these inspections, and self-reports that are provided by the facility, determine the compliance status of each facility.
- Clean Water Act (CWA) - National Pollutant Elimination Discharge System (NPDES) - Facilities self-report whether they are above or below pollution discharge limits that are established at each facility based upon government-established permit limits. These reports, along with the results of periodic government inspections, determine whether facilities are considered in or out of compliance.
- Resource Conservation and Recovery Act (RCRA) - Facilities that generate and manage hazardous wastes are required to meet established regulations regarding storage, transport, treatment, and disposal. Compliance with these requirements is ascertained by inspections and file reviews. The result of these compliance monitoring activities determine the compliance status of each facility.

#### 2.5 "Indicators" Contained within the Sector Facility Indexing Project

Many of the Sector Facility Indexing Project indicators shown in Table 1 are aggregated from raw data contained in EPA databases. To the extent possible, Sector Facility Indexing Project allows data users to view the raw data to give more context to broader aggregate indicators. For example, if a facility is shown as having one closed enforcement action, the underlying data would provide details on the event to which the enforcement action pertained, when it happened, and whether an associated penalty resulted and the amount. This layered approach allows for comparative analysis, and more thorough inquiry regarding individual facility records.

Figure 4 illustrates facility-level statistics for a particular pulp manufacturing facility (the facility ID number, name, city, and state have been deleted for the purposes of this paper) in the Project database. The statistics indicate that this facility is in significant noncompliance for the air program and has had an air enforcement action closed within the past two years. Should the user wish to know more about this facility, such as more details about the demographic profile of the area surrounding the facility, the user may access a detailed facility report in the Sector Facility Indexing Project. Table 4 illustrates the demographic portion of the detailed facility report for the same facility shown in Table 3.

**Table 3 Example of facility-level statistics for a particular pulp Manufacturing facility in Sector Facility Indexing Project**

Table 1 - Facility Statistics											
SFIP ID: PAP.M 95 Facility Name: Deleted City: Deleted											
Inspections (2 Years)				Historical Noncompliance (Quarterly periods with 1 or more violations or noncompliance events)				Permit Exceedances - Clear Water Act (2 Years)			
Air	Water	RCRA	Total	Air	Water	RCRA	Air/Water/RCRA	# of pollutants over limit	# of pollutants regulated	# of reports over limit	# of reports submitted
0	2	0	2	1	7	8	8	0	13	0	198

Current Signification Noncompliance Indicator				Closed Enforcement Actions (2 Years)			
Air (Y/N)	Water (Y/N)	RCRA (Y/N)	Air/Water / RCRA	Air	Water	RCRA	Total
Y	N	N	1	1	0	0	1

Definition of Codes:  
 Air, Water, RCRA: NP = No permit was found  
 Toxics Release Inventory (TRI): NC = No calculation due to missing values.

Table 2 - Facility Size, Chemical Release and Demographic Data								
SFIP ID: PAP.M 95 Facility Name: Deleted City: Deleted								
Production Capacity	TRI Releases (1995 Pounds)	TRI Off-site Transfers	Ratios of Chemicals Released & Transferred to Production	TRI Releases-Carcinogens (Pounds)	TRI Releases and Transfers - Metals (Pounds)	Total Waste Generated (Pounds)	Pollutant Spills (2 Years) One or more report	Estimate Surrounding Population Residents within 3 miles
1,625	617,002	0	379.69	23,416	0	11,303,496	Y	4,198

Definition of Codes:  
 Air, Water, RCRA: NP = No permit was found.  
 Toxics Release Inventory (TRI): NC = No calculation due to missing values.

**Table 4 Demographic profile extracted from the Sector Facility Indexing Project detailed facility report for the same facility shown in Table 3**

Demographic Profile of Surrounding Area - Summary Based On 1990 Census Block Group Data							
Radius of Area:	3 Miles	Land Area:	95.61%	Households (HH) in area:	1,688		
Center Latitude:	44.4797	Water Area:	4.39%	Housing units in area:	1,825		
Center Longitude:	-70.1973	Population Dens:	148.47/sq. mi	HH On Public Assistance:	191		
Total Persons:	4,198	Percent Minority:	1.64%	Persons Below Poverty Level:	664		
Race:	Persons	(%)	Age:	Persons	(%)	Education:	Persons
						(Persons 25 & older)	(%)
White:	4,174	(99.43)	Child <6 years:	383	( 9.12)	Less than 9th:	334
African-american:	5	(0.12)	Minors <18 yrs:	1,158	(27.58)	9th-12th:	394
Hispanic-Orig:	46	(1.10)	Adults >17 yrs:	3,040	(72.42)	H.S. Diploma:	1,199
Asian/Pacific:	5	( 0.12)	Senior >64 yrs:	627	(14.94)	Some College/2-yr	522
Amer.- Indian:	13	( 0.31)	B.S./B.A. or more	279	(10.23)		
Other race:	1	( 0.02)					
Income:	Households	(%)					
<\$15k:	535	(31.69)					
\$15k-\$25k:	379	(22.45)					
\$25k-\$50k:	565	(33.47)					
\$50k-\$75k:	143	( 8.47)					
> \$75k:	62	( 3.67)					

## 2.6 Process Used to Develop the Sector Facility Indexing Project and Assure Quality Data

The Sector Facility Indexing Project took three years from time of inception to the day of Internet site "opening." This section of the paper will provide a brief overview of the steps EPA took to develop the Project over this three year period. Overall, two of the most controversial aspects of the Project involved deciding which data elements to include and how to ensure those data that are included are correct. The Agency realized early in the process that it needed to make the appropriate data available to serve the public's needs, but also needed to address the concerns of the states and industry who feared that erroneous data would be posted on the Internet that could mislead the public.

EPA initiated the Sector Facility Indexing Project in early 1995 by first researching the facilities that fall into each industry category. These lists were then used to collect from specific data bases the core data elements that EPA thought were most important with regard to facility profiling. Once this list was developed, EPA provided each state government with a copy of the profiles for each facility in their state. This information was provided to get feedback from state governments, and to provide an opportunity for correction of any data errors that may have occurred during the data entry process. After this process was completed, EPA announced a public meeting and comment period in the Federal Register to solicit comments on the project design. The public meeting brought together a wide range of interested parties. EPA made substantial modifications to the project to better align it with the needs expressed during this meeting, and the reviews by state/local governments.

Before releasing the Sector Facility Indexing Project data, EPA took one final step to ensure the quality of the information. Each facility covered under this project was sent a copy of their compliance and enforcement data for review and comment to make sure mistakes were caught before the information was released under the Project. While this process revealed that the information contained in each database was generally of high quality, the process did result in some corrections to the underlying databases. EPA also has developed procedures so that a facility (or anyone else) that believes that there are errors in the data presented can bring those to EPA's attention directly through the Web site or in writing. EPA will work to address these in a timely manner.

## 2.7 Next Steps and Possible Project Modifications

EPA plans to evaluate the results of the Sector Facility Indexing Project. This evaluation will assist the Agency in making decisions on future modifications to the project. The Sector Facility Indexing Project is considered an iterative process in which improvements will be made over time. EPA will be seeking feedback on project and data quality from users and the regulated community. There are several project enhancements and modifications that EPA is considering now that the Project has been released:

- developing a standardized methodology to expand to additional sectors;
- presenting information over time for comparison purposes;
- including compliance data from additional regulatory programs;
- factoring in chemical releases reported outside the Toxics Release Inventory (e.g., regulated air pollutants and water discharges under the Clean Water Act permit system);
- including facility-specific toxicity-weighted Toxics Release Inventory release and relative risk data; and
- indicating whether facilities are on "compliance schedules" in which facilities agree to a set schedule to fix compliance problems.

## 3 OTHER MAJOR AGENCY PUBLIC ACCESS INITIATIVES

Whereas the Sector Facility Indexing Project focuses on environmental compliance and enforcement information for specific facilities in specific industries, the Agency is involved in a number of other projects that provide more general environmental data and guidance to the public to address a variety of needs, such as helping communities discover the existence of regulated facilities in their neighborhoods, assisting the public in making decisions about their day-to-day lives as they may be impacted by the environment, and to foster compliance with environmental law. This section of the paper provides a brief description of these projects.

### 3.1 The Envirofacts Warehouse

For the last two years, EPA's World Wide Web site has offered the Envirofacts Warehouse ([www.epa.gov/enviro](http://www.epa.gov/enviro)) to the Internet public. Since its inception, over four million hits have been recorded at the Envirofacts Web site. The Envirofacts Warehouse provides a single place where a user can retrieve environmental information about a facility or facilities simultaneously from a variety of EPA databases without having to search one database at a

time. The Envirofacts Warehouse provides access to the following environmental program databases: Superfund, drinking water, toxic and air releases, hazardous waste, and water discharge permits. Through the Warehouse, a user currently can determine whether a facility or company is regulated by these environmental programs. After future Warehouse modifications, the user also will be able to understand the compliance history of that facility under these programs. For example, in time, a user will be able to easily access information about a facility's compliance with both their water discharge permit and with their hazardous waste management permit.

The Envirofacts Warehouse also provides spatial and demographic information. Spatial information includes latitude and longitude coordinates for EPA-regulated facilities and enables users to visualize EPA facilities in relation to geographic features such as roads, rivers, and county boundaries. Demographic information can be accessed from a database containing 1990 U.S. Bureau of Census data, which include statistics on income, poverty status, race, and education level of the population. This database integrates with the spatial database and the national program databases (described above) to enable the user to perform geo-demographic environmental analyses.

Data without explanation can mislead the public; therefore, the Envirofacts Warehouse includes information that describes the data elements in the Warehouse. The Envirofacts Warehouse also includes pages to educate the public about the environment. Finally, the Warehouse provides links to EPA and non-EPA sites, which contain general information of environmental interest, such as information about environmental laws, and Superfund and drinking water fact sheets. Chemical reference pages link to sites outside the Envirofacts Warehouse Website including EPA resources, other federal agencies, and select university sources that describe chemicals.

### 3.2 Environmental Monitoring for Public Access and Community Tracking Project

The Environmental Monitoring for Public Access and Community Tracking Project is a new EPA pilot effort to work with selected communities to make timely, accurate, and understandable environmental information available to millions of people in the largest metropolitan areas across the United States so that communities and individuals can make informed, day-to-day decisions about their lives. The Tracking Project is intended to allow individuals to answer questions such as: What is the ozone level today? Are there local fish advisories in the stream where we'll be fishing this evening?

The key to the success of the Tracking Project is the cooperative working arrangement that EPA will have with the selected Tracking Project communities. To ensure the delivery of accurate, timely, and useful environmental and public-health information directly to communities and individuals, EPA will work with Tracking Project communities to:

- Put the latest technology to work in keeping track of environmental conditions.
- Present in plain language the information the communities want to know.
- Ensure that information is not only accurate but also useful.

EPA and the communities will use a variety of methods to provide environmental information. Depending on community preferences, these may include: Internet, compact disks, television, radio, newspapers, fliers, billboards, town-hall meetings, community organizations, and person-to-person communication. EPA plans to reach its Tracking Project goals by using two distinct approaches: EPA projects and pilot projects initiated by the Tracking

Project metropolitan areas. For further information about the Environmental Monitoring for Public Access and Community Tracking Project, the reader is encouraged to visit the Internet at [www.epa.gov/empact](http://www.epa.gov/empact).

### 3.3 Enhanced Public Access System

In January, 1997, the EPA Deputy Administrator directed each office within the Agency to begin development of an Enhanced Public Access System that would allow the public to electronically access via the Internet, by the end of Fiscal Year 2000, EPA's policy, guidance, and interpretative documents. Enhancing public access to these Agency documents is simply a matter of good government. An electronic system that provides easy access of Agency guidance documents to the public serves several purposes:

- fosters compliance with environmental law;
- improves national consistency, providing a level playing field for all regulated entities;
- improves Agency productivity in that Regional and national program offices may quickly investigate if and to what end the Agency has already spoken on a particular issue by consulting one system; and
- expedites public access in that Agency information available under a Freedom of Information Act request would be readily accessible to the public electronically.

Since documents are not in a single database, a "metadata" database will be developed to integrate document titles/files and enhance user access. The metadata database is a single database that has a defined set of information about every document in the system, a "card catalogue" that will serve as the primary entry point to the policy and guidance system. This database also will allow the user to access the document directly from the metadata record without searching through multiple office websites. EPA Headquarters and Regional offices began loading documents into the system in January 1998. By September 1998, we expect about one-third of the nearly 800,000 pages of documents will be uploaded into the database.

## 4 ISSUES IN PROVIDING PUBLIC ACCESS TO ENFORCEMENT AND COMPLIANCE DATA

### 4.1 Data Presentation

An essential element not only in maintaining quality data, but in designing effective public access projects, is to understand the source and limitations of the data. EPA relies upon a variety of sources for original data. The most common sources are: (1) facility self-reported data (e.g., Toxicity Release Inventory data or effluent discharge data under Clean Water Act permits); (2) State data (inspection, ambient monitoring, enforcement actions taken); or (3) EPA data (inspection, ambient monitoring, enforcement actions taken). Each source of data has the responsibility to ensure accuracy in reporting. As managers of the shared systems collecting the data, EPA and the states have the added responsibility of ensuring that reported data is correctly entered and can be viewed and withdrawn easily and without mistakes. To

address these concerns, the Sector Facility Indexing Project, Envirofacts, and other such projects devote attention to on-screen explanations, caveats, and metadata databases (described earlier in section 3.3 of this paper) to educate the user.

One of the lessons learned in the Sector Facility Indexing Project was that the presentation of data can inform the public debate about facility compliance and performance as much as the factual content of the data elements. EPA received significant public comment on the indicators it was considering including in the Sector Facility Indexing Project. Comments ranged from concerns about presenting a positive or negative picture (e.g., time in compliance or out of compliance) to possible implied statements about risk to the public (e.g., a table presenting demographic data adjacent to legal reported release data). EPA carefully considered the comments received as well as the limitations of the available database, believing the more neutral the Sector Facility Indexing Project presentation, the more credible a tool it becomes.

#### 4.2 Data Quality in the Sector Facility Indexing Project

One of the two most contentious issues in the Sector Facility Indexing Project was the quality of the data being used. Although all the data used had been collected for years and had been publicly available under U.S. law, the States and facilities expressed significant concern about the quality of the data given the spotlight the Sector Facility Indexing Project would place on it. The Agency went through extra steps (see section 2.6) to allow review of the facility data prior to posting on the Internet.

Two-thirds of the Sector Facility Indexing Project facilities submitted comments as part of the quality assurance review process which was open from August through October 1997, with a small additional number of comments received subsequently. Facilities commented on approximately 9% of the major data elements and EPA/States actually needed to correct 4.5% of the major elements. Facilities commented on approximately 5% of the minor data elements and EPA/States actually needed to correct 2.5% percent of the minor elements.

## 5 CONCLUSION

EPA has for years collected environmental data and has strived to make it available to the public, although not always in an effective manner. Today's technological advances and new approaches to environmental regulation have come together to produce exciting new opportunities for public access to facility compliance and performance data. Government agencies have the responsibility to determine the most effective way to provide this access, but also the responsibility to ensure equal access and accurate data. As more information is made available to the public and the public begins to use the data, data quality is likely to improve because both the regulated facilities and the regulatory authorities are likely to ensure that the publicly accessible data is correct. In addition, we also might anticipate that regulated facilities will be stimulated to improve their compliance and environmental performance knowing that more people have easier means to monitor their facility's performance. Enhanced public access, therefore, could lead to a general improvement in the overall quality of our environment.

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## **PUBLIC INFLUENCE ON THE SUPERVISION AND ENFORCEMENT OF ENVIRONMENTAL LAW IN THE NETHERLANDS**

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### **SUMMARY**

This paper briefly summarizes the structure of the constitutional law of the Netherlands and the roles of the various layers of government, and focuses on the involvement of the public and interest groups in how regulations and decisions come into being.

A number of practical examples are offered to outline what the effects are in practice, and to demonstrate the importance of public consultation and involvement of interested groups. This avoids situations in which at a later stage, when the policy is being implemented or licences are being granted, obstacles arise which cause significant alterations to decisions which have already been made. A political administrator must always listen to the citizens.

If public influence has been thoroughly taken into account in the preliminary stages, there need be no fear of that influence when supervision and enforcement are carried out. Public influence can then be seen as a good "watchdog" to ensure that the standards laid down in the decisions do actually continue to be enforced, or to implement departures from them in ways that the law permits. This can be done because the various interests have already been assessed. In this situation an administrator is more of a manager, steering and directing the implementation of the rules. In this role an administrator will therefore have a different attitude towards public influence. This attitude arises because in reaching an enforcement decision of this kind, in the context of preparing such a decision and the interests that need to be considered, the Provincial Government will not only again involve the public at large but can confine itself to considering the new special circumstances of the case which had not yet been considered in the decision to be enforced.

In a situation of this kind, where for instance an infringement of a regulation has to be tolerated, it is also necessary to ensure that interests are considered according to the general principles of proper administration. Interested parties who are "third parties" must then always be given an opportunity to subject the decisions and their legal consequences to judicial opinion. Experience shows that interest groups in particular make exhaustive use of these rights, but that in many cases the only material effect is a delay in the administratively desirable state of affairs coming into being.

### **1 CONSTITUTIONAL STRUCTURE OF THE NETHERLANDS AND THE ROLES OF THE VARIOUS LAYERS OF GOVERNMENT**

It is important to note that we are a parliamentary democracy at all three levels of government. This requires a system of cooperation between the government and parliament for central government, the provinces and the municipalities. As we operate a system of proportional representation, the government needs a parliamentary majority each time items of policy are changed or produced.

The government works under the rule of law, which means that the powers of government bodies are based on legal competence.

The State of the Netherlands is a unitary but decentralized state. The framework of the State and State laws includes:

- provinces;
- municipalities.

At a territorial level both of these consist of regions which are parts of the State's land. The governments of the provinces and municipalities have their own councils of elected representatives. They work in the general interest of the people inhabiting these regions.

The main duties and aims of the policy have been assigned to the Ministers of State. Specific planning systems have been set up for most of the fields of policy, at both the national and provincial levels.

Examples are:

- Environmental plans;
- Land use plans;
- Water management plans.

The province is governed by three bodies:

- The Provincial Government or Provincial States. This is the provincial Parliament, consisting of 55 members who are directly elected by the inhabitants of the province.
- The Executive Committee, comprising six members, chosen from the members of the Provincial Government. This is a full-time job, governing the province. On this committee the author is responsible for matters concerning the environment, agriculture, nature conservancy, landscape and public information.
- The Queen's Commissioner, who is appointed by the Queen. He or she chairs the Council and the Executive Committee.

There is a provincial administration helping the Executive Committee to prepare and implement policy in the various fields. The Groningen provincial government consists of five different departments, among which are the department for water management, traffic and transport, the department for welfare and economic affairs, and the department for town and country planning and the environment.

Since 1970 there has been a great increase in the amount of legislation in the fields of the environment and water management. Many of the tasks and responsibilities have been delegated to the province, municipality or water board.

It is important to emphasize that the province has an important strategic role in the fields of:

- town and country planning/land use;
- environmental planning;
- water management planning.

Although there is no formal hierarchy between the national and the provincial environmental policy plans, the provincial government takes account of the main aims of the national environmental policy plan, as well as those of the European Community. Besides planning, the province is responsible for granting and enforcing permits for larger industries and industrial plants, and for large-scale green-field activities, with the Executive Committee as the competent authority.

The municipality is not obliged to draw up an environmental policy plan. However, it is responsible for granting and enforcing permits for industrial plants, businesses and activities on green-field sites with less environmental impact.

The province is the competent authority to grant licences and also carry out inspections to enforce the environmental legislation. We have therefore appointed a number of civil servants as provincial inspectors and these pay regular visits to the permit-holding industries and firms.

The province of Groningen lies in the northeastern Netherlands and borders the Waddensee, an internationally recognized nature reserve. Our province has a population of approximately 560,000 of whom 170,000 live in the provincial capital, the city of Groningen.

This city is the largest in the northern Netherlands and the sixth largest city in the Netherlands.

## 1.1 What is environmental law and what is public influence?

First a brief explanation of what environmental law is in the Netherlands, what is meant in this paper by "public influence", and how this influence is expressed in Dutch administrative practice in the context of environmental law.

### 1.1.1 Environmental law

The concept of environmental law came in in the early 1970s. It was at that time that the first publications appeared on legislation relating to what was then a new problem: damage to the physical environment, classifiable under three headings:

- Pollution (the introduction into the environment of quantities of substances or physical phenomena in such quantities that damage is caused to plants, animals, humans, materials, items of cultural significance or ecosystems).
- Depletion (the removal of elements from the environment on such a scale or at such a speed that this method of using the environment endangers the method itself and other forms of use. This concerns, for example, minerals, water, agricultural land, timber and animal species).
- Damage (This is a residual category. Damage can be the result of pollution or depletion, but also the result of other direct human intervention, e.g., desertification, damage to tropical rain forests).

### 1.1.2 Public influence

In the latter part of the 1960s environmental problems in western Europe rapidly became a focus of public interest. Air and water pollution aroused particular concern, while noise nuisance from aircraft came in for increasing criticism. These problems were not specific to The Netherlands. Until that time the emphasis in the western world had been on expansion, technological development and economic growth. Reconstruction after the Second World War

continued into the 1960s. Growth in prosperity, the expansion of private car ownership, increases in energy consumption and economies of scale and mechanization in agriculture were hailed as positive trends.

It was in the 1960s that people began to perceive the drawbacks to these developments, in water, soil and air pollution and noise nuisance. It became clear that the environmental problems, which initially were regarded mainly as a problem of pollution, called for action by government. The then existing legislation – in the Netherlands there was only the 'Nuisance Act' – was inadequate. New laws on the pollution of surface water and air pollution were introduced in 1969 and 1971. To coordinate efforts to tackle pollution, in 1971 a special department was set up in the Netherlands, the Ministry of Public Health and Environmental Affairs.

## **2 IMPACT OF PUBLIC INFLUENCE**

### **2.1 Public influence on environmental law**

Environmental law came into being via the above path. Public influence on environmental law establishes a standard for social behavior in a manner which benefits the environment. This does not mean that environmental law excludes all behavior whose effect on the environment is negative.

The existence of environmental law does not guarantee a good environment. It only contributes towards putting forward solutions from other disciplines, such as education, technology and financial incentives. That is the limitation of the environmental law approach and immediately also explains government's interest in involving public opinion. There is still a clear role in the Netherlands for politicians, and hence also for public opinion, in environmental problems.

### **2.2 Supervision/enforcement**

Education/interiorisation of the standards is the most important factor for a good environment. Compliance with legal rules aimed at behavior which is beneficial to the environment can be enforced by means of sanctions. This has by no means always been the case. Consequently legal rules have an additional severity over and above instruments designed to enhance awareness and to educate. These rules give government certain tasks and powers in the area of supervision and enforcement. There can be differences of perception on their application or use between government as the competent authority exercising supervision and enforcement, and (sections of) the public.

In applying environmental law a distinction must be drawn between applying standards laid down by law and creating or establishing standards by exercising discretion in the interpretation of policy. In the former case the provincial government no longer has a role, but if it has at least administrative responsibility and is the "competent authority" then it has an executive role in supervising and enforcing the standards already laid down.

In the latter case, when granting the permit the administrative body must determine whether the activity being applied for can be carried out and on what terms this is possible. How the rules are interpreted will depend on the special circumstances of those activities for which environmental requirements have been laid down and what rules are connected with them. The fragility of the environment is also relevant. The authority competent to exercise supervision will then exercise supervision over compliance with the specific rules laid down and where necessary will enforce such rules by using the powers granted by law to that

administrative body to impose administrative penalties. This means that where necessary the administrative body can create the desired environmental situation by arranging to implement it itself. The costs of doing this can be recovered from the offender.

### 3 REPRESENTING THE PUBLIC

#### 3.1 Who can represent the environmental interest?

A key question which has been a topic of discussion in environmental law is the extent to which "the environmental interest" is an interest which somebody can put forward as an "interested party", because being an interested party requires that if you are to be able to oppose a decision it is *your* interests, *your* rights that are being harmed. A tree, or the environment itself, cannot defend its interests, so there must be people who take on that interest.

As elsewhere in the world, so also in the Netherlands an association is entitled to adopt the environmental interest as "its interest" and, as the interested party, to promote it in administrative procedures. A requirement is that an association of this kind should promote that interest on the basis of one of the objects in its statutes and its actual activities, and that it should have a solid membership base which justifies such a policy. An example of such an association is Greenpeace. Experience shows that associations of this kind have expert specialists and sufficient financial resources to put forward their vision or point of view with fervor. Nor must one underestimate the influence which organizations of this kind have on the media, when it is often not just a matter of echoing a view of the organization which has already been formed, but also a matter of influencing public opinion.

It is the task of the general administrative body to make a decision once it has considered all the interests concerned. All the interests involved must be weighed against each other, and greater emphasis must not be placed on one interest or another simply because the interest group only propounds and promotes the environmental interest. On this point the decision-making should clearly be a political matter.

#### 3.2 Public influence on decisions to draw up policy plans

The environmental legislation in the Netherlands ordered provincial governments to prepare environmental policy plans concerning how they will interpret their discretion regarding the environment. In the context of these detailed plans and the decision to be taken on them, a provincial government must, when preparing that decision, give the public, interest groups and also the municipalities in the province opportunities to participate and have their say. Once the policy plan has been confirmed by the provincial government, then when for example the council decides to issue a permit it must also abide by the agreements made in the policy plan. This is also referred to as "the administrators binding themselves".

#### 3.3 Public influence on decisions, based on policy which has been confirmed

By this is meant decisions to grant permits and also enforcement decisions. These decisions too are subject to general principles of sound administration, the standards that are laid down in Dutch law, and, depending on the type of decision, a circle of third parties – interested parties who must be involved in the preparation of such a decision.

### 3.3.1 Permit procedures

If the area where the permit is being asked for is a vulnerable nature reserve, then if necessary specific rules will be imposed to protect it. In weighing up all the interests involved the provisional council then has an important role and it can lay down specific requirements. In arriving at such a decision the provincial government is obliged to follow what is called a "detailed preparatory procedure".

In this procedure the draft decision, i.e. the intention to make a decision, is generally publicized by, for example, placing an advertisement in the press. Anyone can then respond to this intention and make his or her view known to the council. The council must then take that response into account in the decision-making. Once the decision has been taken it must also be publicized, for example in newspapers. There is then an opportunity for certain interested parties to object to the council regarding the decision which has been taken, and the council is obliged to reconsider, taking all the interests concerned into account, including therefore also the objections. Thereafter, if an interested party has not got his way and feels that his interests have been damaged, he can ask for a judicial review by bringing an appeal in the courts.

Here we see that interest groups from the public oppose such plans, especially in the case of sites for larger industries or radical planning decisions, pipelines and constructing major infrastructure works such as roads and tunnels. Later, even though often the basic decision has already been made in the general planning and objectors have not gotten their way, these groups also try to prevent permits being issued.

As already stated, an association of this kind has expertise in its field and can afford lengthy procedures and the effort and expense connected with them. The same is true if for example a municipal council does not wish a particular activity to be carried out on its territory, whilst the general interest does in fact require it and that interest thus overrides the interests of the municipality.

Often the result is that the whole gamut of objection, suspension and appeal to the final judicial forum is gone through. Consequently we must always allow for a very long procedure to make a decision and a possible judicial decision in relation to planning locations of this kind. A year is by no means uncommon and the ultimate legal decision may come a year or two after that. In such circumstances construction and production will often already have started, as a provisional favorable legal opinion will already have been given regarding whether a provisional measure (an application not to make a start with the activities being licensed until a definitive judicial opinion has been given) asked for by the parties opposing the project is likely to be rejected.

As a result of these activities by associations, great costs are incurred by government (costs of legal proceedings) and business (costs of delays, and income lost as a result of delays).

In the Netherlands, however, the democratic procedure and the procedure for the protection of people's rights connected with it are such a great good that we accept this downside. The opposite is the case only if there is clear abuse of these rights and procedures in order only to cause delay. In extreme cases the courts can therefore impose appropriate measures, such as compensation for loss, on the parties causing the delay. This kind of thing is easier in other countries but seldom happens in the Netherlands. It is something one needs to be very circumspect about.

### 3.3.2 Enforcement decisions

As is clear from what has been said above, in the case of enforcement decisions it is often a matter of enforcing a decision already considered and taken, so that the lawfulness of

the objective being aimed for in the decision is no longer open to discussion. Matters are only different if at the time of compliance there are special unforeseen circumstances or there is force majeure as a result of which compliance is impossible.

In normal circumstances there is also seldom any public influence in relation to the enforcement decision to be made.

What does happen, though, is a request from the "public", as an interested party, to take action against an alleged offender by making a decision to enforce an administrative order or impose a penalty. In law the decision in response to a request of this kind is one which can be objected to and appealed against, and hence judicial proceedings can be started.

In this way the interest association keeps an eye on the supervisors and ensures that supervision and compliance with the rules are affected in the right way – a "watchdog" role. This is all the more effective since the association nearly always ensures that publicity is given to its request; it is therefore politically important that the provincial government should make sure that the rules are properly complied with and that it can fully explain its action or failure to act.

In The Netherlands, and certainly in the province where the author is a member of the Executive Committee, there is good collaboration between the provincial government and the criminal enforcement agencies, the police and the Public Prosecutor. Experience has taught us that working together in this way also promotes the quality of enforcement, as people inform each other and encourage them to reflect on the interpretation and analysis of the situation and compliance behavior as it occurs in relation to a permit-holder or other person.

In practice, government in the role of the competent authority regularly consults with the public through its public relations and consults with pressure groups and other government bodies at a preparatory stage, as well as providing facilities so that they can make their views known on intentions or draft plans. This can be done in writing, but people can also choose to do so orally, an official having the task of writing down the main aspects of what has been expressed orally.

Politically, therefore, we always have an ear turned to the public's influence, and we also have money to enable that influence to be exerted. We even give grants to organizations which have set themselves the aim of safeguarding environmental interests within our borders and have reasonably large memberships. We do the same with associations which aim to preserve sensitive landscape within our borders.

But we accept our own responsibilities too, and that means that not all the public's wishes can be heeded. Sometimes the public's reactions are expressed in a number of different directions because there are a number of currents of opinion among those who respond. Examples of this are whether or not waterways in a particular nature reserve, or part of one, should be opened up for recreational purposes and whether or not fishing should be allowed in a region of that kind.

## **4 OTHER EXAMPLES.**

### **4.1 Foraging areas**

A large part of The Netherlands lies on the route by which birds migrate from north to south and vice versa. This means that in spring and autumn large numbers of migratory birds fly from northern Europe over the Netherlands to the south, to warmer climes, thereby escaping the harsher winters of northern Europe. Over a million geese and swans look for places where they can rest and eat on this migration.

The coastal area of Groningen is especially suited to this. One phenomenon is that these million geese and swans come to eat the grass and the winter grain that has only just been sown, thereby causing damage to these crops. These birds cannot be driven off everywhere; to do so would harm the interests of nature and the environment, as many birds become exhausted if they are not provided with places to rest and facilities to eat. Currently we are faced with choices concerning setting up special foraging and rest areas for geese and swans migrating over our region; hunting them there would be prohibited and farmers would be able to get compensation from government. This element in our policy is being closely followed by all the interest groups, and as a result of this the extent to which politicians are prepared to pay farmers compensation is increasing.

#### 4.2 Pipeline

Another recent example of influence by the public concerns government plans to lay a pipeline from Rotterdam, in the western Netherlands, where there is a great deal of industry, to an industrial region in the north, our province, to transport chemicals. As the regional government we want the pipeline, but the environmental organization considers that industries of this type are not appropriate in our industrial region, even though they are permitted in planning terms. This opposition could affect the level of central government's enthusiasm for the project and its willingness to assign high priority to it and make money available for it.

Given this attitude it can be expected that ways of protecting people's rights will be utilized until the last possible moment, and there will be a tendency for central government to opt for a different proposal which can be implemented more quickly because of an absence of resistance from the public. This alternative may well not be in the interests of Groningen province, as the choice would then fall on another region. In the past there was in fact a case where plans did not come about for reasons of this kind. It concerned a plan for a company to locate in Groningen, where the party taking the initiative had a number of possible locations which in fact were in different countries.

This can mean that certain activities which the public does not want are carried out in those countries where there is no public influence or it is so poorly organized that it cannot be exerted effectively.

It is inconceivable that the competitive position of companies in countries where, under the influence of public opinion, certain measures have been taken to combat nuisances should be adversely affected by companies which do not need to take such measures because public influence in that country is absent or does not compel the taking of such measures.

#### 4.3 Public influence on enforcement decisions

An environmental organization recently wrote to our executive committee and to the minister for the environment and the minister of justice alleging that we deliberately permitted infringements of environmental regulations without making use of our enforcement powers; that is, we were tolerating infringement.

Toleration is deliberately and consciously waiving the application of enforcement remedies by the competent authority when an infringement has been ascertained. This can only be done under special circumstances of force majeure or in unforeseen circumstances and when the environmental interest permits. This must also be clearly made known to third parties who have interest and they must also be able to object to a toleration decision of this kind by means of a procedure to safeguard their legal rights. None of this had been done and the provincial government was asked for an explanation. The writers of the letters also immediately sent them to the newspapers and the matter was covered in a press report.

The provincial government then went into the questions in detail in a response letter and explained that a rule under a permit had in fact been infringed for a long time, but that the offender himself was indicating that the rule was not unreasonable, and therefore compliance with the rule was considered feasible in the near future. There was currently a force majeure situation, however, which made full compliance impossible. This force majeure situation was as follows. The company had always made sufficient efforts to try to meet the conditions. The equipment developed to do this turned out to be vulnerable and could not be operated properly on a continuous basis. The company was actively seeking solutions with the help of external experts at the highest technical and scientific level, and it therefore considered that it would ultimately be able to meet the conditions set out in the licence. In remedying the infringement we subsequently had to grant a reasonable period of grace in order to give the offender, under the threat of applying sanctions, a real opportunity to correct the situation to conform to what was desirable and licensed. Using a period of grace of this kind is not the same as toleration, as toleration means that powers to impose sanctions will not be used.

A campaign of this kind by the environmental movement does achieve something. The publicity generates more public concern, along the lines of: 'it looks as if there's something going on at that company that's not quite right...'. In turn, in order as far as possible to avoid negative publicity, the company will if possible do even more to end the infringement, but may suffer commercial damage as its competitors will not be inclined to suppress newspaper reports of that kind.

Politically too it is not very pleasant to be faced with such matters. But what the provincial government still has going for it if you go about things in the right way is that it will have good arguments against questions of this type and be able to defend newspaper reports, and that is how the provincial government will always try to act.

Of course, this does not rule out the possibility that, looked at retrospectively, the provincial government might take a wrong decision. In that case the ministers of environment and justice will have endorsed our standpoint and the way in which we have acted.

## 5 CONCLUSION

As the supervisory competent authority the provincial government has a somewhat equivocal attitude towards the public influence to which its actions are subject.

On the one hand the competent authority is interested in public opinion in formulating political policy, and a politician develops special antennae for this. On the other hand the moment that public opinion tries to influence the competent authority as regards the supervisory/enforcement role, the same politician becomes suspicious. This is because a natural feeling of threat is engendered, and this in turn is due to the fact that enforcement action does not make the Executive Committee member popular with the offender. Those who infringe environmental rules are often the same people who provide jobs and economic activity. On the other hand the Executive Committee member is also politically responsible for implementing the decisions which have been taken and must ensure they are implemented by means of supervision and enforcement. If that is neglected the public will criticize the Executive Committee member. Hence for the Executive Committee member there is only one path to tread, and that is the path of clarity and integrity. By working in this way a decision can always be properly justified and hence defended. Critical scrutiny of the provincial government as the competent authority with the job of supervising enforcement may therefore well be perceived as a nuisance, but there is no reason to be afraid of it if you involve the public, pressure groups and the press in preparing policy and arriving at decisions – building up a relationship with them, as it were. This creates opportunities for understanding and respecting the provincial executive's decisions.



## **PUBLIC ACCESS TO ENVIRONMENTAL INFORMATION - LEGAL AND PRACTICAL PROBLEMS: A CASE STUDY OF TANZANIA**

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### **1 INTRODUCTION**

The right to receive and give information is a symbol of a civilized and Democratic society. This principle applies across the board and at all levels of the society especially the Government regardless of the nature of that information which is a crucial tool in accountability, compliance and enforcement. Thus the need for the government to give and receiving information freely to the public becomes indispensable.

Tanzania being one of the many developing countries in the world with a developing economy characterized by Government's lack of responsibility and accountability to its people, poverty, mass corruption, embezzlement of public funds and ignorance. In their efforts to fight the said miseries Governments in these developing countries have resorted to opening up of their economies to foreign investment. This opening up of the economy unaccompanied by technological advancement and know-how gives a leeway way to importation of inferior and outdated technologies. This trend poses great environmental hazards and creates great potential for natural resource management and utilization conflicts between foreign investors and the government on one hand and resource dependent communities on the other.

It is a fact that without the masses being given environmental information the task of monitoring compliance to environmental standards becomes an uphill battle.

### **2 LEGALITY OF ACCESS TO ENVIRONMENTAL INFORMATION**

In a situation like this, in order to strike a balance between these different stakeholders the right to give and release information becomes indispensable. This issue becomes volatile as governments in developing countries, Tanzania being a living example, do enter in agreement to establish projects which have clearly seen negative impacts on the lives of its people without the public being informed. Often this is done under the umbrella of "national interest". The question commonly asked is who is a nation as between government officials and the general public?

In Tanzania the right to give and receive information is enshrined in the Constitution of the United Republic of Tanzania. This is in conformity, only in spirit, with a number of international instruments to which Tanzania has ratified including the Universal Declaration of Human Rights<sup>1</sup> and the African charter on Human and Peoples Rights<sup>2</sup>. This right according to the Tanzanian constitution is given in its broader sense to include rights to give and receive information on environment and natural resource management.<sup>3</sup>

Article 18(1) of the said constitution provides inter-alia "Subject to the laws of the land", every person is entitled to freedom of opinion and expression that is to say, the right to freely hold and express opinions and seek, receive and impart information and ideas through any media and regardless of frontiers, and freedom from interference with his correspondence. Article 18(2) states further that every citizen has a right to be kept informed of developments

in the country and in the world which are of concern to the life of the people and their work and of questions of concern to the community<sup>4</sup>. Sustainable use of natural resources for the benefit of the citizens of Tanzania is of paramount importance as envisaged by Article 27 (1) of the Constitution of the United Republic of Tanzania which provides inter-alia that every person is obliged to safeguard and protect the natural resources of the United Republic, state property and all property jointly owned by the people, as well as to respect another person's property. Article 27(2) provides further that all persons shall be by law required to safeguard state and communal property, to combat all forms of misappropriation and wastage and to run the economy as the nation assiduously with the attitude of people who are masters of the fate of their own nation.

However despite the constitutional provisions, practically there have been acts committed by the Government prejudicial to the interests of many Tanzanians while the public remained uninformed or at times misled. When the public later learned of these deeds either through leakage of the information beforehand or at the time the decision was implemented, all inquiries by the public over the particular project fell in the deaf ears of the Government. Article 18, if read together with Article 27 of the Constitution, comes out clearly that the right to receive and give information on environment and natural resource management is constitutional. Further the act of not involving the public or presenting contents of the agreements remains a mystery and the public remains ignorant of the hazards and benefits if any, involved in the said project. This includes the public ignorance of the Environmental Impact Statement concerning the projects.<sup>5</sup>

A living example is the Songosongo gas to Electricity Project.<sup>6</sup> This is a project being undertaken in the Songosongo area in southern Tanzania of extracting natural gas from the Songosongo area and transporting the gas and converting the gas to electricity at Dar es Salaam which is 345 kilometers. The natives of the Songosongo area in particular and Tanzania in general, had no idea of the existence of the project neither were they involved in any way. The natives of the Southern Regions came to learn of the existence of this project when project implementation began, i.e. when surveying commenced.<sup>7</sup> By the manifest non-involvement of the people of Songosongo, it means that they have been denied information on a project which involves exploitation of natural resource existing within their community. The natives have also been denied an opportunity to participate and utilize the resource for their benefit. The electricity will be generated in Dar es Salaam thus the southern Regions will continue to fall short of electricity. Among the arguments of the natives include the generation of the electricity at the source so that areas around and along the source of the gas benefits. The natives also argue that since they are the ones living around the source and along the transporting pipeline they are the ones who will suffer most of any environmental hazards which will emanate from the project. Further that the project will lead to massive displacement of the natives and they are left in the dark as to what compensation, if any, they are entitled.<sup>8</sup>

From the aforementioned grievances the natives of the Southern Regions through their local SRDA, a local NGO, decided to institute a Civil Case<sup>9</sup> before the High Court of Tanzania against the Government of the United Republic of Tanzania, the Tanzania Petroleum Development Corporation, and two foreign companies carrying out the Project Trascanada Pipelines and Ocelet Tanzania Inc.

Another example is the Rufiji River Delta prawn plantation project. The Rufiji Delta is East Africa's largest contiguous area of mangroves. It covers an area of 53,255 hectares. The Delta supports a large number of people who depend on that natural resource base. It supports a traditionally sustainable way of life.<sup>10</sup> A private company known as African Fishing Company has been permitted to establish what is termed the world's largest prawn farm. In this project, though the process seemed to have involved the public, information fed to the public was later

proved wrong when a Review Team formed by the Government found out the Investors' Environmental Impact Assessment was flawed by 50% on the project benefit side and environmental risks overlooked. Upon pursuit by Journalists environmental NGO<sup>11</sup> did the government publicly admitted of the existence of the said project.

This state of affairs is a manifest of several limits towards the achievement of freedom and access to information in general and environmental information in particular. These limits are multifaceted. Some emanate from the legal angle while others are institutional (practical) and ignorance on the other.

### 3 LEGAL SETBACKS

As our Constitution provides for freedom of information on the one hand, the same Constitution limits freedom on the other hand in the form of "claw back" clauses and its being subjected to other inferior laws contrary to world known constitutional principles. Though there are court decisions which have greatly ignored the "claw back" clauses, but the fact that these clauses remain in the Constitution remains mainly a matter of interpretation of the Judge(s).

Article 18(1) of our constitution begins by providing inter-alia "subject to the laws of the land". This type of subjugation waters down the whole concept of freedom of information. In Tanzania the government has resorted to the use of the barbaric National Security Act<sup>12</sup>. This Act gives the government discretionary powers to classify information. It further provides that once information is declared classified its only accessible to authorized officers<sup>13</sup>. This mere provision in this piece of legislation excludes almost the entire public and a large number of Government officers from access to this type of information.

Another legal limit is the subjugation of this right to what is normally termed an "interest of the nation" and the question posed here is who is a Nation if not the general public? This phrase has always been used as an umbrella by government officers to cover their personal interests in these projects.

It has often been the practice of our government to operate in as secretive a manner as possible and this has led to the complete misuse of the National Security Act. In research I conducted within the Government, a senior officer working for the agency<sup>14</sup> complained of this problem, in that almost every document they receive from within the government is classified. This has led to a situation in which an officer who is supposed to work on a document within the agency is not an authorized officer as provided for in the National Security Act. Thus to minimize the rigors of this tendency most of the documents have to be de-classified at the agency otherwise the agency cannot perform its duties.

Another piece of legislation that hinders freedom of information in Tanzania is the Newspapers Act.<sup>15</sup> This Act introduces the crime of sedition. The Act further defines sedition as an intention to bring into hatred or contempt or to excite disaffection against the lawful authority of the United Republic or the Government<sup>16</sup>. Thus any publication of any document that is not in favour of the government can easily be declared seditious. The Act further provides that even if the publication intends to show that the Government has been misled or mistaken in any of its measures or to point out errors or defects in the government or constitution or any law, or aims to persuade inhabitants to attempt to procure by any lawful means the alteration of any matter in Tanzania as the law establishes is notwithstanding seditious.<sup>17</sup> Intention according to this Act is determined by the consequences which would follow from his conduct<sup>18</sup>. The Act further imposes a punishment of imprisonment for a term not exceeding two years or to a fine not exceeding Tanzanian Shillings 2000 or both for the publisher and anybody in whose possession the publication is found.<sup>19</sup>

#### 4 INSTITUTIONAL/PRACTICAL PROBLEMS

The whole issue of environmental monitoring and compliance on the part of the government and its agencies is not clear. This has caused overlapping and open conflicts between and within government departments<sup>20</sup>. The National Environmental Management Council herein after referred to as NEMC is established by an act of Parliament<sup>21</sup> as a corporate body vested with the functions of, among others:

- a. Formulating policy on environmental management and recommendations for implementation by the government<sup>22</sup>.
- b. Co-ordinating the activities of all bodies concerned with environmental matters
- c. Serving as a channel of communication between these bodies and the government.<sup>23</sup>
- d. Stimulating public and private participation in programs and activities for the national benefit in natural resources management.<sup>24</sup>
- e. Establishing and operating a system of documentation and dissemination of information related to the environment.<sup>25</sup>
- f. Lastly, undertaking or promoting general environmental education programs for the creation of an enlightened public opinion regarding the environment.<sup>26</sup>

Later we saw the creation of a Division of Environment (Hereinafter referred to as the Division) under the Office of the Vice President responsible for the day to day supervision of environmental matters. The setting up of the Division without clear cut guidelines has set in motion overlapping and serious power struggles among these institutions as to who is the overseer of environmental issues in Tanzania.

As neither the National Environmental Management Council nor the Division is vested with implementation /enforcement powers apart from advising the government there has been a tendency of other government ministries and/or departments to disregard these institutions. No ministry, government department or private institution or citizen is obliged to report or inform these bodies on any environmental issue.

There has of late existed a great difference between these institutions as to which one was responsible for the formulation of a national environmental policy. This power struggle contributed greatly to the delay in the coming in force of the Tanzania National Environmental Policy herein after referred to as TNEP. However the policy version of the Division of Environment was adopted in 1997.

It is from the foregoing that the issue of availability and access to environmental information has been left sectorial and uncoordinated in practice. Every respective ministry within the government can negotiate any project falling under that respective ministry without informing either of the two institution in matters related to the environment. An example of this is the Songosongo gas to electricity project, the Rufiji Prawn farming project, the granting of hunting concessions as well as the issue of privatizing land-owning parastatals. The Parastatal Sector Reform Commission hereinafter referred to as PSRC can privatize a parastatal organization that owns land within which a wild life immigration route passes without informing either of the two institutions even though this decision has negative effects to wildlife resources of the country. It is the also that the PSRC does not exactly know to which institution it should inform.

This institutional setup creates a loophole for environmental related matters to be dealt with directly by each ministry concerned without efforts of coordination between ministries and these institutions. This makes the task of seeking information not only confusing but also uphill in that one does not know where to seek particular information. This problem is serious not only to public access to information but also for the institutions themselves and officers within them. In my research an officer of NEMC admitted to not knowing who and/or which institution is the custodian government for environmental information or where to get this information.

Another big problem towards access to environmental information is ignorance on the part of the public. Most people see poverty as their paramount problem thus they tend to neglect or give less priority to issues on environment and natural resources management and utilization. Though the TNEP recognizes the importance of involving the public in environmental matters<sup>27</sup> it does not provide mechanisms through which the public can have access to information, prevent or enforce sanctions against any violation.

From the foregoing problems there is a strong need to put the house in order to live up to the spirit of freedom of and access to information according to the constitution and all international instruments to which Tanzania has ratified. Hereunder are my recommendations:

## **5 RECOMMENDATIONS ON LEGAL PROBLEMS**

I strongly advocate for the making of a new constitution rather than amending the existing 1977 constitution. In the new constitution I strongly advocate for the removal of all claw back and subjection clauses which are obstacles towards the attainment of freedom and easy access to information.

Also this constitution should have a component specifically dealing with environmental and natural resource management issues rather than in the present constitution in which this issues have just been mentioned. This will make the constitution practically conform to the Universal Declaration of human Rights and the African Charter on Human and Peoples' Rights.

I join hands with the Nyalali commission<sup>28</sup> that called for the repeal of the National Security Act for among other grounds making the government function in a transparent manner. This will also bring to the end the abuse of the powers vested with the government of classifying almost every document where even some are personal memos directing the doing of business other than government business. This is the spirit of a Tanzanian High Court decision in the case of Adam Mwaibabile v. Republic<sup>29</sup>

I also join hands with the National environmental Management Counsel<sup>30</sup> recommending the repeal of the National Environmental Management Counsel Act. In the proposal which aims at giving NEMC powers to implement the Act rather than advising the government. Also in the draft NEMC is asking to be given the powers to prosecute any person and/or institution believed to have committed an offense under any environmental legislation or regulations made thereunder. Unfortunately the Tanzanian National Environmental Policy overlooked this and sidelined NEMC to a mere binding advisory Body to the Government .<sup>31</sup>

## **6 RECOMMENDED SOLUTIONS ON INSTITUTIONAL PROBLEMS**

I strongly advocate for the creation of a single government agency vested with powers to manage, direct and enforce all matters related to environment and natural resource management as has been the case with EPA in USA which has given positive results. It should be made mandatory that the agency be informed by any ministry or government department on any environmental and natural resource management with which the ministry is involved

or is about to be involved and be the custodian of all related information. This will make the whole issue of access to environmental information a reality thus monitoring compliance will be easier and speedier. This will also remove the sectarian nature of environmental information, as all information will be within the same institution.

I strongly believe the best practical solution to achieve the above is to dissolve the Division of Environment which is under the office of the Vice President and strengthen NEMC and vest it with powers to command accountability and answerability from other government ministries and departments. This cannot be achieved if we stick to the TNEP which vests the Division of Environment, a Government department with enforcement powers. MEMC would have been in a better position to command compliance as it is an independent body created by statute and responsible to the public as opposed to the Division which is directly and the government. The Director and all supporting staff of the Division are Government employees and cannot be in a position to challenge or question any decision made by the cabinet, which is the highest organ within the Executive machinery of Tanzania, doing otherwise will jeopardize their tenure.

The new strong NEMC should have among its functions that of education the public on environmental and natural resources management issues and make the public realize its right to have and freely give information on anything touching on the environment.

Tanzanian government should live to its commitments to both its citizens as well as the international community.

#### ENDNOTES

1. Article 19 of the Universal Declaration of Human Rights provides that every one has a right to freedom of opinion and expression, this right includes freedom to hold opinion without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.
2. Article 9(1) of the African Charter on Human and peoples= Rights states that every individual shall have the right to receive information and 19(2) provides that every individual shall have the right to express and disseminate his opinions within the law
3. The constitution of the United Republic of Tanzania 1977 as amended upto 1995.
4. The said constitution is in Kiswahili, a National Language thus translation herein has been made using the previous English Constitutional version.
5. Tanzania is a country that has no EIA standards; neither does it have a law making EIA mandatory. Thereto.
6. This is a multi- million dollar gas extraction project in Songosongo area, Souther Tanzania followed by pipeline transportation of the said gas to Dar es salaam, 300 kifometers where it will be converted to electricity.
7. Per interview with the Chairman of the Southern Regions Development Association(SDRA) Mr. Mohammed Said Mannoro
8. As a reaction to this the said natives have instituted a civil case in the High Court of Tanzania challenging their non involvement and denial of the use of the said gas which would have developed them.

9. Civil Cause no. 36 of 1997 pending at the High Court of Tanzania, Dar es salaam District Registry. A one sided Ruling was delivered which was in favor of the government in that The Plaintiff(SRDA) has no LOCUS STANDI and SRDA have filed an Application , which is still pending, to set aside the said ruling
10. Technical review of an EIA for an Environmental-responsible prawn farming project in the Rufiji Delta- Published by the National Environmental Management Conch (NEMC) August,1997
11. Journalists on Environment in Tanzania.( JET)
12. Act No. 3 of 1970.
13. Act no.3 section 2 provides that an authorized officer in relation to this act to mean a person authorized by the minister to exercise the powers or perform the duties conferred or imposed by such provision.
14. An interview with an officer of the National environmental Management Council(NEMC)
15. Act no. 3 of 1976
16. Act no 3. Section 31(1)
17. ct no. 3 Section 31(2)
18. Act no. 3 Section 31(3)
19. Act no.3 section 32
20. Article 86 of the Tanzania National Environmental policy acknowledges this sectarian nature of institutions
21. The National Environmental Management Act. Act No. 19 of 1983
22. Ibid. s.4 (a)
23. Ibid s. 4 (b)
24. Ibid. s.4(f)
25. Ibid. s.4(l)
26. Ibid. s.4(l)
27. Tanzania National Environment Policy from article 34 to 39.
28. This is a commission set up in 1992 headed by Francis Nyalali, the Chief Justice of the Tanzania Court of Appeal which called for the amendment and repeal of 40 draconian pieces of legislation.
29. High Court of Songea Criminal Appeal No. 13 of 1997(Originating from Songea District Court Criminal Case No. 17 of 1996 whereat a Journalist one mwabaile was alleged to have been in possession of a government classified document. The said document was a directive from a regional commissioner addressed to the Regional Trade Officer to arbitrarily deny the renewal of the journalist license in respect of the Journalists' shop. The High Court held that such a document was not a government

document as defined in the national security Act for it is not the duty of the government to refuse granting business license to its citizens. The Court condemned the tendency of senior government officers misusing powers conferred upon them.

30. A draft proposal for an Act to provide for the better and effective management of the environment and to repeal the National environmental management act, 1983.
31. Article 100 of the Tanzanian National Environmental Policy states that NEMC shall role in all environmental matters except to enforce pollution control and technical Arbitration as far as EIA's are concerned.

## WORKSHOP 2C COMPLIANCE MONITORING

Workshop discussions will build on the description of compliance monitoring techniques and programmatic approaches in the "Principles of Environmental Compliance and Enforcement" text and the UNEP training manual on industrial compliance. Discussions will also utilize papers published in the Conference Proceedings and several related capacity building documents prepared for the Fourth International Conference including: Self-Compliance Monitoring Requirements, and one on Multi-Media Inspection Protocols, as well as a new document commissioned for the Fifth International Conference on Inspector Training course Compendium, Course Comparison and Example Program Descriptions. Discussions in this workshop will provide an overview of all issues related to compliance monitoring. Other workshops: 2D, 2E, and 2F, focus on distinct aspects of compliance monitoring to allow participants to focus on particular areas of interest. Further, inspector training also will be addressed in more depth in workshop 4C.

Papers and workshop discussions will address the following areas:

- Goals for compliance monitoring and country examples of decisions about use of one or more of the following approaches:
  - Inspections;
  - Source self-compliance monitoring, record keeping and/or reporting;
  - Citizen complaints, monitoring;
  - Supplemental information;
  - Ambient monitoring; and
  - Aerial reconnaissance.
- Decisions on the structure of an inspection program:
  - Whether to separate permitting and compliance monitoring responsibilities;
  - Use of dedicated environmental compliance inspectors and/or part time duties for environmental or non-environmental professionals such as police or other staff;
  - Single versus multi-media or integrated inspections;
  - Use of government personnel or third parties or a combination; and
  - Balancing inspections for routine, for cause, for follow up and for case development.
- Overview of compliance monitoring technology:
  - What is the state-of-the-art, what is particularly cost-effective;
  - By medium (air, water, groundwater, soils); whether point or non-point-fugitive releases; and

- Daytime or nighttime surveillance (e.g. lidar technology for nighttime distanced observation and measurement of air releases).
- Management of Compliance Monitoring data, quality control programs for sampling

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1. Random and Risk-Based Inspection to Increase Enforcement Effectiveness: Experience of the Slovak Inspectorate of Environment, *Rajniak, Ing. Ivan, CSC*. ..... 215
  2. Liquid Waste Management in Western Australia: A Case Study in Enforcement and Compliance, *Parker, Adam J., Davies, N.J. and Rychner, H.* ..... 221
  3. Understanding Compliance Through Root Cause Analysis, *Berman, Joanne and Back, Tracy* ..... 247
  4. See also A Large Scale Survey using Environmental Inspections to Assess and Enforce the Implementation of the Law on Environmental Protection in Vietnam, 1997, *Nguyen, Ngoc Sinh and Phung, Van Vui*..... 47

See also Workshop 2F: Detecting Hidden Operations Outside of Legal Frameworks

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See related papers from other International Workshop and Conferences Proceedings:

#### *Strategic Targeting for Enforcement*

1. Environmental Enforcement in Greece, *Vassilopoulos, M.*, Volume 2, Budapest, Hungary, 1992, Pages 73 - 76
2. Evolution of Environmental Enforcement within the United States: Strategic Approach to Enforcement and Its Growing Role in International Trade, *Herman, S.A.*, Volume 2, Oaxaca, Mexico, 1994, Pages 33 - 37
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6. Successful Compliance and Enforcement Approaches, *van Heuvelen, R. and Rosenburg, P.*, Volume 1, Oaxaca, Mexico, 1994, Pages 163 - 174
7. Summary of Workshop: Strategic Targeting For Enforcement, *Currie, C. and Prosser, K., Facilitators, Cocault, C., Rapporteur*, Volume 1, Chiang Mai, Thailand, 1996, Pages 319 - 323

8. Target Group Management Industry and Internal Company Environmental Management, *Peters, J.*, Volume 1, Utrecht, The Netherlands, 1990, Pages 47 - 54
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10. The Great Lakes Enforcement Strategy: Using Enforcement Resources to Maximize Risk Reduction and Environmental Restoration in the Great Lakes Basin, *Peterson, L.*, Volume 1, Oaxaca, Mexico, 1994, Pages 181 - 196
11. Driving Forces for Environmental Compliance and Enforcement: Sustainable Development, International Trade, Public Pressure and Involvement in Decision-Making and the Implications for Cleaner Production, *Env. Law, and Sustainable Dev, Olembo, R.*, Volume 1, Chiang Mai, Thailand, 1996, Pages 37 - 41
12. Driving Forces for Sustainable Environmental Compliance and Enforcement Program in Africa with Particular Reference to Nigeria, *Adegoroye, A.*, Volume 1, Chiang Mai, Thailand, 1996, Pages 73 - 83

*Compliance Monitoring, Including Inspection Protocols and Self-monitoring*

1. Africa Regional Meeting Summary, *Adegoroye, A., Hanekom, F. and Skinner, J., Facilitators, Novak, D., Rapporteur*, Volume 2, Chiang Mai, Thailand, 1996, Pages 821 - 825
2. Americas Regional Meeting Summary — Oaxaca Declaration and Proceedings from Managua Meeting: Creation of the Central American Enforcement Network, *Cabrera Bravo, J., Currie, C., Gonzalez Salazar, M.A. and Wise, J., Facilitators, Cocault, C. and Udall, T., UNEP Facilitators, Jeffrey, J. and Sturges, R., Rapporteurs*, Volume 2, Chiang Mai, Thailand, 1996, Pages 827 - 849
3. South Asia Regional Meeting Summary, *Santosa, A. and Vasquez, R., Facilitators, Glaser, R., UNEP Facilitator*, Volume 2, Chiang Mai, Thailand, 1996, Pages 865 - 868
4. Southeast Asia-Pacific Regional Meeting Summary, *Santosa, A. and Vasquez, R., Facilitators, Radka, M. and Wasserman, C., UNEP Facilitators, Mzingo, J. and Rubin, K., Rapporteurs*, Volume 2, Chiang Mai, Thailand, 1996, Pages 851 - 863
5. Central and Eastern Europe Regional Meeting Summary, *Bandí, G., Kruzíková, E. and Mizgajski, A., Facilitators, Kesselaar, H. and Laing, H., UNEP Facilitators, Casey-Lefkowitz, S., Rapporteur*, Volume 2, Chiang Mai, Thailand, 1996, Pages 869 - 872
6. West Asia/Middle East Regional Meeting Summary, *Genena, T. and Rotenberg, R., Facilitators, El-Kholy, O.A., UNEP Facilitator*, Volume 2, Chiang Mai, Thailand, 1996, Pages 873 - 874
7. Western Europe Regional Meeting Summary, *Slater, D., Facilitator, James, A., Rapporteur*, Volume 2, Chiang Mai, Thailand, 1996, Pages 875 - 879



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## **RANDOM AND RISK-BASED INSPECTION TO INCREASE ENFORCEMENT EFFECTIVENESS: EXPERIENCE OF THE SLOVAK INSPECTORATE OF ENVIRONMENT**

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### **SUMMARY**

This paper presents the legal position and basic duties of the Slovak Inspectorate of Environment, Department of Air Pollution Control ( DAPC ). Because of the status of the economy and institutions, deliberate non compliance is high, and imposition of sanctions and fines are important. The Slovak Inspectorate of Environment has taken deliberate steps to strengthen its enforcement program and must now pay increased attention to detecting hidden operations outside legal frameworks.

In order to increase the efficiency of its certain activities, the Slovak Inspectorate of Environment, Air Pollution Control Department recently adopted the following measures:

- Detailed analysis of activities,
- Risk analysis of the chosen technologies,
- Random inspection.

### **1 BACKGROUND**

The Slovak Inspectorate of Environment as an independent state authority is supervised by the Ministry of Environment. It is organized in four departments:

- Air Pollution Control Department ( DAPC ),
- Waste Management Inspection Department,
- Water Management Inspection Department,
- Nature and Landscape Protection Department

These particular departments are more or less independent. It means, planning and execution of the control activities are done by the particular departments independently,

The departments are not involved directly in permitting process. Other authorities which are supervised by another Ministry are in charge of the permitting process.

The cooperation of the Slovak Inspectorate of Environment staff at the permitting process is possible but not very common. As for me I am responsible for managing the Air Pollution Control Department. In the following text we are going to give short report on our experience with detecting operations outside of legal frameworks. In spite of the fact that in Slovak market economy had been more or less implemented the economy is still in transition from the centralized system to a market system. One can still find systems of management which are far from market based economy. It is evident that such reality must be reflected in

environmental protection. Low environmental self-consciousness, accompanied sometimes by economic problems causes conscious or unconscious neglect of environmental laws. For this reason, it is possible to draw a conclusion that can probably be generalized to all countries which are in transition to market economies that in the case of noncompliance with environmental laws our Inspectorates have to impose sanctions - fines. I propose that any attempt to solve problems by agreement would fail frequently under our conditions. Moreover it is evident that using a different approach to different plants ( in one case to impose fine - in another case not to do so ) would not be fair. It is evident that consistent control activity is very important from the point of view of credibility and authority in its relationship to industry.

Increasing the power of the Inspectorate is very important to prevent non-compliance with environmental laws.

In the past 5 years the number of fines which were imposed increased gradually during the first 3 years and remained more or less stable over the last 2 years. This is a consequence of environmental legislation and result of our control activity. At present detecting operations outside legal frameworks requires at present more effort than a few years ago. The Slovak Inspectorate of Environment has found ways to address this problem without causing a decrease in consistency of our other activities.

With the aim to increase efficiency of control activity we analyzed in detail the results which were achieved during the period of January 1993 through December 1996. The main aim of this analysis was to find industrial branches in which operation outside legal frameworks is the most frequent. Under our conditions we have concluded that operations outside of legal frameworks can be found most frequently in some medium size and smaller plants.

To find the operations outside legal frameworks in the large plants with complicated technology is more difficult because of the following:

- More competitive surroundings than before ( before 1989 ) improved not only quality but also environmental protection. Better environmental protection is prevaillingly a result of modernization or of up-grading the existing technologies.
- Market driven requirements for higher quality production require these plants to accurately keep within specified operational parameters. For environmental protection implementation of ISO 9000 standards and of course implementation of different environmental management systems ( EMS ) is very helpful.
- Implementation of quality standards and EMS systems makes inspection on site easier and less time-consuming. That is why plant operators have to be more careful with regard to inspection.
- In the large plants they know that they are under more consistent supervision than in the smaller plants.

## **2 RISK ANALYSIS**

The result of the mentioned analysis of our control activities have been compared with the results of risk analysis of different technological processes. In the risk analysis we used criteria which are used by some European inspectorates. Basically the theoretical possibility of non-compliance with environmental laws is evaluated. The following indicators are used:

- 
- a) Number of indicators ( operational parameters detectable only during on site inspection ). Indicators are defined as controlled parameters e.g. temperature, pressure, leakage etc. which are possible to check only during on site inspection. In Slovakia, there currently is no system for registration and recording ( neither automatic nor manual ), no opportunity to check operational parameters from the past.  
0 - no indicators, 1 or 2 there are indicators
  - b) Number of indicators of the fuel gas cleaning system detectable only during on site inspection  
0 - none, 1 - some
  - c) Whether it is possible to use another fuel/raw material than are the requirements of Approved Technical Documentation  
1 - Yes, 0 - No
  - d) Whether it is possible to operate system ( technology ) at different operational parameters than are the requirements of Approved Technical Documentation  
1 - Yes, 0 - No
  - e) Whether non - compliance was found more than once  
1 - Yes 0 - No
  - f) Whether the industrial branch is known for its non - compliance with environmental laws  
1 - Yes, 0 - No
  - g) Whether there have been any kind of complaints  
1 - Yes, 0 - No
  - h) Economic situation of the plant ( industrial branch )  
1 - Bad, plant in loss or in debt, 0 - O.K.
  - i) Whether modernization ( up - grading ) technology is being prepared  
1 - Yes, 0 - No
  - j) Whether there is an Environmental Management System  
0 - Implemented, 1 - No

The higher the number of points the higher is the theoretical chance to find non - compliance with the law. It would be very interesting and useful particularly for its potential benefits for environmental protection to be able to use risk analysis for helping to target or focus inspections drawn from international experience, if something like that has not already been done. At least it could be useful to discuss and to publish the experience of different inspectorates with different industrial branches ( plants ). There are many technological systems which are basically very similar regardless the country in which the system is operated. As it was possible to expect results of analysis of our control activity are in good accordance with risk analysis.

### **3 RANDOM INSPECTION**

With the aim to increase efficiency of our control activity we have implemented the new type of inspection - random inspection. The main characteristics of random inspection :

- At the inspection the inspector concentrates only on chosen operational parameters at which it is possible to presume some problems.  
If everything is in compliance with approved parameters the inspection can be finished with the very short report - 1 to max. 1,5 pages.  
If the operation is not in compliance the inspection must be completed by the full procedure ending with a protocol and a fine.
- An inspection can be done during several visits to the plant. It means that inspector visits the plant several times for a short visit during the non - specified time period. At the inspection the inspector concentrates on chosen parameters which can, but need not, be in some kind of correlation.

### **4 CONCLUSIONS**

We want to increase the efficiency of our Inspectorate at detecting operations outside legal frame works by the above mentioned procedures :

- detailed analysis of control activity,
- risk analysis of the chosen technologies,
- implementation of random control system

The final aim of our effort is not to increase number of fines - the aim is to reach better air protection.

Only time - at least one or two years - will show if we were or were not successful.

**ANNEX 1**

Results of analysis of control activity of the SIE, Department of Air Pollution Control. Period January 1993-December 1996.

In the mentioned period Slovakia was divided into three main administrative regions:

- West part, responsibility of the regional inspectorate located in Bratislava (capital of Slovakia),
- Central part, responsibility of the regional inspectorate located in Banska Bystrica,
- Eastern part, responsibility of the regional inspectorate located in Kosice.
- Results of all three regional inspectorates were analyzed.

Number of detected hidden operations outside of legal frameworks according to the industrial branches:

1.	Power and heat production (combustion of fossil fuels):	
	a. total number of inspections	571
	b. total number of detected hidden operations	35
	c. efficiency of control activity	14%
2.	Industrial wood processing:	
	a. total number of inspections	107
	b. total number of detected hidden operations	35
	c. efficiency of control activity	33%
3.	Production of non-metallic mineral materials:	
	a. total number of inspections	229
	b. total number of detected hidden operations	32
	c. efficiency of control activity	14%
4.	Production and processing of metals:	
	a. total number of inspections	116
	b. total number of detected hidden operations	28
	c. efficiency of control activity	24%
5.	The other kinds of industry:	
	a. total number of inspections	144
	b. total number of detected hidden operations	20
	c. efficiency of control activity	14%
6.	Chemical industry:	
	a. total number of inspections	129

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b. total number of detected hidden operations	13
c. efficiency of control activity	10%
7. Incineration of industrial and municipal waste:	
a. total number of inspections	50
b. total number of detected hidden operations	13
c. efficiency of control activity	26%
8. East-Slovakian Steel Works, Kosice (results from the largest steel making plant in Slovakia were analyzed separately):	
a. total number of inspections	33
b. total number of detected hidden operations	5
c. efficiency of control activity	15%

The total number of inspections during the period of January 1993 through December 1996 was 1379. Operations outside of legal framework were detected during 226 inspections. Examples of detected problems:

- Non-compliance with approved technical parameters (temperature, pressure, pH-value in the alcalic wet washer, quality of raw material, quality of fuel, optimal voltage and current at operation of electrostatic precipitator, etc.)
- Poor maintenance--about 50% of detected problems-- (holes in the flucducts, measurement technique or flue gas analyzers out of order, old and inefficient catalyzers, etc.)

The average control activity efficiency is 16%

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## **LIQUID WASTE MANAGEMENT IN WESTERN AUSTRALIA: A CASE STUDY IN ENFORCEMENT AND COMPLIANCE**

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### **SUMMARY**

In the early 1990's volumes of liquid wastes presented for disposal in the Perth metropolitan area began to fall. Several prosecutions of liquid waste transporters and contractual problems associated with the viability of the only waste disposal site prompted the development of several new initiatives to police this industry.

The Department of Environmental Protection developed a strategy that included an effective regulatory framework for the liquid waste industry. It was designed to provide equity for waste producers, transporters and disposal site operators. Funding for this project was obtained from forward borrowing's against savings achieved by eliminating a AUS \$800,000 government subsidy for the treatment of liquid wastes.

The liquid waste regulations were updated and transferred to the Environmental Protection Act. The number of inspection staff was increased and new computer based tracking systems were implemented, including the use of Global Position Systems. The program also provided driver training and use of other forms of communication to raise awareness and standards within this industry.

By October 1997 the program had been completed and the volume of waste delivered to the treatment plant had increased, despite the negative impact resulting from the delivery of the Governments infill sewerage program, which effectively removed 10% of the market in 1997 and is estimated to impact by a further 30% in 1998.

This program has seen the removal of the subsidy payments, achieving savings of AUS \$400,000 per annum. The transport industry is now more open and positive. The introduction of Global Position Systems surveillance systems has provided a 'level playing field' for this industry sector and improved the effectiveness and efficiency of inspection services. To date there has been excellent compliance associated with the transport of liquid wastes.

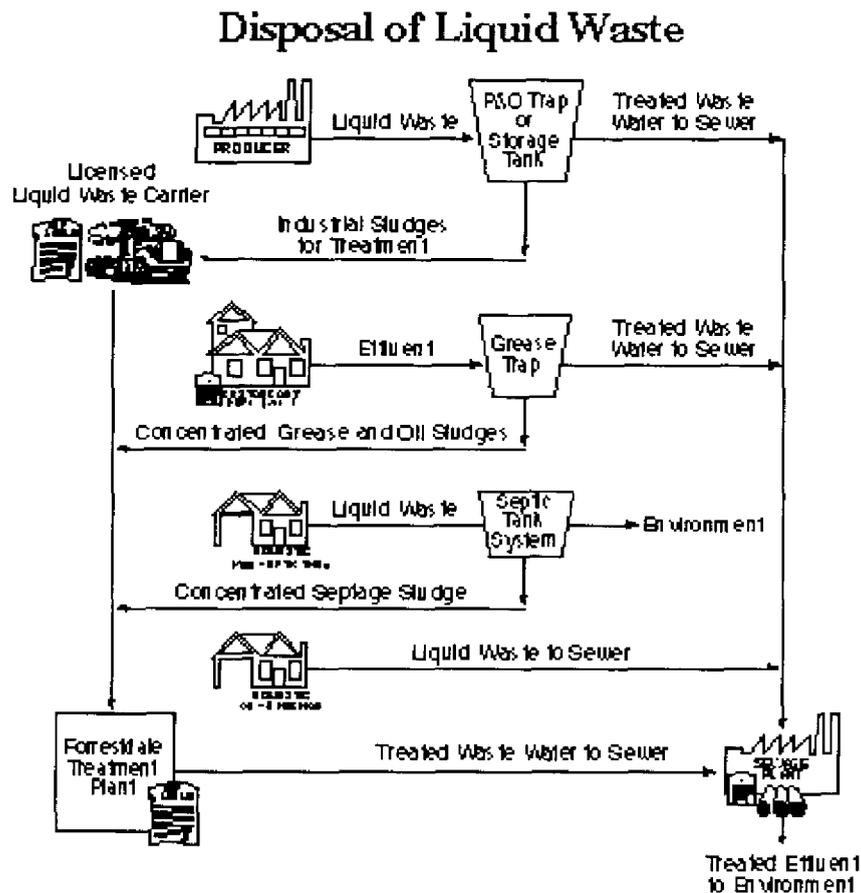
### **1 BACKGROUND/INTRODUCTION**

The Department of Environmental Protection is the agency responsible for protection of the environment for both this and future generations. An important area of environmental protection is ensuring that all forms of waste are managed in an effective and responsible manner. The Department is responsible for development and implementation of policy and for regulation of the waste management industry.

Appendix 1 is a copy of the Department of Environmental Protection Waste Management Division's value statement. These values guide the approach taken by divisional staff in all aspects of our business.

This submission describes the approach taken by the Department of Environmental Protection in solving long-standing problems with the management of liquid waste in the Perth metropolitan region and the extension of this solution to other areas of Western Australia.

Figure 1 Liquid Waste Disposal in Western Australia



Prior to 1985, the non-sewer, liquid waste industry in Perth was largely controlled and regulated at local government level under the control of the Health Department. Liquid waste was collected and transported by private contractors who delivered the waste to unlined disposal ponds operated by various local authorities. Disposal costs were low (\$5-10 per kiloliter), because costs to environment (such as odors, off-site water pollution) were not considered at the time.

The liquid waste industry was characterized by improper practices and illegal activity. A major factor contributing to illegal behavior was a system where contractors collected the money to cover the cost of collection and disposal from producers, and then had to transfer it to the disposal site operator. This provides a considerable incentive to dispose of waste illegally and profit by retaining the money earmarked for disposal.

During the late 1980s, all local government operated liquid waste disposal sites closed in the face of serious environmental concerns regarding groundwater and odor pollution. To resolve an impending crisis caused by the lack of liquid waste disposal facilities, the Health Department called tenders to establish a single centralized liquid waste treatment facility at Forrestdale. The successful tenderer, Cleanaway Technical Services, opened its treatment plant in September 1987.

By the early 1990s the volume of liquid waste taken at the Liquid Waste Treatment Plant had fallen from around 130 ML/year in 1987 to less than 50 ML/year in 1993 (See Appendix 2-A). Treatment prices rose from \$5-10/kL to over \$50/kL and a Government subsidy of \$800,000 per year was required to keep prices at this level. The culture of the liquid waste industry by now had deteriorated, illegal behavior was widespread, and there was no trust between any of the parties involved.

The Waste Management Division of the Department of Environmental Protection was created in April 1994 and the staff developed a comprehensive strategic plan for solving the problems of the liquid waste industry. The main elements of the plan were:

- the development of an effective regulatory framework for the liquid waste industry which provided equity for waste producers, transporters and disposal site operators;
- to change the culture of the liquid waste transport industry and encourage open communication, trust and more responsible behavior;
- to eliminate the need for subsidies for liquid waste treatment;
- to ensure that adequate treatment capacity exists for liquid waste; and
- encourage pricing policies which reflected the true cost of environmentally responsible liquid waste disposal.

#### 1.1 The Proposed Solution

A comprehensive plan based on the above principles was endorsed by Cabinet on 20 November 1995. In making this decision, Cabinet were aware that the infill sewerage scheme also announced in 1995 would act to further reduce septage waste volumes. The plan was funded by forward borrowing from money allocated to pay part of the liquid waste subsidy, and involved:

- appointment of four permanent inspection/client liaison staff (all redeployees);
- updating the liquid waste regulations and transferring regulations from the Health Act to the Environmental Protection Act;
- elimination of the \$800,000 a year liquid waste treatment subsidy;
- development of improved communication with producers and transporters;
- the introduction of computer based waste tracking systems (WasteTrack) which encouraged the proper servicing of grease, petrol and oil traps while simplifying and improving waste tracking systems; and

- development of electronic vehicle tracking and monitoring systems based on Global Positioning System (GPS) and electronic sensing technology and sophisticated radio communication.

## 1.2 Current Status

These initiatives resulted in an initial increase in the volume of liquid waste treated at the Liquid Waste Treatment Plant. This is despite the impact of the in-fill sewerage program which removed ten per cent of the market in Perth in 1997. The treatment subsidy has been removed and prices have stabilized. The Department of Environmental Protection now deals directly with approximately 4000 clients (producers, transporters and disposal site operators) and has established a positive and open relationship with these clients.

The culture of the transport industry has also changed significantly and transporters now act as the Department's agents for the WasteTrack system and while illegal behavior may not have been eliminated, it has been significantly reduced. The introduction of the GPS tracking system, with its ability to continuously track both the location of each tanker and the amounts of waste being carried, has eliminated illegal activity within the transport industry. It is no longer possible for transporters to dump waste or falsify records without being detected.

Throughout the program, the Department has endeavoured to act in a manner which is consistent with the policy directions set by Government through:

- encouraging open and fair competition in the liquid waste industry;
- achieving open and transparent pricing for services;
- where appropriate, contracting for services in accordance with tendering and contract management guidelines;
- communicating with the industry and the community on an open basis;
- developing and maintaining a customer oriented service delivery;
- aiming for best practice and continuous improvement; and
- developing opportunities for people redeployed from other arms of Government.

This program continues to successfully achieve a regulatory outcome through a range of approaches. It acts to raise environmental and public health standards while ensuring equitable implementation of public policy. Saving money for both the government and the community. In addition, by communicating effectively with the Department's clients, we have changed a very negative industry culture to one which is positive and forward looking.

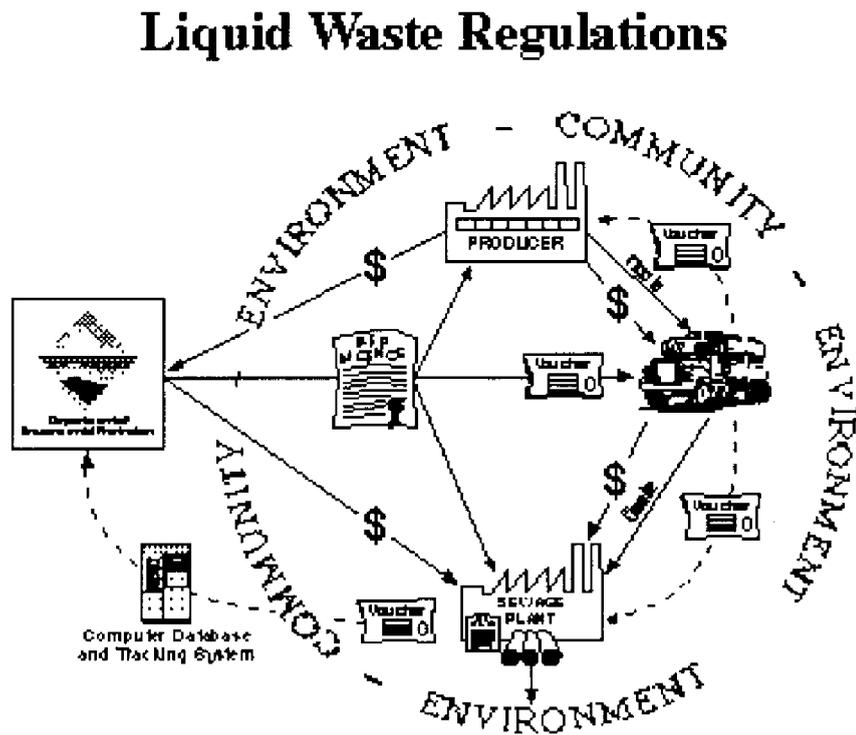
We have now developed a modern customer focused and efficient regulatory system for the liquid waste industry which is continuing to be refined and improved. This has already been recognized by interest shown in the program in other parts of the State and other states of Australia.

## 2 EFFECTIVENESS IN MEETING ORGANIZATIONAL OBJECTIVES & CUSTOMER NEEDS

The primary aim of the Liquid Waste Regulatory system is to protect the environment and public health from damage due to illegal disposal or improper management of liquid wastes in the Perth metropolitan area.

The liquid waste section of the Department of Environmental Protection is responsible for the effective control and management of liquid wastes within the Perth metropolitan area. This is achieved with the use of the Environmental Protection (Liquid Waste) Regulations 1996 which provides the basis for contact with over 4,000 businesses many of which interact also with each other as well as the department (see figure 2).

Figure 2 Liquid Waste Regulation System



As shown in figure 1, these businesses range from restaurants and cafes which generate grease wastes that are a problem in the sewer system, to industrial producers such as the metal finishing industry that produce acid, chromium and cyanide wastes requiring specialized treatment prior to disposal.

The Liquid Waste Section also licenses the liquid waste transport companies and drivers to ensure proper standards are maintained.

While our involvement with a range of customers is established by regulations, each customer has very different needs and the approach taken to communicating with each group is different.

### 2.1 Grease Traps & Oil Interceptors

Each premise with a registered grease trap or oil interceptor has agreed to a service schedule, and to pay for their disposal charges six months in advance. These businesses want to be sure they meet environmental standards while minimizing costs and that their competitors are being required to operate in a similar manner.

The WasteTrack registration system was designed to meet these environmental needs. It involves the registration of each interceptor with the volume of waste collected and servicing intervals being measured or assessed. Dated vouchers are then issued for each service and monitored when presented at the disposal site to ensure compliance with this standard.

A team of four trained inspectors undertake assessments of new sites and the level of compliance by premises which are already registered. These individual assessments provide the opportunity to achieve a balance between required environmental standards and individual business needs. This personalized contact is also an important part in explaining the benefits of the system to customers who otherwise would have little contact with the Department of Environmental Protection and understanding of their potential impact on the environment.

Ensuring a consistent standard across these industries has the additional effect of stabilizing the volumes of waste presented for treatment. It has encouraged an increase in alternative technologies in the treatment market since the inception of WasteTrack two years ago, which has stabilized previously rising treatment costs.

### 2.2 Licensed Industrial Premises

This client group produce industrial wastes which cannot be disposed of either on-site or to the sewer system. Industrial wastes have the greatest potential for environmental and public health damage, and therefore the collection, treatment and disposal of these wastes needs to be monitored. The industries involved wish to minimize the cost and effort involved in managing their wastes.

Where industrial waste needs to be transported off site for disposal on a regular basis, the site is required to be licensed. Each tank where liquid waste is stored is registered and identified by a tank identification number. These numbers are displayed on placards next to or on each tank and identify this waste to the liquid waste contractor (Carrier) for collection. The tank registration system simplifies the carriers job and provides the basis for tracking the transport and disposal of the wastes.

To support this system, inspectors audit the use of tank ID plates, inspecting premises at least once a year. This provides an opportunity to discuss any customer specific waste management issues and clarify each customer's involvement in the licensing system. At the same time licence conditions are reviewed and revised as necessary. The regular review of licence conditions has assisted in reducing the number of transport incidents in recent times.

Monitoring the volumes and type of wastes generated by particular industry groups also allows opportunities to be identified for minimizing waste production.

### 2.3 Carriers and Drivers

Historically carriers and drivers have posed the most significant risk to the correct disposal of liquid waste. The culture of the group has tended to be resentful and hostile towards government regulation and the objective of protecting the environment.

Since the inception of WasteTrack, staff in the Liquid Waste Section have fostered a closer relationship with the carriers and drivers. New liquid waste regulations introduced in 1996, put greater responsibilities on drivers and to support this shift in emphasis, training seminars were conducted for this industry. This has since been built on by development of an information package which is distributed to prospective drivers prior to them being licensed as a driver. The department is also working with industry to develop a more formal driver training course.

These initiatives have assisted in changing the culture of this industry and Department of Environmental Protection reinforces this change through the publication of a quarterly newsletter. This newsletter is intended to create a positive, group image for drivers and carriers and also promote the exchange of information to improve standards (see Appendix 4).

The result of these actions has been increased compliance with the regulations, more accurate tracking of waste and a reduction in improper disposal. The fact that the Department now collects treatment fees for grease trap and oil interceptor wastes has also removed a significant financial burden from carriers, as they no longer have to cover the disposal charges at the treatment plant.

#### 2.4 Liquid Waste Treatment Plants

Currently only one plant operates in the Perth metropolitan area. However, as a direct result of the liquid waste initiatives a competitor will enter the market within the next twelve months.

Treatment plant operators rely on effective compliance with the Regulations to ensure all liquid waste is disposed of appropriately. With the introduction of grease trap and oil interceptor registrations, the Department of Environmental Protection is the largest debtor for the Liquid Waste Treatment Plant, with about AUS \$2 million dollars in waste treatment fees charged annually to the department. The disposal site relies on the timely payment of these invoices.

The new systems in place have encouraged compliance with regulations and environmental standards. The amount of liquid waste being treated has increased despite a diminishing market as a result of the infill sewerage program. This has stabilized the liquid waste industry and increased the viability of the treatment plant.

#### 2.5 Effectiveness

Implementation of the liquid waste initiatives have proven effective in meeting the objective of reducing the impact of liquid waste on the environment and public health. The volume of biological liquid waste presented for treatment has increased 50% in the past eighteen months, and the total volume treated has increased marginally, despite the loss of ten per cent of the market each year due to the Government infill sewerage program.

All performance indicators and financial reports used to assess the effectiveness of this program indicate the initiatives have improved compliance with the regulations and minimized negative environmental and public health outcomes. These indicators have resulted in significant changes in administration of this system within the first six months and also the reprioritising of inspection activities.

### **3 IMPLEMENTED IN EFFICIENT AND COST EFFECTIVE MANNER**

The liquid waste initiatives were developed and introduced within a six month period and within the budget allocated. This was achieved using project management as a tool to assist in this process.

The department liaised with over 5,000 potential new customers in the design and implementation phase of this project. Most of these customers had not dealt with the Department of Environmental Protection before. It was a particularly difficult time for many customers, the Department dealt with nominated representative bodies and groups to assist in the development of this system.

#### **3.1 Information Technology**

A significant aspect of our efficiency in administering WasteTrack was brought about by the integration of the computer licensing and tracking system with the accounts management system. This allows invoices to be generated for each customer based on the following key factors:

- a. the volume of waste to be treated;
- b. the service interval and hence the number of services for that period; and
- c. the type of waste, which reflects the treatment costs.

The integrated system also monitors payment of each individual account. On receipt of each payment the details are updated, transferred to the licensing data base and records are automatically amended, avoiding duplication of effort, data errors and allowing effective use of time.

#### **3.2 Innovative Administration and Management**

At the start of this program many claims were made by customers for refunds of treatment fees for amounts less than AUS \$30 which cost more to process. As a result, we arranged for our financial system to be modified to allow credits to be forwarded to the next invoice period. This has proven to be a major efficiency gain for the Department and also our customers who do not have to process refund checks.

The provision of an individual approach to customer service through the use of inspection services is critical to the effectiveness of the system. These services are provided through our small team of inspectors who are managed through the establishment of a unique mobile work environment.

Each inspector is provided with a car, mobile phone, training, safety equipment, sampling equipment and inspection packs. The provision of these resources is offset by the reduced office space and infrastructure required if the positions were based in the office.

This initiative, and the efficient use of the computer system, has reduced the administrative staff to two full time employees. These administrative staff liaise between the customer base and the inspectors and process the results of completed inspections through the database under the guidance of the Liquid Waste Manager. This approach to service delivery is central to providing a high level of efficiency in communicating with our customers.

Inspection activity is monitored and evaluated against estimates of time and effort. This allows us to monitor the true costs associated with each activity to determine an optimal inspection program to balance our expenditure against customer needs. Data regarding this

monitoring program is reviewed by senior management on a monthly basis (see Appendix 3-A). This indicator shows efficiency gains for aspects of our customer service delivery which will be further investigated.

The overall impact of these policy initiatives has allowed the gradual removal of the Government subsidy of AUS \$800,000 a year to support the viability of the Liquid Waste Treatment Plant.

#### **4 COORDINATION WITH ACTIVITIES OF OTHER AGENCIES AND CONTRIBUTIONS TO THE DESIRED WHOLE OF GOVERNMENT AND COMMUNITY OUTCOMES**

The management of non-sewer liquid waste disposal involves government, local government and industry. The effective development and implementation of policy in this area requires careful consultation and coordination.

While developing the liquid waste regulatory system, the Department of Environmental Protection has consulted closely with a number of government agencies, including the Health Department and Water Corporation of Western Australia to ensure that approaches used complemented activities in these agencies. There has also been close cooperation with several other areas of government including Contract and Management Services over tendering and contractual matters, Office of Mobility over use of redeployed staff as inspectors and Treasury in developing and implementing innovative funding and revenue packages.

Examples of some of these interactions are set out below:

##### **4.1 Water Corporation of Western Australia**

The Water Corporation is the major provider of sewerage services in Western Australia. The majority of the clients registered with the WasteTrack system are also clients of the Water Corporation of Western Australia. The implementation of the WasteTrack system impacts directly on the sewerage operations of the Water Corporation, as incorrectly maintained grease, petrol and oil traps can lead to unacceptable levels of contaminants being discharged to the sewer and increased maintenance and operating costs. There is also a potential to cause environmental damage should a sewerage treatment plant be 'poisoned' by toxic materials discharged illegally to sewer.

The Department of Environmental Protection has consulted closely with the Water Corporation throughout the process of developing the WasteTrack proposal and this interaction continues through information sharing meetings with the Water Corporation.

The infill sewerage program, which is being implemented by the Water Corporation, also requires close interaction with the Department. This sewage program is removing 5000-7000 unsewered premises from service each year over a 10 year period. This will eventually reduce waste volumes substantially and could increase waste treatment prices. In addition, there is a need to ensure that septic tank systems are decommissioned properly so that they do not pose a public health or environmental threat. This has been identified as an issue and policy options for it are currently being developed.

#### 4.2 Office of Mobility

Having identified the need for additional inspection staff, the Department sought the assistance of the Office of Mobility in obtaining officers with the necessary skills. This has proved extremely successful with a total of six redeployees having been appointed as liquid waste inspectors since the program commenced (although only four remain in this role now, with one having accepted a redundancy and the other occupying another permanent position within the Department of Environmental Protection).

This is consistent with the Government's policy of redeploying redundant personnel to new positions and has simplified the task of appointing staff.

#### 4.3 Contract and Management Services

Whilst some additional staff have been appointed to The Department of Environmental Protection for operating the WasteTrack system, large sections of the work have been contracted to the private sector. This management of the tender processes and contract development has been assisted by Contract and Management Services.

The approach of contracting for services has been adopted to achieve competitive pricing and access the technical expertise and innovation available in the private sector, while maintaining maximum flexibility for the Department in managing its work force.

This approach has proved to be a great advantage to the project as there has been a need to reallocate resources to cope with the administrative work loads associated with managing the WasteTrack system.

#### 4.4 Local Government

Under the Health Act local government is responsible for delivering public health services to the community. This includes ensuring septic tank and grease traps are properly constructed and serviced. In rural areas of the State, local governments also often still operate liquid waste treatment facilities, in addition to regulating the collection and disposal of wastes.

Department of Environmental Protection staff have briefed relevant staff in local government on the WasteTrack program and have enlisted the support of local authority Environmental Health Officers in identifying unregistered and nonconforming grease traps. In a similar manner, Department inspectors provide information to local government Environmental Health Officers where premises are not maintaining equipment correctly or where public health issues arise.

Department staff are also working cooperatively with local governments in rural areas to extend the use of the WasteTrack system beyond the Perth metropolitan area. The system is already being used in a limited fashion in the South-West and negotiations are well advanced for the adoption of the system by the City of Kalgoorlie-Boulder and the Geraldton-Greenough Regional Council.

#### 4.5 Community Outcomes

The illegal activity which characterized the liquid waste industry in the past has meant that those transporters and producers who operated responsibly and within the law, subsidized those involved in illegal or improper activities. The community as a whole paid a price in terms of the environmental damage caused by illegal dumping of waste and the need for an AUS \$800,000 a year subsidy which was only required because waste was not disposed of appropriately.

The liquid waste regulatory initiative is aimed at returning equity to the liquid waste industry and encouraging fair competition between companies. The WasteTrack voucher system means that all premises using grease, petrol or oil traps are obliged to service their equipment correctly and pay the appropriate treatment costs which means that they compete on even footing in terms of waste management costs. Similarly the Global Position Systems tracking systems and waste volume sensing equipment for liquid waste tankers will make it almost impossible to dump illegally and this will mean that all transporters can compete on equal basis. This serves to encourage competition.

## **5 CLEAR ACCOUNTABILITY, SYSTEMATIC EVALUATION AND PERFORMANCE REPORTING**

In order to assess the progress towards the central objectives of the program, a structured, quantifiable measurement system has been developed by the Department of Environmental Protection.

Appendices 2 and 3 contain examples of some of the graphical monitoring reports used, generally on a monthly basis within the Department's performance monitoring system, to assess our progress in managing liquid waste. The graphs describe the volumes of various waste types treated at the Liquid Waste Treatment Plant (and comparisons to previous years), the progress of the rigorous inspection program for registered facilities, and an analysis of the WasteTrack system which considers both total volumes, and the efficiency of the WasteTrack system itself.

In addition to the liquid waste treatment monitoring system, there is also a detailed and integrated financial reporting system for WasteTrack. Within that system the Department of Environmental Protection is dealing with over 4,000 client businesses (each invoiced twice per year). This generates in excess of AUS \$2 million per year in revenue and means that the Department is the Liquid Waste Treatment Plant's largest client. In managing these funds, the Department must reconcile volumes received for treatment against produced twice per month.

Clear accountability for finances is provided by an integrated data base that matches client invoices to the volumes treated, and through an electronic link, the amounts receipted from clients. The operation of a trust fund established for these funds under the Financial Administration and Audit Act is reported publicly in the Department of Environmental Protection Annual Report. The system is also used to arrange refunds of pre payments from clients who go out of business, or who have their waste treated appropriately outside WasteTrack.

The trust fund is reconciled monthly to ensure that there are sufficient funds to meet the liabilities created by waste yet to be treated in a six month period that clients have already paid for, which is important given the non profit nature of the trust fund (see example - Appendix 3-A).

Apart from the liquid waste volume, and financial evaluations, the Department of Environmental Protection also monitors the workload and time allocation of inspectorial staff in the liquid waste area. These outcomes are reviewed monthly with the staff involved (see - Appendix 3-B), and used to amend resource allocation to the needs of the immediate future. This approach provides more detailed information than is required by the department's working hours record system.

In summary the liquid waste management area delivers clear, regular evaluations in four key areas:

- waste volumes treated;

- efficiency / success of the WasteTrack systems;
- financial management of the trust fund; and
- allocation of staff time to agreed work outputs.

Each of these systems forms a regular part of management review and reporting.

## **6 INNOVATION & LEADERSHIP IN STIMULATING IMPROVEMENT IN OTHER PARTS OF PUBLIC SECTOR**

This program uses many innovations which either are or will contribute to stimulate improvements within and outside public sector management. Some of the areas which may impact outside of the Department of Environmental Protection are:

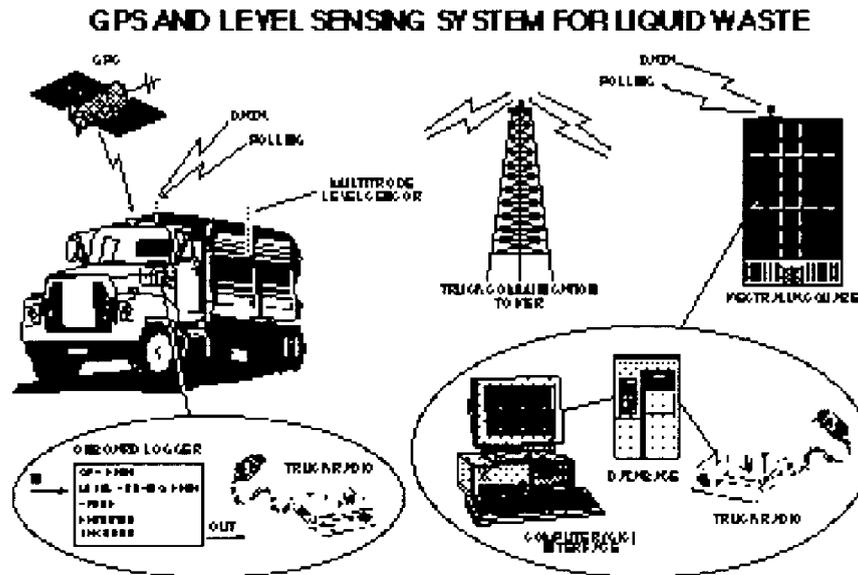
### **6.1 Sound Management**

Liquid waste initiatives have been funded by redirecting funds spent on subsidy to fixing a substantial problem. They actually result in a net saving of approximately AUS \$400,000 per year for government. It is unusual for a regulatory agency to provide a positive dividend for the Government while delivering an enhanced regulatory program. The short term success of this system has vindicated this decision. This unique approach to establishing and funding infrastructure has drawn a lot of attention from other public sector agencies.

### **6.2 Waste Tracking & Use of Evolving Technology**

Many of the systems implemented for liquid waste management have assisted in the tracking of wastes on a national level. The current WasteTrack system in place in Perth is well advanced compared to those in other States of Australia and will be enhanced further with the introduction of Global Position Systems and remote sensing technologies to monitor the collection and transport of liquid wastes at the point of collection. Figure 3 describes the Global Position Systems tracking system which is currently being installed in all tankers. This is the first time this technology has been used for tracking liquid waste tankers and represents a major opportunity for the company to market the technology interstate and overseas.

Figure 3 Global Position Systems Tracking



The introduction of bar-coded vouchers to the liquid waste tracking system in July 1996 saw a dramatic improvement in the processing time for tracking the movement of liquid wastes. This system collected the information on delivery at the treatment plant, which allows the monitoring of information on a daily basis. The implementation of the Global Position Systems will allow the tracking of wastes to occur during collection. This system is designed with automatic monitoring states and is activated during certain alarm states, such as the loss of volume in a place other than an approved site. This system will mark exactly the location of the incident to within five meters.

It is envisaged this will provide the ultimate tracking system to ensure waste is correctly disposed of and make policing of the industry more efficient. The development and implementation of this system has sparked national and international interest and is likely to result in its application on other waste transport.

### 6.3 Delivery of Inspection Services

The delivery of inspection services in the Department of Environmental Protection acts as a different model than is used in other sections of the Department and has placed our inspectors in a lead role with respect to assessment of grease traps and oil interceptors, and delivering a client service.

This regulatory system has also provided the impetus for the Water Corporation to introduce new technologies in the management of grease traps to supplement regular servicing.

#### 6.4 Redeployment & Retraining

The establishment of the team of inspectors has been done by training people from redeployment, each from different backgrounds with State Print and Westrail. This approach is directly in line with Government policy and can be used as a model for redeployment in other agencies.

#### 6.5 Managing Change

Great progress has been made in protecting the environment, changing industry culture, increasing compliance with regulations and increasing the awareness of environmental issues in liquid waste management. We have achieved this through dramatic changes in this area including the introduction of an efficient, equitable, cost effective system of regulation and a dedication to expanding these innovations in the future through Global Position Systems and maintaining our effort in registration and licensing of liquid waste producers and contractors to regional areas of Western Australia.

Our commitment and success in managing cultural change in the liquid waste transport industry has seen changes which have resulted in improvements in compliance and expansion of services they offer to their customers to include other aspects of waste management, in place of just transportation. This is a direct result of the innovation and leadership we have shown in changing the culture of the industry.

### **7 COMMITMENT TO A BEST PRACTICE MANAGEMENT FRAMEWORK**

Many aspects of best practice management were utilized in the design and implementation of this unique approach to management and delivery of regulatory services. This has included benchmarking, a commitment to continuous improvement through measurement and evaluation, adoption of a quality management approach to administration and not least a clear customer focus.

Commitment to these aspects of best management practice has also allowed the identification of future challenges in delivery of this service.

#### 7.1 Benchmarking

In developing the WasteTrack system for Western Australia, approaches used were other States evaluated in order to set a benchmark for delivery of this service in Western Australia. WasteTrack is based on the best available system operated by Sydney Water to monitor grease trap services. This Sydney Water system was used as the basis for meeting our needs and was enhanced to deliver a state of the art waste tracking system to monitor compliance.

In addition to this benchmarking exercise it was apparent that no regulatory agency in the same field offered solutions to some of the problems associated with the liquid waste transport industry in Western Australia. The development of the Global Position Systems for tracking waste transportation drew from other fields. Fisheries agencies nationwide have made effective use of this technology to monitor catches, enforce quotas and police regulations. This was used as the benchmark in research and development for the application of these technologies to the transport of wastes.

## 7.2 Continuous Improvement

A commitment to continuous improvement is a standard feature of programs delivered by the Department of Environmental Protection. This commitment is best reflected in a Statement of Values developed by the staff and published shortly after the division's formation as 'the Office of Waste Management' in April 1994 (Appendix 1).

The success of the liquid waste initiatives draws heavily on measurement and identification of specific problems in industry and development of solutions to make positive changes. Without measurement and assessment of the program, the proposed changes could not have been implemented.

An example of this is the establishment of the WasteTrack system for grease trap and oil interceptors. The nature of the system meant that we were able to develop a series of performance indicators which compared the volume of wastes expected to be transported and disposed at the disposal site with actual volumes transported within the system, to total volumes transported (see Appendix 2-C and D) on a monthly basis.

Within three months of commissioning the system, the measurement systems showed that the business objectives were not being achieved. After further investigation of this problem, the administration of the system was redesigned by issuing the vouchers directly to the customer's nominated contractor. This change caused some initial confusion with our new customers but the approach has proven to be successful in meeting our objectives and also ensuring a more effective and efficient system of management (table 1).

Our inspection services have also evolved with the changing work environment. When problems were encountered, the staff were allowed to develop and implement innovative ways to overcome them. This has seen the development of sampling equipment to allow more accurate assessment of grease trap service intervals. These innovations once evaluated and proven were documented and shared with other staff to provide consistency of service.

## 7.3 Quality Management

A quality management approach is essential to offer an effective and equitable service to over 4,000 customers and ensure adequate controls are in place to manage data critical to maintaining and improving the delivery of this service. Commitment to this is achieved through the use of clear and documented procedures.

The design of the procedures manual is quite unique, as it not only shows the life cycle of each discrete job using flow charts but also links these to detailed written procedures and other tasks. In planning the procedures manual much emphasis was placed on its ease of use, which we feel has been achieved.

An integral part of our journey to achieve a quality administrative system is the use of an integrated records management and document control system in this section. A database has been set up to register all incomings and outgoing correspondence, and these are allocated to file prior to action. To achieve this, all registrations are managed within the section.

These tools allow all customer contacts to be traced and accurately recorded which has seen dramatic improvements in the way we do business and relate to our customers. The document control and records management system will play an important step in toward the Quality Accreditation of this area.

#### 7.4 Customer Focus

The commitment to this aspect of our system is critical and has been integrated into the systems approach to our service delivery.

Through our experiences over the last ten years, we realized that despite having a state of the art tracking systems and increased regulations, our environmental and public health objectives could not be achieved without the cooperation of our customers, in maintaining contact. The manner in which the inspectors are used provides an individual approach in managing the industry and seeking compliance.

Since November 1996, inspection staff have visited over 3,000 customers each year to provide individual assessments and licence inspections. These inspections result in modifications to registrations or licenses and were recorded on both the WasteTrack database and each customers file.

All of these requirements tie into the highly efficient records management system which tracks business history and ensures equitable treatment of customers. Equity is the backbone of this system and guarantees that the largest and smallest producers comply with the same regulations, procedures and environmental standards.

The level of compliance with service schedules for grease and petrol and oil traps has been monitored and has shown a steady since inception 1 July 1996 as follows:

**Table 1 Regulatory Compliance**

<u>Period</u>	<u>%Compliance</u>
July - December 1996	61.3
January - June 1997	93.5
July - December 1997	91.3
January - June 1998	93.0

This compliance is a direct result of our commitment to customer focus and reflects the success in changing the culture of the liquid waste industry.

## 8 FUTURE CHALLENGES

In line with our the commitment to continual improvement several challenges lay ahead to further improve our service delivery and maximize our environmental protection and public health objectives. These include:

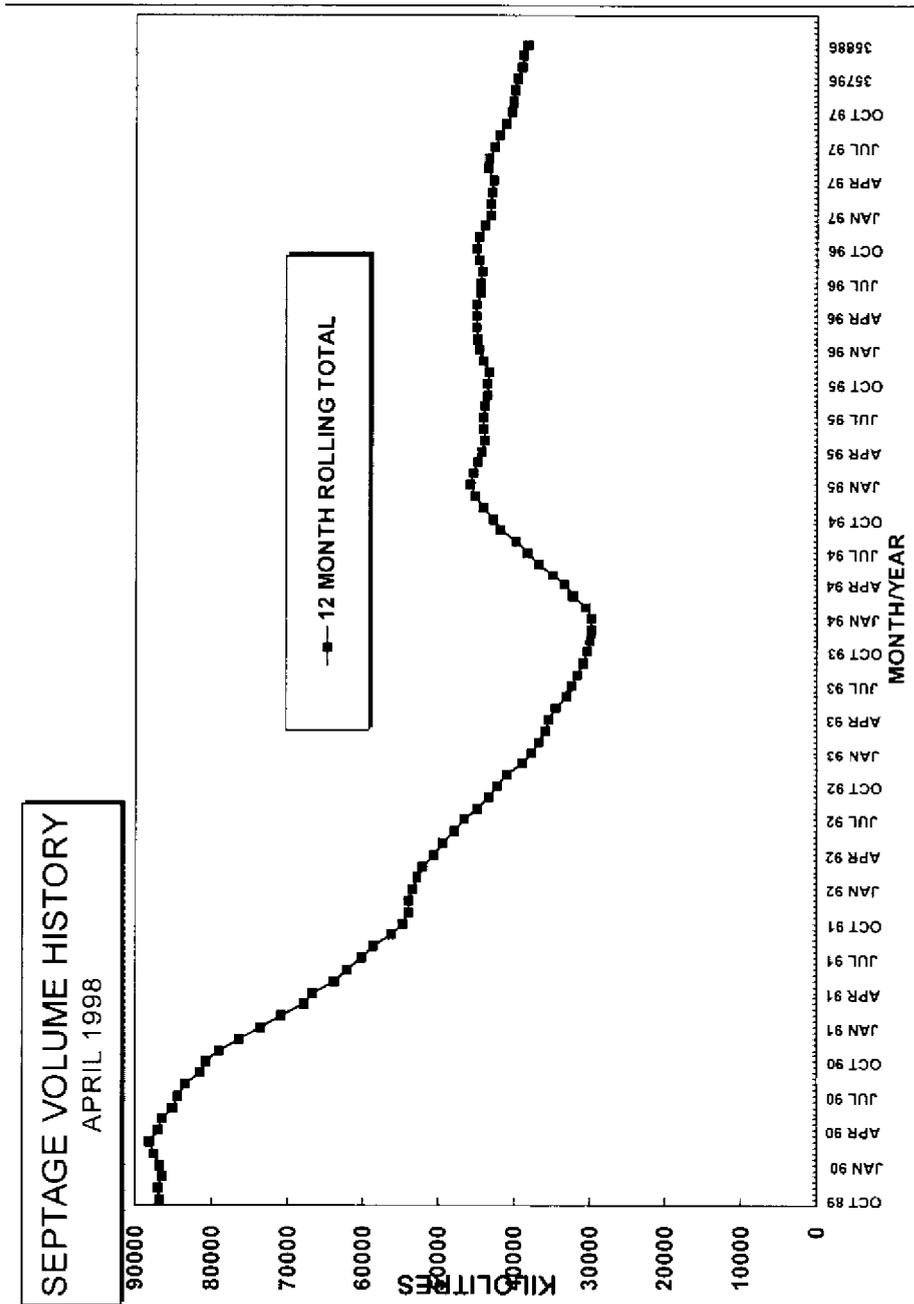
- commissioning of the quality procedures manual and achievement of Quality accreditation of this section to ISO 9002;
- development and refinement of our performance indicators to meet changing industry priorities and reflect environmental inputs;
- management and maintenance of an efficient records management system;
- refinement of delivery of our inspection / customer service to achieve highlighted efficiency gains;
- delivery and commissioning of the GPS tracking system;
- marketing of the GPS tracking system for use in other related applications at State, National and International levels;
- introduction of this system to regional Western Australia; and
- development and implementation of inter agency policies to deal with the decommissioning of septic tanks as a result of infill sewerage.

## **APPENDIX 1 WASTE MANAGEMENT DIVISION STATEMENT OF VALUES**

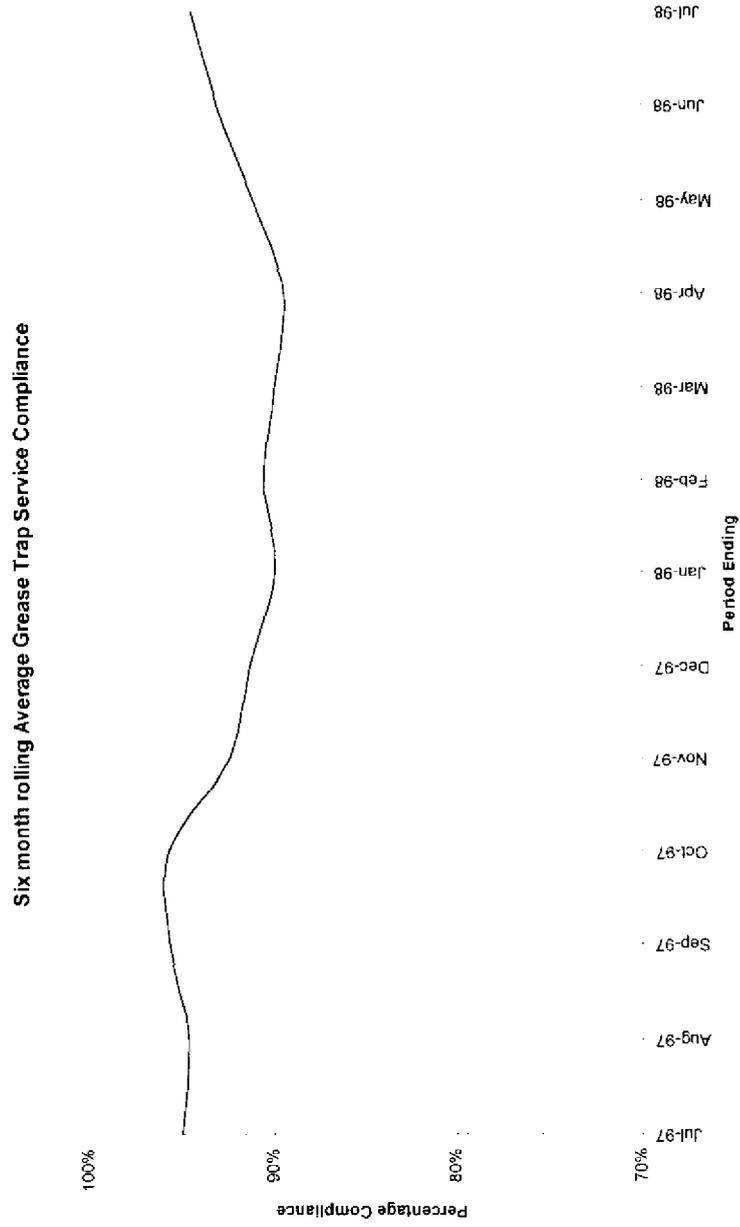
The Waste Management Division, as part of the Department of Environmental Protection, will operate with a sound values structure:

- Our Clients are important and valued people.
- We will operate with integrity and honesty in our dealings with others.
- Our operations will be performed with efficiency and a professional approach.
- We will strive to continuously improve all our products and services.
- Our staff are acknowledged as our most important resource and have a shared responsibility for our success.
- We will be a caring and open employer.
- We will operate to the highest standards of public sector management, and comply with all relevant policies and laws.
  
- We will offer staff the opportunities to improve their knowledge and skills and access a range of work environments.

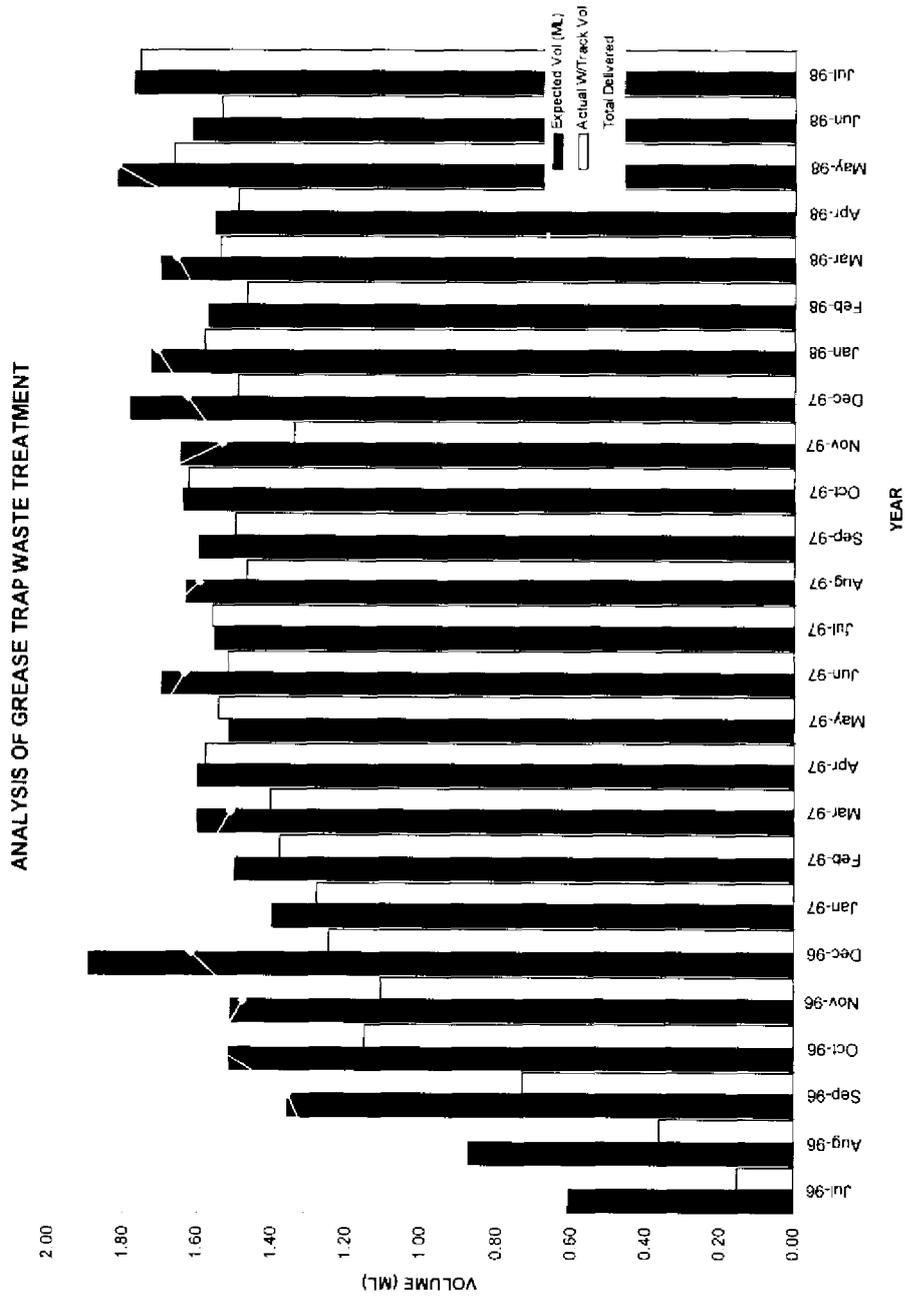
APPENDIX 2-A PERFORMANCE INDICATORS  
TWELVE MONTH ROLLING AVERAGE SEPTAGE VOLUME



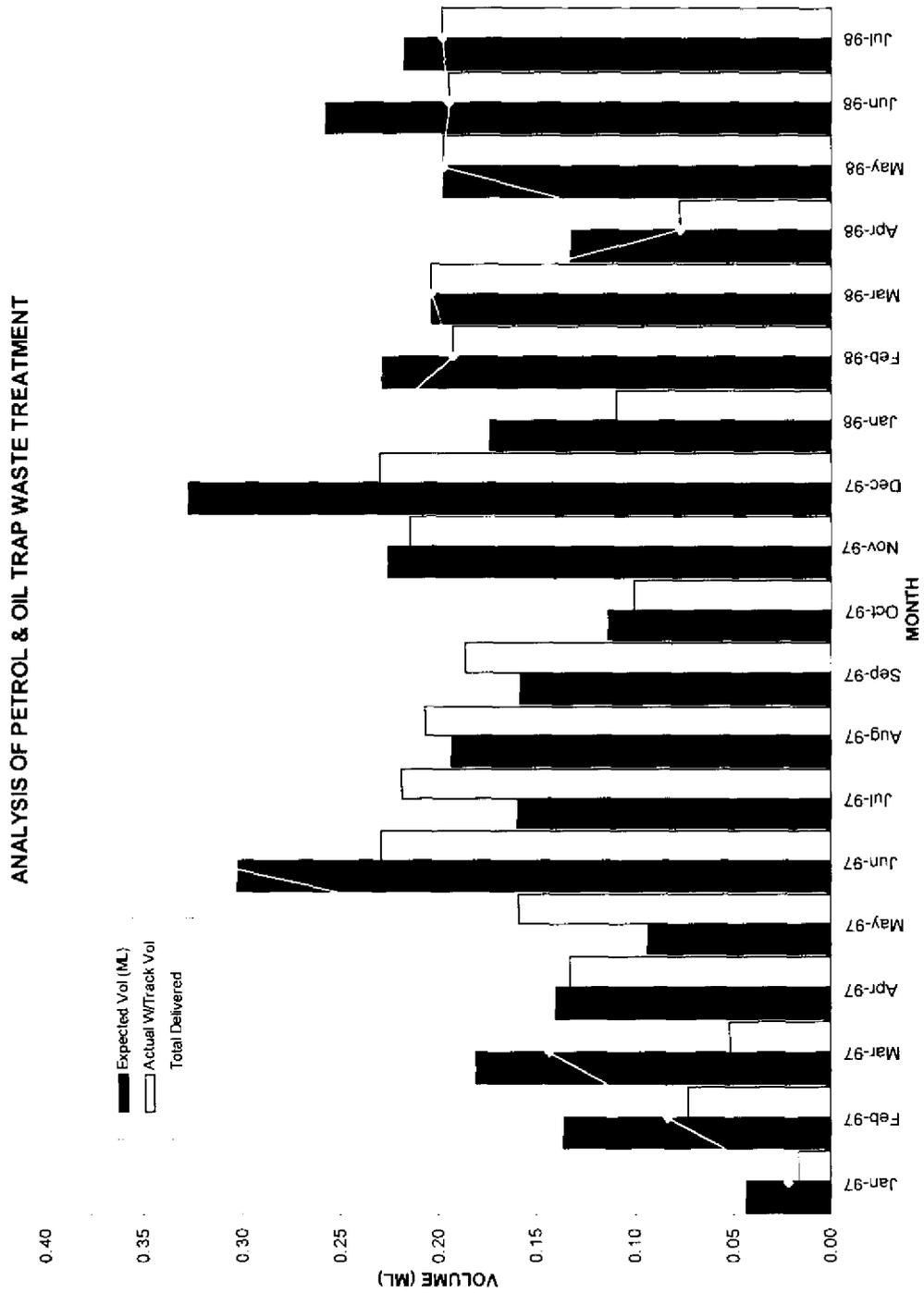
**APPENDIX 2-B PERFORMANCE INDICATORS  
SIX MONTH ROLLING AVERAGE GREASE TRAP SERVICE COMPLIANCE**



**APPENDIX 2-C PERFORMANCE INDICATORS  
ANALYSIS OF GREASE TRAP WASTE TREATMENT**

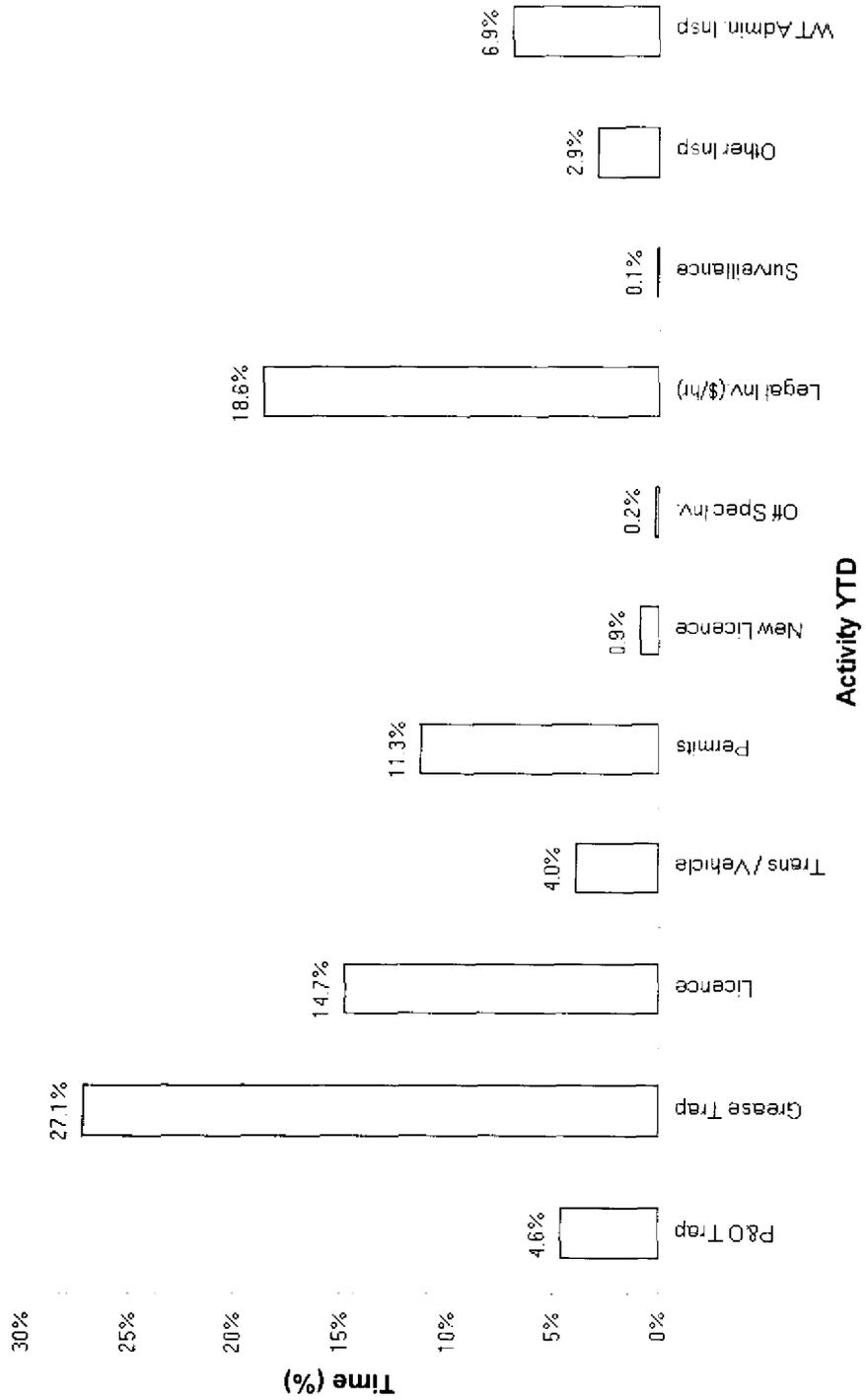


**APPENDIX 2-D PERFORMANCE INDICATORS  
SIX MONTH ROLLING AVERAGE GREASE TRAP SERVICE COMPLIANCE**



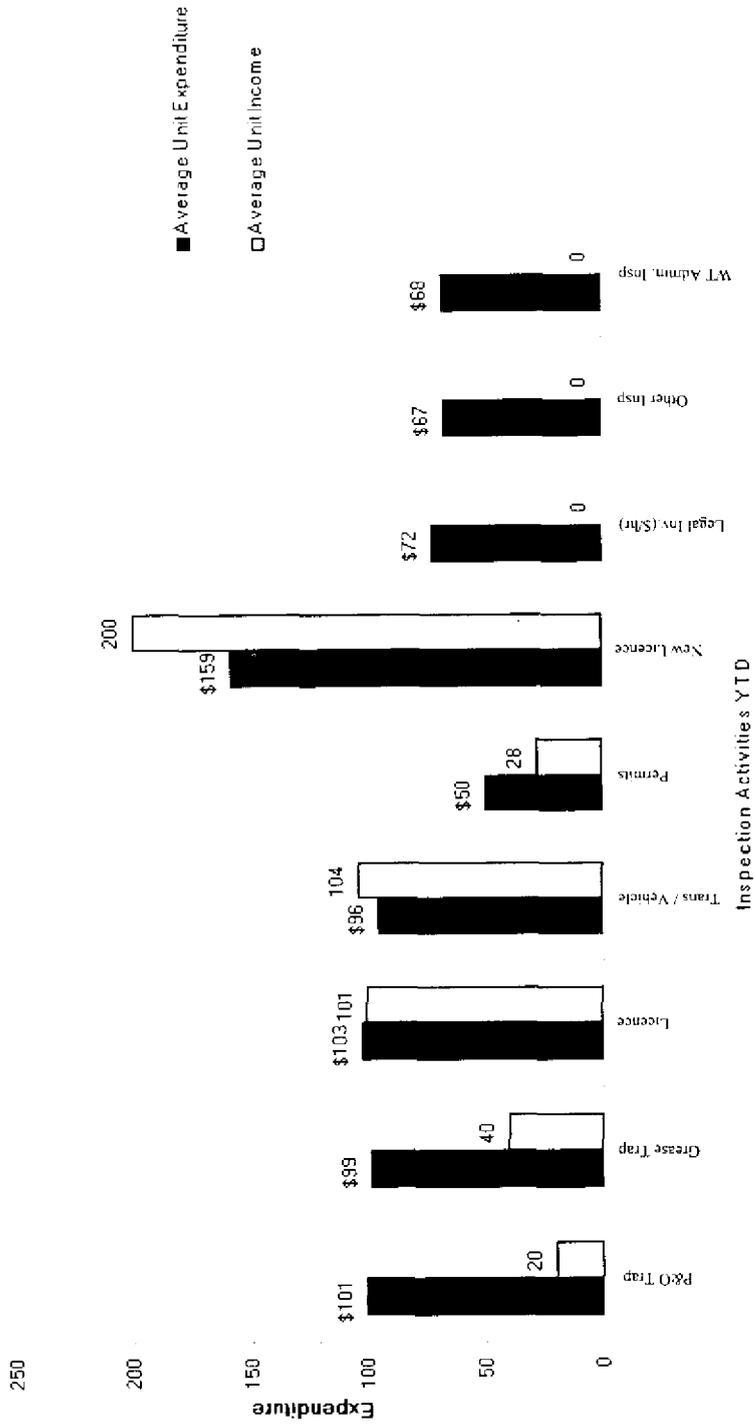
**APPENDIX 3-A      EFFICIENCY INDICATORS**  
**PROPORTION OF TIME SPENT ON REGULATORY ACTIVITIES 97/98**

**Proportion of Time Spent on Regulatory Activities 97/98**



**APPENDIX 3-B      EFFICIENCY INDICATORS**  
**AVERAGE UNIT EXPENDITURE PER REGULATORY ACTIVITY 97/98**

Average Unit Expenditure per Regulatory Activity 97/98



**APPENDIX 3-C WASTE TRACK RECONCILIATION  
(AS OF 30 JUNE 1998)**

	Opening Balance (As of 1 January 1998) (includes \$70,000 not paid to CRF in Dec '97)	\$ 314,322
<u>Plus</u>	Grease Trap Revenue	\$ 648,745
	P&O Trap Revenue	\$ <u>130,067</u>
	<b>Total Revenue</b>	<b>\$ 1,093,134</b>
<u>Less</u>	Payments to consolidated fund G/T *(includes GT rev Commitment of \$53K) #(includes GPS project funding commitment of \$110K)	\$ 256,000
	Payments to consolidated fund P&O *(includes P&O rev commitment of \$6K) #(includes GPS project funding commitment of \$10K)	\$ 23,000
	Payments made for treating G/T waste	\$ 503,475
	Payments made for treating P&O waste	\$ 97,298
	Refund Grease Traps	\$ 237
	Refund P&O Traps	\$ <u>844</u>
	<b>Total Cash at Bank</b>	<b>\$ 212,280</b>
<u>Less</u>	Liabilities for G/T waste to 30 June 1998 (Invoiced but not yet paid)	\$ 59,903
	(expected not yet invoiced)	\$ 30,000
	Liabilities for P&O waste to 30 June 1998 (Invoiced but not yet paid)	\$ 14,941
	(expected not yet invoiced)	\$ 10,000
	*Grease Trap Revenue Commitment (CRF)	\$ 51,659
	(*P&O Trap Revenue commitment (CRF)	\$ 6,213
	Credits to clients	\$ 6,918
	Liabilities for treatment costs raised but not invoiced	\$ 11,496
	<b>Gross Total Non-Committed Funds</b>	<b>\$ 79,022</b>
	#GPS Project funding commitment	\$120,000
	<b>Net Total Non-Committed Funds</b>	<b>\$ 79,022</b>

# WASTE news

Waste Management Division  
Department of Environmental Management

December 1997

## Weighbridge in full swing

The weighbridge at the 7450 route site is busy at the moment. It is the only one of its kind in the region and is used to weigh all trucks entering the site. The weighbridge is used to monitor the weight of trucks entering the site and to ensure that the weight of trucks leaving the site is within the limits set by the Department of Environmental Management. The weighbridge is used to monitor the weight of trucks entering the site and to ensure that the weight of trucks leaving the site is within the limits set by the Department of Environmental Management.

## Liquid waste section receives Premier's Award commendation

The Liquid Waste Section of the Waste Management Division has received a commendation from the Premier of the Province of South Africa for its outstanding performance in the management of liquid waste. The commendation was presented to the section by the Premier's Office in recognition of the section's commitment to the highest standards of service and its dedication to the protection of the environment.

**Trial of vehicle to vehicle transfers**  
A trial of vehicle to vehicle transfers is being conducted at the 7450 route site. The trial is being conducted to determine the feasibility of using this method of transferring waste between vehicles. The trial is being conducted over a period of six months and will involve the use of a specially designed vehicle to transfer waste between trucks.



Mr. [Name] presenting the Premier's Award commendation to Mr. [Name].

## GPS launched at last

The GPS system has been successfully launched at the 7450 route site. The system is used to track the location of trucks and to monitor their movements. The system is used to track the location of trucks and to monitor their movements. The system is used to track the location of trucks and to monitor their movements.

## OLD AND NEW SIDE BY SIDE

The old and new waste management systems are being compared side by side. The comparison is being made to determine the advantages and disadvantages of each system. The comparison is being made to determine the advantages and disadvantages of each system.

## Ins and outs

Information regarding the ins and outs of the waste management system. This section provides details on the various aspects of the system, including the collection, transport, and disposal of waste. It also provides information on the various regulations and standards that apply to the system.

## Reminder on permits

A reminder regarding the various permits required for the waste management system. This section provides information on the different types of permits and the steps that must be taken to obtain them. It also provides information on the various conditions and requirements that must be met in order to obtain the permits.

## Volume and weight doesn't add up

Information regarding the volume and weight of waste. This section provides details on the various methods used to measure the volume and weight of waste and the factors that can affect these measurements. It also provides information on the various standards and regulations that apply to these measurements.

## New Driver Training Available

Information regarding the new driver training program. This section provides details on the various aspects of the program, including the curriculum, the duration of the program, and the requirements for enrollment. It also provides information on the various benefits of the program.

## NEW LOOK WASTE RAFFLE

Information regarding the new look waste raffle. This section provides details on the various aspects of the raffle, including the prizes, the dates of the raffle, and the requirements for participation. It also provides information on the various ways in which the raffle proceeds will be used.

## Update on GPS equipment

Information regarding the update on GPS equipment. This section provides details on the various types of GPS equipment that are available and the factors that should be considered when selecting equipment. It also provides information on the various ways in which the equipment can be used.

## WasteTrack peak short-lived

Information regarding the WasteTrack peak. This section provides details on the various aspects of the peak, including the duration of the peak, the volume of waste generated, and the factors that contributed to the peak. It also provides information on the various ways in which the peak was managed.

## CAMERAS UP AND RUNNING

Information regarding the cameras that are up and running. This section provides details on the various types of cameras that are being used and the locations where they are being installed. It also provides information on the various ways in which the cameras will be used.

**REMINDER - HAVE YOUR SAY**  
Remember that your feedback is important. We have an open on-line feedback system where you can provide your comments and suggestions. Please visit our website at [www.waste.gov.za](http://www.waste.gov.za) to provide your feedback.



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## UNDERSTANDING COMPLIANCE THROUGH ROOT CAUSE ANALYSIS

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### SUMMARY

The U.S. Environmental Protection Agency's root cause analysis projects provide regulators the opportunity to identify noncompliance trends and analyze the issues associated with a particular industry sector. Two key terms used in root cause analyses are:

- *Root cause* is defined as a primary factor (or factors) that gives rise to a noncompliance.
- *Contributing cause* is defined as a secondary factor (or factors) that gives rise to a noncompliance.

The participation in root cause analyses enhances the Environmental Protection Agency's ability to: 1) understand further the regulatory issues associated with individual sectors; 2) develop innovative recommendations to address the root causes of noncompliance; and 3) understand the full impact of certain sectors on the environment. Root cause analysis is a tool, in addition to traditional inspection and enforcement activities, that may yield long term compliance and environmental performance benefits. The Agency's Office of Compliance and Chemical Emergency Preparedness and Prevention Office have developed the root cause projects discussed in this paper. Sharing information on the root causes with affected industrial sectors can lead to collaboration efforts to improve compliance or enhanced targeting of formal enforcement. Several of the projects focus on individual sectors including chemical manufacturers, iron and steel, petroleum refineries and nonferrous metals. Although these projects are ongoing, the Environmental Protection Agency wanted to share the approaches being used to identify root causes and the potential benefits of such efforts.

### 1 FINDING THE RIGHT MIX OF TRADITIONAL AND INNOVATIVE APPROACHES TO IMPROVE COMPLIANCE

The Environmental Protection Agency (the Agency) continuously seeks new approaches to improve facilities' compliance with environmental laws, reduce risk, and raise awareness of environmental issues. Creative solutions for difficult issues have been particularly encouraged since the establishment of the Agency's Office of Enforcement and Compliance Assurance on June 8, 1994. This new office recognizes the importance of combining compliance monitoring, compliance assistance, compliance incentives, and enforcement to address an array of environmental issues effectively and efficiently. Traditional approaches such as inspections and enforcement will always have a strong role in the Agency's enforcement and compliance assurance program. However, more creative

approaches to improve environmental performance are now underway. These new approaches address the different needs of industry sectors and, in part, are contained in the President's March 16, 1995, Reinventing Environmental Regulation initiative.

## **2 IMPROVING COMPLIANCE ON A SECTOR BASED APPROACH**

One of the Agency's goals is to deliver compliance with U.S. environmental laws while inspiring the regulated community to employ methods that focus on pollution prevention. The Agency is developing ways to build the capacity necessary to provide more effective compliance assistance for the regulated community - in particular - industry sectors. Developing sector-specific compliance tools and approaches requires the regulators to have a basic understanding of a sector's: regulatory requirements; compliance trends; basic processes; products or services; and geographic distribution. This knowledge enables the regulators to develop an environmental profile of an industry sector and identify the environmental issues associated with that sector. The regulators can then begin to work with industry, states, and other interested parties to improve environmental awareness, compliance and performance.

An important step in improving compliance and environmental performance is to understand *why* facilities are not complying with environmental laws. In short, regulators need to conduct root cause analyses. The goal of root cause analyses is to find fixable causes and to identify solutions to correct and minimize recurrence of the noncompliance.

## **3 ENVIRONMENTAL PROTECTION AGENCY ROOT CAUSE ANALYSIS ACTIVITIES**

Although the Agency does not have a written policy requiring root cause analysis, the Agency recommends its use to improve environmental compliance and performance. Several of its projects are underway to understand better the root and contributing causes of noncompliance with environmental laws.

### **3.1 The Agency Approaches to Understanding Root Causes**

The root cause projects focus on four industry sectors including chemical manufacturers, iron and steel, nonferrous metals and petroleum refineries, and an ongoing effort addressing emergency chemical releases. Two distinct approaches are being used in these efforts to identify and evaluate root causes: 1) the establishment of partnerships; and 2) compliance trend analysis.

### **3.2 The Establishment of Partnerships Approach**

Partnerships have been established in two root cause projects; the *Environmental Protection Agency/Occupational Safety and Health Administration (EPA/OSHA) Joint Chemical Accident Investigation Program*, and the *Environmental Protection Agency/Chemical Manufacturers*. In both instances, the partnership was created through a Memorandum of Understanding which identifies the terms and conditions of the partnerships and the projects' framework. These partnerships established a framework for industry and government to work together to improve compliance and the environment.

### 3.2.1 The EPA/OSHA Program

The Occupational Safety and Health Administration (OSHA) is the Federal Agency with primary responsibility for worker safety and health. This agency is authorized by the Occupational Safety and Health Act (codified at 29 U.S.C. 651 et seq.). Its mission is to promulgate and enforce mandatory safety and health standards for the purpose of assuring, so far as possible, safe and healthful working conditions for every worker in the nation. In October 1997, under the auspicious of the Chemical Safety and Hazard Investigation Board (Board), Congress appropriated funds to create an independent agency that will investigate industrial accidents, provide recommendations, and issue reports to the public. While the Environmental Protection Agency and the Occupational Safety and Health Administration are working with the Board to help meet this mandate, both agencies still continue to conduct investigations pursuant to their agency's authority.

The EPA/OSHA program, in part, investigates chemical accidents and releases that resulted in a fatality or serious injury, property damage, or other off-site impacts. These investigations are conducted to determine probable root and contributing causes. After each investigation the agencies develop a root cause investigation report and Chemical Safety Alert for the public and various industry sectors. These publications help industry to focus on steps that may help prevent accidents. Specifically, industry can get information to: 1) identify potential hazards; 2) reduce the likelihood of accidents from occurring; 3) minimize the consequences of accidents that do happen; and 4) make chemical productions, processing, handling and storage safer.

Executive Summaries of accident investigation reports and Chemical Safety Alerts can be downloaded from website [www.epa.gov/swercepp](http://www.epa.gov/swercepp) or by calling 1-800-424-9346. Root cause analysis reports are available for five investigations in the United States.

Chemical Safety Alerts, designed to provide prompt notification of hazards identified through root cause investigations include:

- catastrophic failure of storage tanks
- shaft blow out hazards of check and butterfly valves
- fire hazard from carbon absorption deodorizing systems
- lightening hazards
- rupture hazard pressure vessels
- explosion hazard from ammonium nitrate

### 3.2.2 The Environmental Protection Agency and the Chemical Manufacturers Association Pilot Project

The Chemical Manufacturers Association represents chemical manufacturers with operations in the United States and Canada. Its member companies account for more than 90% of the productive capacity for basic industrial chemicals in the United States. The partnership between the Environmental Protection Agency and the Association represents the first time the Agency and representatives of the regulated community are working together to understand the root causes of noncompliance, and to develop recommendations to improve environmental performance. Establishment of this partnership provides the Agency with the opportunity to understand industry's perspective on: the causes of noncompliance with federal environmental statutes; their suggestions on how the Agency and industry may improve environmental performance; and the impact environmental management systems have on their

performance, including Responsible Care®. Responsible Care® is a Chemical Manufacturers Association initiative aimed at improving the safety and environmental performance of all member companies.

The project focuses on noncompliance addressed in federal civil enforcement actions which commenced and concluded between 1990-1995. The Agency and the Association chose to survey facility personnel to gather information pertaining to four target questions:

- What are the underlying causes of noncompliance?
- How did facilities respond to noncompliance and what were the lessons learned?
- How do Responsible Care® and other management systems affect overall environmental performance?
- What facility and/or Agency changes will improve compliance and the efficiency of the compliance process?

A report summarizing the findings and providing recommendations from this pilot project is expected to be published by the Agency and the Association jointly in December 1998. Preliminary results from the survey responses indicate that the most frequently occurring noncompliances can be described as:

- Reporting: general failure to submit required reports, or the submittal of incomplete or inaccurate reports.
- Exceedance: failure to meet discharge limit(s).
- Operation and Maintenance: general noncompliance of an operational and maintenance requirement.
- Record Keeping: noncompliance concerning operating records or files, not maintained in accordance with regulations.

The following chart illustrates the most frequently identified root causes for these noncompliances.

Noncompliance Type	Root Causes
Reporting	Human Error; Regulations and Permits
Exceedance	Equipment Problems; Procedures
Operation and Maintenance	Procedures; Human Error; Regulations and Permits
Recordkeeping	Human Error; Regulations and Permits

In addition to identifying root causes, survey respondents identified contributing causes for the noncompliances. Although rarely identified as a root cause, preliminary data analysis has identified *management* and *compliance monitoring* as significant contributing causes of noncompliance.

### 3.3 Compliance Trends Analysis Approach

The Environmental Protection Agency is also conducting sector-based compliance trends analyses to understand the root causes of noncompliance in the petroleum refining, iron and steel, and nonferrous metals sectors. Generally, these analyses consist of four key steps:

1) collecting Agency and state inspection and enforcement data; 2) compiling the data into sector-specific databases; 3) identifying noncompliance patterns; and 4) examining why any patterns of noncompliance occurred. Further analysis of these sectors will be conducted in 1999.

Preliminary observations from the petroleum refineries analysis indicate that there may be noncompliance issues in the following areas:

- Water: violations of the Environmental Protection Agency's Clean Water Act are most the frequently identified noncompliance issue, particularly with regard to permit limit exceedances.
- Air: noncompliance is associated with emissions of volatile organic compounds (VOCs) and sulfur dioxide (SO<sub>2</sub>) originating from equipment leaks and combustion sources respectively.
- Waste: noncompliance is associated with reporting and recordkeeping and the operation and maintenance of tanks.

Regarding the iron and steel industry sector, preliminary data analysis indicate that there may be noncompliance issues in the following areas.

- Water: noncompliance is associated with permit limit and pretreatment effluent exceedances, and unauthorized discharges. The root causes for these noncompliances may be attributed to: equipment deficiency, equipment failure, process inadequacy, treatment systems upset, and work practices.
- Air: noncompliance is associated with opacity, mass, and fugitive emission exceedances and operation and maintenance requirements. Potential root causes for these noncompliances may include control equipment failure, process equipment failure, and work practices.
- Waste: noncompliance is characterized as either "administrative" or "process based." Administrative issues were identified most frequently. Administrative noncompliance includes: closure, financial assurance, self-inspection, labeling, manifest, monitoring, notification, permit, corrective action or release prevention plan, recordkeeping, reporting, training, and waste analysis. Process-based noncompliance includes: labeling, records, storage, self-inspection, spill response, secondary containment systems, permit violations, determination and management of hazardous waste generated, training and certification. The root causes for both categories of noncompliances may be attributed to inadequate staffing and resources and misinterpretation of the hazardous waste and recycling definitions.

Root cause data analysis is not yet available for the nonferrous metals sector. The identification of these noncompliance issues in addition to an understanding the industry's processes, will better enable the Agency to identify the root causes for the noncompliances. Armed with this knowledge, the Agency can better prioritize enforcement and compliance assistance activities for the iron and steel industry sector.

The compliance trend analyses should help the Agency understand the environmental impact of these sectors on a national basis. This will allow the Agency to prioritize its resources to address environmental concerns that appear to be created, in part, by the nature of their business and location of facilities.

#### **4 USING ROOT CAUSE DATA TO IMPROVE COMPLIANCE**

Generally, the results of these studies should enable regulators to improve inspection, enforcement and compliance assistance prioritizing and targeting. The compliance recommendations developed under these approaches will be implemented and tested only through the commitment of the Agency and industry.

The Agency looks forward to using the root cause analysis data to:

- Develop regulations that are more easily understood and implementable by the regulated community.
- Explore additional opportunities for voluntary programs that will offer valued incentives to industry and enhance environmental performance.
- Incorporate successful recommendations into settlement agreements.
- Prioritize the development of compliance assistance tools based on industry needs.
- Prioritize agency and industry resources to address significant compliance and environmental issues.
- Transfer recommendations across industry sectors when appropriate.
- Identify industry-specific actions that can improve their compliance and environmental performance.
- Provide findings and recommendations to the Small Business Compliance Assistance Centers to target compliance assistance efforts.

The Small Business Compliance Assistance Centers represent an innovative approach to help businesses nationwide better understand and comply with federal environmental requirements.

**Access to all Centers: <http://es.epa.gov/oeca/mfcac.html>**

#### **5 CONCLUSION**

As the Environmental Protection Agency concludes these root cause projects, it will be armed with a better understanding of the causes of noncompliance. It will be better able to further its regulatory reinvention and compliance assistance activities, as well as its compliance monitoring and enforcement activities. The information gained and lessons learned from the root cause analysis projects provide the Environmental Protection Agency, other government agencies, and industry new opportunities to improve environmental performance.

Root cause analysis conducted through partnerships allows the Agency to acquire a unique perspective of how environmental laws are understood and implemented by industry and other governmental agencies. Equipped with such knowledge, it can modify and create environmental policy that reflects the state of the industry and government, and is in the best interest of the public. Furthermore, industry may incorporate the recommendations into their daily operations to effect behavioral change with regard to environmental compliance and performance. Consequently, there will be more effective and consistent approaches to protecting human health and the environment. Root cause activities that began as an in-depth compliance trend analysis provides the Agency and industry the opportunity to precisely

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identify and effectively address "trouble spots" across an entire sector. This type of analysis can be used to establish a baseline from which compliance and environmental performance can be measured.

There are numerous approaches to conduct root cause analyses. The type of root cause approach used depends on the parties and their needs. Whatever approach is employed, the project goals should always be the same - improved compliance and environmental performance.



## WORKSHOP 2D MULTI-MEDIA (INTEGRATED) INSPECTIONS AND PERMITTING

Many nations are moving toward integrated permitting and inspection, and others are considering these approaches.

Papers and workshop discussion issues will address the following issues:

- The extent of country experiences with integrated permitting and/or integrated (multi-media) inspections.
- How an integrated permit is defined, specifically whether it covers procedural integration, administrative integration, substantive integration or all three. What is different about integrated versus single media or program permits.
- How integrated or multi-media inspections are defined including multi-media screening, cross program or combined inspections, team inspections and process-oriented inspections.
- Advantages and disadvantages of integrated permits and integrated inspections and whether they are more or less efficient and effective and why, in what circumstances.
- Potential and actual results from integrated permits and integrated inspections that would not have resulted from single-media permits.
- Level of difficulty in issuing and monitoring compliance with integrated permits: more or less difficult to achieve compliance by the regulated community.
- Special expertise needed to implement integrated inspection programs.
- Impact on integration of compliance and pollution prevention concerns and approaches.

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1.	Incorporation of Environmental Management Systems into Integrated Pollution Control Licensing in Ireland, <i>Larkin, Padraic</i> .....	257
2.	Integrated Permitting in Sweden, <i>Lundholm, Mikael</i> .....	267

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See related papers from other International Workshops and Conference Proceedings:

1. An Integrated Approach to Environmental Enforcement— A Case Study, *Baron, B.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 104 - 104
2. Integrated Licensing, Implementation and Compliance Monitoring in Developing Countries, *de Lardere, J. A.*, Volume 1, Budapest, Hungary, 1992, Pages 315 - 317
3. Integrated Pollution Control in England and Wales, *Bryce, D.*, Volume 1, Oaxaca, Mexico, 1994, Pages 131 - 143

4. Summary of Workshop: Integrated Permitting and Inspection, *Skinner, J. and Wasserman, C., Facilitators, Mazingo, J., Rapporteur*, Volume 1, Chiang Mai, Thailand, 1996, Pages 333 - 334
5. Swedish System of Integrated Permitting - Whether it Enhances Compliance and Enforceability, *Svermdal, L*, Volume1, Budapest, Hungary, 1992, Pages 265 - 266
6. Thailand's Environmental Enforcement Program, *Homchean, K.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 101 - 102
7. The U.S. Environmental Protection Agency's Integrated Compliance by the Federal Government, *McCall, T.*, Volume 1, Budapest, Hungary, 1992, Pages 471 - 489
8. UK Experience in Establishing an Inspectorate for Integrated Pollution Regulation, *Handyside, J.*, Volume 1, Budapest, Hungary, 1992, Pages 339 - 350
9. Some Methodological Aspects of Designing Regulations and Setting Priorities in Economics Under Transition, Volume 1, Oaxaca, Mexico, 1994, Pages 115 - 129
10. synopsis of Multi-media Inspection Protocols: International Examples, Volume 1, Chiang Mai, Thailand, 1996, Page 394
11. Synopsis of Course: Conducting Multi-Media Inspections, Volume 1, Chiang Mai, Thailand, 1996, Pages 395 - 396

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## **INCORPORATION OF ENVIRONMENTAL MANAGEMENT SYSTEMS INTO INTEGRATED POLLUTION CONTROL LICENSING IN IRELAND**

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### **SUMMARY**

The Irish Environmental Protection Agency issues Integrated Pollution Control Licenses to a wide range of activities posing a significant threat to the environment. These integrated licenses cover all environmental media, including noise. They focus on the elimination of waste at source through cleaner production and they take account of the best available technology not entailing excessive costs for each industrial sector. As well as specifying emission limit values, each license requires the activity to establish and maintain an Environmental Management System. The environmental management system includes environmental performance objectives and targets, a realistic programme to achieve those targets, a pollution emission register for major pollutants, and extensive environmental performance reporting. A cooperative relationship exists between industry and the Agency and win-win solutions aimed at increasing competitiveness and protecting the environment are encouraged. The Agency considers that proper design, control and maintenance of process equipment is fundamental to integrated pollution prevention and control.

The Agency has adopted the use of Environmental Audits as a means by which compliance with an Integrated Pollution Control license may be assessed. This approach is facilitated by the implementation of an Environmental Management System within licensed activities. As such, the Agency is involved in an holistic assessment of an activity's environmental performance, not only in terms of compliance with emission limit values but also in relation to their approach to environmental management and continuous improvement.

### **1 INTRODUCTION**

Ireland enjoys, for the most part, a clean environment thanks primarily to an accident of history whereby the country missed out on the industrial revolution of the 19<sup>th</sup> century and to an accident of geography which places it on the Western edge of Europe surrounded by ocean and with prevailing Southwesterly winds. As a result, the two largest income-generating sectors of the Irish economy are agriculture and tourism and both rely heavily on a clean environment. Ireland is also a member of the European Union and must comply with a wide range of EU-driven environmental legislation.

As a result of these conditions, there is a substantial body of environmental legislation in Ireland and an Environmental Protection Agency was established in 1993, independent of Government, with a wide range of powers and functions. One such function is the licensing and regulation of industrial and other processes with significant polluting potential on the basis of Integrated Pollution Control and Best Available Technology Not Entailing Excessive Costs.

## **2 INTEGRATED POLLUTION CONTROL**

Integrated Pollution Control aims to prevent pollution at its source through process design/redesign to eliminate emissions and substitute hazardous materials with less hazardous ones. It also aims to minimize releases to the environment as a whole by process control, inventory control, and end-of-pipe technology. The developer or operator is responsible for demonstrating that in selecting a process, all avenues for elimination and substitution have been examined and any appropriate measures adopted. Wider issues considered include raw material extraction, off-site power generation and the impacts of waste disposal. The license sets limit values for emissions to air, water, land and noise and these are monitored in the normal way by the licensee with unannounced check monitoring by the Agency. There is a recognition however that this type of command and control regime alone tends to focus on end-of pipe abatement and does not yield the full potential that exists for waste elimination and minimization and overall environmental protection at these licensed sites. The Agency decided to introduce some license conditions to raise environmental awareness throughout these facilities, to focus on the areas where greatest improvement could be achieved and to cater to on-going improvements.

## **3 ENVIRONMENTAL MANAGEMENT SYSTEMS**

The Agency incorporates a condition requiring an Environmental Management System in Integrated Pollution Control Licenses. In general, this condition is as follows:

### **Condition 2 Environmental Management**

- 2.1. The licensee shall establish and maintain an Environmental Management System (Environmental Management System) which shall fulfil the requirements of this license. The Environmental Management System shall assess all operations and review all practicable options for the use of cleaner technology, cleaner production and the reduction and minimization of waste, and shall include as a minimum those elements specified in the Conditions 2.2 to 2.9 below:
- 2.2. A schedule of Objectives and Targets
  - 2.2.1. The licensee shall prepare a schedule of Objectives and Targets. The schedule shall include time frames for the achievement of set targets. The schedule shall address a five year period as a minimum. The schedule shall be prepared to the satisfaction of the Agency and shall be submitted to the Agency within four months of date of grant of this license. The schedule shall be reviewed annually and amendments thereto notified to the Agency for agreement as part of the Annual Environmental Report
- 2.3. Environmental Management Programme (Environmental Management Programme)

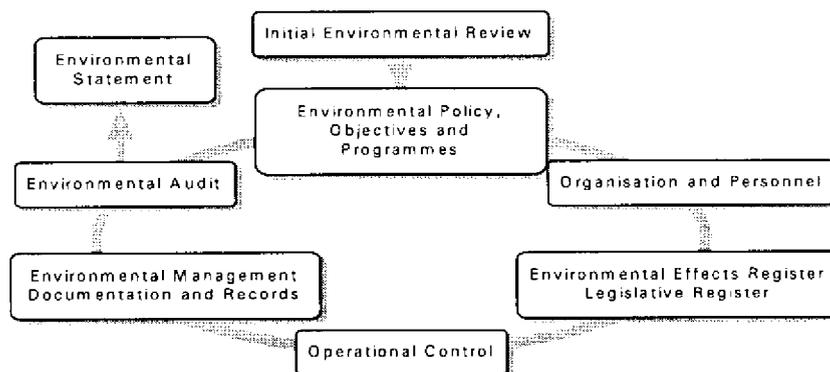
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- 2.3.1. The licensee shall, not later than six months from the date of grant of this license, establish and maintain an Environmental Management Programme, including a time schedule, for achieving objectives and targets. The Environmental Management Programme shall thereafter, form part of the Annual Environmental Report and shall be agreed with the Agency prior to implementation. It shall include:
- designation of responsibility for targets;
  - the means by which they may be achieved;
  - the time within which they may be achieved.
- 2.3.2. A report on the programme, including the success in meeting agreed targets, shall be prepared and submitted to the Agency as part of the Annual Environmental Report. Such reports shall be retained on-site for a period of not less than seven years and shall be available for inspection by authorized persons of the Agency.
- 2.4. Pollution Emission Register
- 2.4.1. The substances to be included in the Pollution Emissions Register shall be agreed with the Agency each year by reference to the list specified in the Annual Environmental Report guidance note. The Pollution Emissions Register shall be prepared in accordance with any relevant guidelines issued by the Agency and shall be submitted as part of the Annual Environmental Report.
- 2.4.2. The licensee shall, not later than six months from the date of grant of this license and thereafter as part of the Annual Environmental Report, agree with the Agency on the list of substances to be included in the Pollution Emissions Register, and the methodology to be used in their determination.
- 2.5. Documentation
- 2.5.1. The licensee shall establish and maintain an environmental management documentation system which shall be to the satisfaction of the Agency.
- 2.5.2. The licensee shall issue a copy of this license to all relevant personnel whose duties relate to any condition of this license.
- 2.6. Corrective Action
- 2.6.1. The licensee shall establish procedures to ensure that corrective action is taken should the specified requirements of this license not be fulfilled. The responsibility and authority for initiating further investigation and corrective action in the event of a reported nonconformity with this license shall be defined.
- 2.7. Awareness and Training
- 2.7.1. The licensee shall establish and maintain procedures for identifying training needs, and for providing appropriate training, for all personnel whose work can have a significant effect upon the environment. Appropriate records of training shall be maintained.

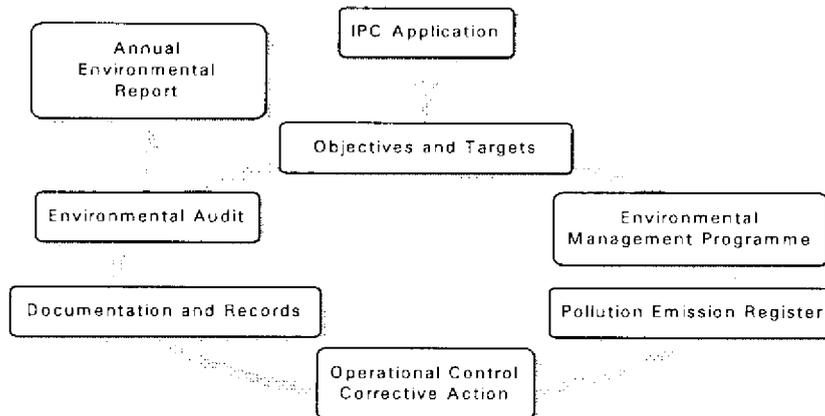
- 2.7.2. Personnel performing specifically assigned tasks shall be qualified on the basis of appropriate education, training and/or experience, as required.
- 2.8. Responsibilities
- 2.8.1. The licensee shall ensure that a person in charge, as defined under the terms of the Environmental Protection Agency Act, 1992 shall be available on-site at all times when the activity is in operation. The person in charge shall also be available to meet with authorized persons of the Agency at all reasonable times.
- 2.9. Communications
- 2.9.1. The licensee shall put in place a programme to ensure that members of the public can obtain information concerning the environmental performance of the licensee. This programme shall be submitted for agreement to the Agency within six months of the date of grant of this license.
- 2.9.2. The licensee shall submit to the Agency, eighteen months from the date of grant of this license, and each calendar year thereafter, an Annual Environmental Report which shall be to the satisfaction of the Agency. This report shall include as a minimum the information specified in Schedule X and shall be prepared in accordance with any relevant guidelines issued by the Agency.

### 3.1 Environmental Management

The basic requirement is for the implementation of a management system which forms a basis for continuous, structured and quantifiable improvement in a company's environmental performance. This aim is synonymous with the objective of an Integrated Pollution Control license. In simple terms, an Environmental Management System can be defined as that part of the overall management system which deals with environmental issues relating to an activity; it does not by default mean any accredited standard. However, there are elements of commonality between the two as can be seen by comparing Figures 1 and 2 below.

**Figure 1 Environmental Management System (EMAS)**



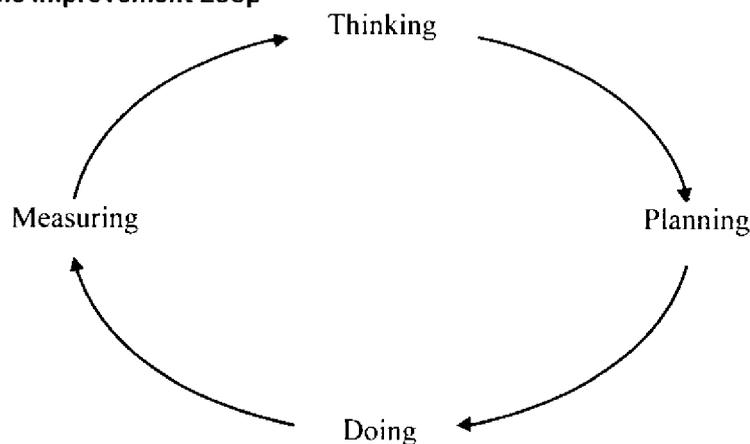
**Figure 2 Environmental Management System (Integrated Pollution Control)**

In addition many of the elements in the Integrated Pollution Control Environmental Management System are complementary to ISO 9000 quality systems which are widely implemented throughout industry, particularly;

Documentation	Training
Corrective actions	Responsibilities etc.

Hence the Integrated Pollution Control Environmental Management System can be operated as part of a quality system where this exists.

The core element within the Environmental Management System which drives continuous improvement is the Environmental Management Programme. In effect the Environmental Management Programme brings into play the principle of the continuous improvement loop (the Total Quality Management approach, Figure 3).

**Figure 3 The Improvement Loop**

- Thinking:** is the step to determine what the goals are, the targets to be achieved, the route to be taken and the measurements to track success. How will this be done?
- Planning:** is the step to design the activities to achieve the goal. Who will have to do what in-order to achieve the goal? What resources, skills and expertise are needed?
- Doing:** is the implementation of the plan.
- Measuring:** is the key to assessing the effectiveness of the doing stage.

The different elements of the Environmental Management System are elaborated on below.

### 3.2 Schedule of Objectives and Targets

The purpose of this requirement is to ensure that there are clear environmental goals within an organization as a whole. Targets must be demanding, as low level targets will not be approved by the Agency. Objectives and targets should be quantified wherever this is practical to ensure that real achievements can be recorded against the targets. The environmental targets must be documented, realistic time-scales for completion must be set and managers and staff alike must monitor progress of achieving targets within the time frame.

### 3.3 Environmental Management Programme

The purpose of the Environmental Management Programme is to ensure that the objectives and targets are supported by a realistic programme which is implemented throughout the organization. Each project proposal which forms part of the environmental management programme must address the following:

- Why:** undertake this project?
- What:** is the company going to do?
- When:** is it going to be done?
- Who:** is responsible to ensure it has been done properly?
- How:** is it going to be done?

### 3.4 Pollution Emissions Register

A Pollution Emissions Register is a register of potentially harmful pollutant releases or transfers from industries regulated by the EPA. The annual publication of the Pollution Emissions Register provides the public with comprehensive information on the use, control, transfer and release of pollutants in industry and creates a powerful motivation for waste reduction. The European Union Integrated Pollution Prevention and Control Directive makes provision, in Article 15, for the publishing, by the European Commission, of an inventory of the principal pollutant emissions and sources. This inventory is to be published every three years on the basis of data supplied by Member States. The Pollution Emissions Register information submitted to the Agency by Integrated Pollution Control licensees will form part of the Irish submission to this inventory.

The primary purpose of the Pollution Emissions Register is to ensure that the destination of major pollutants is tracked. Information provided by the register will assist industry to focus on problem pollutants and highlight priority areas for improvement when setting the next year's objectives and targets. Also of benefit is the knowledge gained from a

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thorough understanding of material flows in a facility. This can result in options for waste reduction and improved operating procedures which are fundamental to Integrated Pollution Control Licensing.

### 3.5 Documentation

The purpose of this condition is to ensure that there is adequate documentation to support the environmental management system in operation. In terms of documented procedures, it is critical that the licensee issues comprehensive written operating instructions to all personnel involved in the operation of abatement/treatment facilities as pollution incidents can sometimes be traced back to a lack of clear written instructions for some key piece of equipment.

### 3.6 Corrective Action

Within the Environmental Management System, the licensee is required to establish procedures to ensure that corrective action is taken where a non-compliance is raised. Non-compliances are normally identified by measurement/monitoring or verification procedures. The responsibility and authority for initiating further investigation and corrective action in the event of a reported non-conformity with the license must be defined. The follow-up action to correct the problem is essential to demonstrate compliance with the license and for continued confidence in the management system.

### 3.7 Awareness and Training

Awareness and training is incorporated into the Environmental Management System in order to establish the necessary communications, training plans and training records to ensure that the license is sufficiently understood and integrated into the day-to-day business.

### 3.8 Audits

The implementation of an Environmental Management System in Integrated Pollution Control facilities is the mechanism by which the requirements of the license will be maintained throughout the company. Moreover, such a system puts in place an auditable entity which the Agency's audit team may assess in order to determine the performance (compliance) of the company in relation to its Integrated Pollution Control license.

### 3.9 Cooperation

From the beginning of Integrated Pollution Control licensing the Agency adopted a proactive role in encouraging industry-regulator dialogue on all issues of mutual concern. One outcome of this dialogue is an 8 day training course on environmental issues for senior management in industry which is organized and presented jointly by the Irish Business and Employers Confederation, the EPA, An Taisce (the largest environmental NGO in the country) and Clean Technology Consultants (CTC). This training course, which runs on one day every two weeks over a sixteen week period, is much in demand and the first successful programme is being repeated around the country.

### 3.10 Costs

The Agency extracts an annual charge from each licensed activity which covers all Agency costs involved in monitoring and controlling the license. Experience since 1994 has shown that, where a sound Environmental Management System is in place, the level of check monitoring and the extent and depth of auditing by the Agency is reduced with a corresponding reduction in the annual charge. Agreement has also been reached between the Agency and the National Accreditation Board, which implement the voluntary European Union Environmental Management and Audit Scheme in Ireland, to accept the results of Environmental Management and Audit Scheme audit in lieu of an Agency audit with further reduction in the annual charges.

### 3.11 Examples

Some examples of improvements arising from the introduction of an Environmental Management System are summarized below in Table 1. In many cases the improvements are small, but when small improvements are replicated over many sites, the overall effect is substantial.

**Table 1. Examples of Improvements Arising from Environmental Management Systems**

License No.	Details
18	Reduced 8 step synthesis to 6 steps Eliminated usage of Methylene Chloride Ammonia usage reduced by 90% Reduced Ethyl Bromide emissions by 83%
46	Drum reduction program 90% of drums replaced by IBC's
55	Recycling of wash-down water Reduced effluent discharge by 80%
115	Solvent recovery program Eliminated use of 12 tons TriChloroEthylene/annum
118	Packaging waste reduction program Reduced load to landfill by 50%
139	Organic solvent replacement Reduction from 30 tons to 8 tons per annum

#### **4 ADVANTAGES OF THIS APPROACH**

Based on the Irish experience over the past 3 years, the inclusion of an environmental management system in a pollution control permit is to be recommended to the regulator and the licensee for the following reasons :

- It is a structured environmental management tool.
- It allows for the preparation and implementation of environmental programmes.
- It leads to a reduction in emissions and minimization of waste.
- It provides improved environmental control.
- It can be monitored easily through environmental audits.
- It can often lead to cost savings.
- It improves corporate image.
- It meets stakeholder demands.
- It can improve market access and security.

#### **5 EFFECT ON THE IRISH ECONOMY**

The introduction of Integrated Pollution Control licensing and mandatory Environmental Management System in Ireland has coincided with an extraordinary growth in the Irish economy, which has outstripped all other European Union member states over the past 5 years. While many factors have contributed to this success, it is reasonable to conclude that sound environmental laws and strict control and enforcement does not hamper economic development but is essential if that development is to be sustainable in the years ahead.



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## **INTEGRATED PERMITTING IN SWEDEN**

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### **SUMMARY**

The Swedish Environmental Protection Act, that came into force in 1969, was designed to meet the requirements of that time. Its purpose was to regulate point discharges from industry and similar environmentally hazardous activities. The Act is based on a case-by-case integrated pollution control system and has been of great importance in reducing emissions from industrial and other plants.

The integrated approach in the Act is characterized by the fact that practically all kinds of environmental impact of a planned installation are being assessed by the same authority on the same occasion. This makes it possible to control the transfer of pollution from one media to another and to address potential cross-media conflicts. The purpose is to select the best overall environmental option, i.e., to protect the environment as a whole.

The licensing authority has, within the framework of the regulation, extensive discretionary powers as regards determining what environmental impacts are most severe and what kind of remedial measures the operator should undertake. This is a complex task both from a legal and technical point of view. Therefore the system requires an independent and highly qualified licensing authority. In the case of operations causing the gravest disturbances, it is the National Licensing Board that settles matters of permits. The National Licensing Board is an independent central authority whose way of working is similar to that of a law court.

However, new environmental problems as well as the vision to create an ecologically sustainable society have led to a need for new regulatory instruments. For almost a decade, extensive work has been carried out to reform Swedish environmental legislation. Altogether 15 different environmental laws have been integrated into one Environmental Code. The main purpose of the regulatory reform has been to produce a legislation that is based on the environmental problems as they are known today, and that is closely connected with the way problems are to be tackled in practical terms.

As regards licensing of industrial installations, the scope of the integrated assessment required by the Environmental Code has to be widened, e.g., it has to include energy efficiency requirements and consumption of raw materials etc. The Environmental Code will enter into force on 1 January 1999.

## **1 THE REGULATORY FRAMEWORK**

### **1.1 The 1969 Environmental Protection Act**

During the 1960s, a number of important environmental protection measures were taken in Sweden. Older regulations concerning health care, toxic substances and water pollution were replaced by legislation intended to prevent emissions of all types of pollutants. A new state authority - the Swedish Environmental Protection Agency - was established in 1967 with responsibility for the protection of land, water and air.

The Environmental Protection Act came into force in 1969. The Act triggered cleanups of emissions and discharges from industry and settlements and has enabled authorities to work on sharply reducing discharges from point sources.

The Environmental Protection Act contained an early recognition of both the precautionary principle and the concept of integrated pollution control and has been an extremely important instrument in reducing pollution from industry. Emissions from industries to the air and water have, in many cases, been reduced by between 65 and 95 % since the late 1960s.

### 1.2 Scope of application

The Environmental Protection Act is intended both to prevent negative impacts on the natural environment and to restore environments that have already been damaged. It applies to all activities conducted on real estate or other permanent plants and where the operations are a source of disturbance in the neighborhood. Water and air pollution, noise, light, vibrations and the like are examples of the types of pollution that fall under the Act. A risk of disturbance is enough for the Act to apply.

Discharges from mobile sources, such as vehicles, ships and aircraft fall outside the Act's sphere of application. On the other hand, the Act applies to roads, harbors and airports, and the disturbance resulting from their use.

An activity to which the act is applicable is called an "environmentally hazardous activity".

In order to ensure that the requirements of the Act are genuinely complied with, certain new installations or those that are to undergo modification or extension are required to obtain prior licences.

The installations are defined and classed in three categories (A, B and C) according to their typical potential impact. For installations that entail a major environmental impact (category A), the proponent must apply for a permit from the National Licensing Board for Environmental Protection. There are approximately 500 class A installations in Sweden.

For activities with less impact on the environment, the county administrative boards are responsible for preparing and issuing licences. Sweden is divided into 21 counties and there are about 7,000 class B installations. Activities with only limited or local disturbances, Category C, do not need a permit but the municipalities must be notified in good time before the action is taken. There are about 16,600 such activities and 288 communities.

The number of competent authorities responsible for permit issuing is therefore normally only one as regards pollution issues: The National Licensing Board or the County Administrative Board.

Concerning certain big installations that are intrusive from the environmental viewpoint the Government is to assess the permissibility according to directives in the Natural Resources Act. One precondition of the Government's permission is normally that the local council concerned has given its approval. The government's decision is followed by a decision according to the Environmental Protection Act in which the National Licensing Board determines the conditions. The Board may not overrule the government's decision.

### 1.3 Substantial requirements

According to Section 5 of the Act, anyone performing or intending to perform an "environmentally hazardous activity" must accept restrictions and take precautionary measures to prevent or remedy disturbances caused by the activity. The wording in the Act is very general and it stipulates neither effluent limitations nor ambient environmental quality standards.

Thus, the law provides flexibility as regards determining what environmental impacts are most severe and what kind of remedial measures the operator should undertake. The obligation is, however, limited to such measures "as may reasonably be demanded". The decision making method for assessing what is reasonable in a certain case, is based on what is regarded to be technically achievable, economically feasible and environmentally justified, taking both public and private interests into consideration. The decision making could be compared to determining "Best Available Techniques" in the specific case.

It is a dynamic regulation in which the substantial requirements change over time with technological advances and changes in scientific knowledge.

Another characteristic feature of the Environmental Protection Act is the case-by-case approach where the special circumstances in each individual case are of great importance. Concrete local environmental conditions as well as actual impacts are taken into consideration. In practice the regulation has also encouraged operators to suggest their own solutions of environmental problems. This means that different plants - even in the same sector - can have different solutions of the same problem. Thus, in-process measures rather than end-of-pipe abatement has been encouraged.

Certain statements have been made in bills and other work preparatory to legislation in order to serve as a guide for the purpose of implementing the provisions of section 5 of the Environmental Protection Act. Practice has also established over the nearly 30 years during which the rules have been in force. There are also a lot of non-binding guidelines and recommendations but only a few legally binding norms and standards.

### 1.3.1 Significance of siting

According to the Environmental Protection Act, the site chosen by the operator is one of the items that should be assessed by the permit authority. Sometimes, several places may be suitable for an activity. When choosing between these places, such a place must be chosen whereby the purpose may be attained with the least intrusion and nuisance to human health and the environment. The Act explicitly requires selection of the best site from an environmental point of view - within reasonable costs. In this way the question of location of an installation forms an important part of the integrated assessment.

In the Act it is also stated that a permit may not be granted in contravention of a detailed plan, or so called area regulations issued by the planning authority. It should be noted however that even if the detailed plan states that the area should be used for a certain industrial installation, the proposed allocation still has to be assessed under the Environmental Protection Act.

### 1.3.2 Permit conditions

The permit conditions should reflect the substantial requirements of the Act and ensure that the operator obligations are met.

Conditions in a permit may be of many types. They may for example stipulate process- or cleansing-technique to be used, emission limit values, allowed or not allowed use of chemicals or further investigations to be carried out. Emission limit values are often supplemented and in some cases replaced by comparable technical measures such as requirements for closed process systems, floating roofs, catalytic combustion etc.

The permit conditions remain in force until they are reviewed. According to the provisions of the Act it is always possible to review the conditions after ten years. However, they may be revised at an earlier date in the event, for example, of unforeseen disturbances

arising or a substantial alteration in the local situation. In the event of new technology making considerable improvements feasible or as a consequence of EC legislation the conditions can also be reviewed.

It is the task of the Swedish Environmental Protection Agency to initiate a review of permit conditions of category A installations. This is done by way of an application to the National Licensing Board. However, even though the Environmental Protection Act states that the operator is obliged to provide the necessary material and information when reviewing permit conditions, the number of cases concerning reviews has been few over the years. It has *inter alia* been found that a lot of time and resources are required to fulfil this task.

In many cases a review is being made anyway in connection with changes in the operation, which often requires a completely new permit for the installation.

#### 1.4 The integrated assessment

The integrated permitting system in Sweden implies that practically all kinds of environmental impact of a planned installation are being assessed by the same authority at the same time. As mentioned above, even the proposed allocation as such is being examined. The purpose is in principle to obtain the best overall solution from an environmental point of view, i.e. to protect the environment as a whole.

In order to achieve an optimal decision in terms of environmental impact, abatement measures taken at industrial processing plants to reduce a given type of emission may need to be given priority at the expense of reductions of other emissions or discharges. The integrated approach makes it for instance possible to accept a minor increased emission to air in favor of a major reduction of discharge of waste water - if that is the best overall environmental option. The integrated approach has, for example, made it possible for the pulp industry to recycle waste water despite the fact that it might lead to minor increased emissions to air.

Accordingly, one advantage of integrated permits is that the licensing authority can control the shifting of pollution from one environmental medium to another. It is also possible for the authority to address so called cross-media issues. This competence lies within the framework of the legislation as part of the discretionary powers of the permitting authority. It should however be noted that cross-media evaluations are a very difficult task due to the lack of scientific knowledge, weighting factors and multimedia standards in general. Potential cross-media conflicts are therefore settled by an expert judgement by way of a verbal qualitative comparison of positive and negative effects.

There is no doubt that the Swedish integrated pollution prevention system based on an individual review, has been very successful and has led to significant reductions of emissions from point sources. Another advantage is that the bureaucratic burdens for investors are reduced whereas there is only need for one environmental permit.

On the other hand it is obvious that there are certain risks connected with a dynamic and flexible regulation without detailed prescribed requirements. Especially when far-reaching discretionary powers are given to the authorities. Lack of transparency of decision making and lack of predictability of regulatory requirements are two factors that has to be taken into consideration. There is also a risk that especially local authorities, may value economic considerations higher than ecological interests and impose less stringent permit conditions in certain cases.

### 1.5 The National Licensing Board

The above mentioned potential problems call for a strong and independent licensing authority. For installations that entail a major environmental impact (category A), the proponent must apply for a permit to the National Licensing Board for Environmental Protection. The National Licensing Board is a central and independent authority whose way of working is similar to that of a law court.

There are four members of the Board. The chairman of the board is a legally qualified and experienced judge. One member must have expert knowledge and experience in technical matters. One member must have experience in matters falling within the sphere of the Swedish Environmental protection Agency's activities. The fourth member of the Board must have experience in industrial operations.

With this composition, the Board has the necessary legal and technical capacity to perform the complex task of integrated permitting. Owing to the court-like proceedings and way of working, the Board's integrity is secured.

## 2 FORMAL PROCEDURES

### 2.1 Consultation

According to the Environmental Protection Act the operator should, before applying for a permit, consult any central and local authorities, organizations and individuals who may have an interest in the matter. The purpose with the consultation is to provide information on an early stage, to the public and to the operator about potential resistance to the project.

Even before the consultation the operator should obtain advice and information from the County Administrative Board as to how the obligation of consultation should appropriately be fulfilled. In this context and during the consultation the scope and extent of the environmental impact assessment ought to be discussed with the various authorities.

### 2.2 The permit application including environmental impact assessment

Permit applications must include the technical information on the installation and its activities required for an assessment of the nature and extent of the planned activity. These descriptions must be at a very high technical level. The application should also include information on proposed abatement techniques and proposals for inspection programs.

Since 1991 an Environmental Impact Assessment (EIA) must be attached to a permit application. The Environmental Protection Act states in this respect that the EIA should make it possible to do an overall assessment of the impact of a planned installation on the environment, health and conservation of natural resources. It could be noted that, in Sweden, EIA is incorporated with the licensing procedures and not a separate system.

### 2.3 Public announcement

The permitting authority normally provides those who may be affected by the disturbances from the installation an opportunity to express their views by means of a public announcement in a local newspaper.

The National Licensing Board always consults central, regional and local environmental authorities. Other authorities may be consulted if the Licensing Board finds that there is a need for such consultations, e.g. the National Fishery Agency.

#### 2.4 Public hearing and decision

For category A installations there is normally a public hearing and an on-site inspection. The proponent presents the application and the EIA and the authorities and public express their opinions. The procedure is in a way similar to a court trial were the National Licensing Board is the court of justice.

The described open and transparent procedure to issue a permit and set the conditions is of vital importance to get the necessary information for an integrated assessment.

### 3 THE ENVIRONMENTAL CODE

#### 3.1 Background

The case-by-case pollution control system pursuant to the Environmental Protection Act has been a cornerstone of environmental protection work in Sweden during recent decades. Environmental problems have, however, changed in nature to some extent.

By the end of the 1980s it was recognized that environmental problems had changed in character and that the strategies and instruments applied needed to be reviewed and to be made as effective as possible. It was felt that most of the problems that had been worked on 20 or 25 years earlier were in the process of being solved. Most point source emissions, such as from the industry and the energy system, had been reduced to the levels of the 1940s and 50s, despite multiple production increases.

The environmental problems had shifted from being primarily local in nature to be diffuse and globally disseminated. The environmental problems of the western world were becoming increasingly attributed to emissions from many small sources which have a substantial combined volume.

Through partial reforms in environmental legislation during the 1980s and 90s, e.g. in environmental protection, health protection and chemical legislation, the foundation had been laid for environmental rules which were more in line with the goals of the new environmental policy. Certain principles, e.g. the substitution principle regarding chemicals, was introduced in legislation.

The various environmental Acts were passed at different times and therefore expressed different values. Similar issues were given different solutions in the Acts. Regulations split up in various legislative systems overlapped each other, and the responsible governmental authority was not always obvious. It was therefore felt that coordinated legislation relating to the environment would improve the overall economic performance as well as simplifying bureaucratic procedures.

The primary objective of the regulatory reform, however, was to improve environmental effectiveness. Taking into account the development of environmental policy there were still some deficiencies remaining in the legislation. There was a need for, inter alia, stricter licensing regulations, a system for environmental quality standards and studies and considerations of the relationship between Swedish environmental legislation and international measures.

The idea of combining and making more stringent the various provisions in a single legislative system, an Environmental Code arose in the beginning of the 1990s. In 1992 the Swedish Parliament resolved that the objective underlying Swedish environmental policy should be to protect human health, preserve biological diversity, manage the consumption of

natural resources so that they can be used in a long-term and to protect our natural and cultural landscape. The Parliament at the same time approved the Governments proposal that environmental legislation should be collected in an Environmental Code.

After extensive legislative work the Environmental Code now has been adopted by the Parliament and will enter into force on 1 January 1999.

### 3.2 The Environmental Code

The rules contained within 15 Acts have been amalgamated in the Environmental Code. The Acts are

- the Nature Conservation Act;
- the Environmental Protection Act;
- the Act on the Prohibition Against Dumping Waste in Water;
- the Act on Sulphur Content of Fuels;
- the Act on the Management of Agricultural Land;
- the Waste Collection and Disposal Act;
- the Health Protection Act;
- the Act on the use of Pesticides on Forests;
- the Chemical Products Act;
- the Environmental Damage Act;
- the Natural Resources Act;
- the Act on Advance testing of Biological Pesticides;
- the Gene Technology Act and
- the Act on Measures concerning Endangered Animals and Plant Species.

The provisions of the Environmental Code are aimed at promoting sustainable development. The basic philosophy behind the Environmental Code is that common rules of care/obligations should apply irrespective of the type of activity concerned. The same requirements should be made, according to the general provisions, with respect to measures which risk similar damage being caused to health and environment. It is irrelevant, for example, whether the activity concerned is performed on land or in water, whether it is carried out by the public at large or an individual or in a commercial context or in some other manner. The governing principle is thus that it is the effect of the measure, and not its nature, which determine the requirements to be imposed.

#### 3.2.1 Substantial requirements in the Environmental Code

The common general rules of care are to be observed by everyone who conducts a business or other activity that falls under the very broad scope of applicability of the Code.

It is first prescribed that a person who conducts activities must acquire the requisite knowledge in order to protect human health and the environment and to promote reuse and recycling of materials and management of land and water. It is further stated that the fact that it cannot definitely be established that an activity is causing disturbance, does not release the individual conducting the activities from the obligation to prevent or restrict the potential risk of disturbance.

As for the other rules of care they are based on, the BAT principle, the precautionary principle, the so-called resource management and eco-cycle principles, the substitution principle and Polluter Pays Principle. With respect to each of the rules of care, they are to be applied to the extent justified on environmental grounds, provided this is not economically unreasonable.

### 3.3 Impact on integrated assessment

The general rules of care in the Environmental Code is applicable to all measures and activities, including industrial installations. In several ways this implies a major change compared to the current law.

At present, the permit system in principle only applies to emissions and other disturbances made by an installation. A broader assessment will be made under the Environmental Code. Even questions concerning the management of natural resources and use of chemicals will be considered.

As regards e.g. the resource management and eco-cycle principles, the best effects are achieved in conjunction with design and manufacture. The provisions will be applied when considering permits for industrial installations. This clearly extends the ambit of permit considerations compared with today. This means that the integrated assessment will be even more complex and create new trade-off problems. To develop a decision making methodology for these assessments constitutes a great challenge.

Another change, that might be of importance in this context, is that the National Licensing Board will be replaced by environmental courts. The practical consequences, if any, of having courts instead of authorities considering cases on permits for industrial plants still remains to be seen.

## WORKSHOP 2E SOURCE SELF-COMPLIANCE MONITORING REQUIREMENTS

Source self-compliance monitoring, record keeping and/or reporting plays an essential role for sources of pollution to manage to assure their own compliance and provide a more complete picture of compliance performance over time rather than the brief snap shot that a periodic inspection can provide.

Papers and workshop discussions will address the following issues:

- Design of source self-compliance monitoring, record keeping and/or reporting requirements:
  - Types of sources to which it applies;
  - Parameters and frequency of monitoring;
  - Form of reporting (standard forms, all data or exceptions) and frequency (real time, monthly, quarterly, semi-annually, annually, exceptions) electronic versus paper;
  - Data management; and
  - Quality control and assurance programs.
  
- Uses for source self-compliance monitoring information in the enforcement program:
  - Assurance of permittee or regulated community's self awareness;
  - Requirements for corrective and/or preventive response by the regulated
  - Basis for targeting inspection;
  - Basis for defining a violation and enforcement response; and
  - Modeling of ecosystem performance.
  
- Use of environmental audits by third parties or by regulated sources:
  - Voluntary and confidential or requirements to conduct and report self-evaluations; and
  - Nature of reporting (entire report, exceedences, environmental performance).

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See related papers from other International Conference Workshops and Proceedings:

1. Synopsis of International Comparison of Source Self-Monitoring, Reporting and Recordkeeping Requirements, 1996, Volume 1, Thailand

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## ENVIRONMENTAL AUDITING IN MÉXICO

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### SUMMARY

This paper is a follow-up of the paper I presented at the "Fourth International Conference on Environmental Compliance and Enforcement" held in Chiang Mai, Thailand in April, 1996. The title was "The Mexican Environmental Audit as a Voluntary Norm". Its contents referred to the general situation of México before the practice of environmental auditing, the reasons to develop this non-binding tool as a policy, the industrial response, and some results obtained up to August 1995.

In this document you will find information related to actual results of environmental audits carried out, the typical benefits for industry after the audit, the "Clean Industry" certificate, the relationship with ISO 14001, the environmental auditors evaluation process and the strategy to involve small enterprises in the audit program.

### 1 INTRODUCTION

As it has been demonstrated in many countries, command and control policies are necessary but not enough to get all the environmental improvement facilities can reach nowadays.

According to our experience, for many facilities the possibility to obtain a sanction for not being in compliance with environmental regulations, becomes an important motivation to decide to obey the laws and avoid these sanctions. At same time, it is also true that they can protect the environment beyond regulations through voluntary and concerted policies. The environmental audit offers to public and private factories the opportunity to participate with the authority in the development of different activities for their environmental improvement, taking into account both policies.

Through the Audit, it is possible to obtain results that are difficult to get with coercive actions, especially for very big or very complex facilities (refineries, smelters, etc.). Its voluntary nature makes it possible to carry out a precise evaluation in detail for the total productive process, but it is impossible to do it by means of a unilateral surveillance visit.

As a result of this minute and precise examination, the environmental audit allows facilities to program the realization of all the corrective and preventive activities, including the substitution of obsolete equipment.

For these reasons, The National Environment Program of 1995 and the amendments to the General Law of Ecological Balance and Environmental Protection realized in 1996, describe the audit as the most important voluntary tool in our environmental policy to accomplish the environmental regulations and protect the environment of our country, beyond the law.

## **2 THE ENVIRONMENTAL AUDIT**

Article 38 bis of the actual General Law defines the environmental audit as the methodological evaluation of the facility's operations according to its pollution sources and management risk situations, as well as the performance levels with respect to environmental regulations, international safety parameters and good operation and engineering practices in order to define the preventive and corrective measures necessary to protect the environment.

Under this definition, we can notice the following points: First, the environmental audit is not a simple review, but a methodological evaluation, previously established in the "Terms of Reference," a document that has been revised and actualized, so it is possible to use it to audit all type of productive processes.

In the second place, the environmental audit determines compliance with environmental regulations and when Mexican regulations do not exist for some issues, it is possible to use international regulations as a reference. Therefore, the audit is an integral evaluation about the facility's overall environmental performance and operations.

In the third place, due to the fact that the objective of the audit is compliance with regulations and the protection of the environment, after detecting deficiencies in the process, it is necessary to identify all the preventive and corrective measures to achieve and maintain optimal environmental protection status.

## **3 THE AUDIT PROCESS**

An environmental audit comprises the following three stages;

### **3.1. Planning or Pre-Audit**

At this stage a detailed activity program describing the type of tests and analyses to be performed is prepared. All the planning and decision making about how the environmental audit is to be carried out is performed during this phase, as well as the gathering of all the relevant information regarding the facility to be audited, especially the productive process, products and raw materials.

The procedures and analyses carried out at this stage must comply with the applicable legal provisions; best efforts must be made in order to cover all those areas within the audited business which may have an impact on the environment, whether or not all potential sources of pollution are individually regulated.

### **3.2. "In situ" Assessment or Audit**

This is one of the most important stages in the entire process. During this phase all those studies and evaluations needed to make a sound diagnosis of environmental performance and the scheduling of remedial measures must be carried out.

The audit team must perform all tasks in regard to sampling, analyze, and monitors according to a program based on the Terms of Reference. Officials from the State Delegations of the Federal Attorney for Environmental Protection (PROFEPA) normally are in touch with the facility's personnel during the audit.

The process of assessing an industrial facility requires evaluation and studies, both inside and outside the facility.

The studies undertaken inside the facility encompass identification and evaluation of stages of industrial process involving both hazardous materials and wastes. Special attention must be given to the facilities, personnel, organization, layout, programs and procedures as

well as the review, analysis and evaluation of technical records and registers. Throughout this stage a fruitful exchange of information among those involved is encouraged for the parties to gain a better understanding of the origin of the problems or deficiencies uncovered.

The work outside the facility consists mainly of collecting and analyzing the information related to the natural environment, socioeconomic conditions and applicable provisions of environmental laws as well as the actual or potential environmental impact generated by the facility.

The legal analysis must be concerned with all environmental legal instruments, and also it must cover other areas, such as those relating to health and safety issues in the work place.

The audit report and the executive summary are the most time consuming of the stages of the process. Though it is true that there are no deadlines for the accomplishment of each audit phase, it is estimated that a full auditing process may take between six to ten months, depending on the complexity of the processes used by the facility, its geographical location, the degree of difficulty of the various aspects to be dealt with, etc.

It should be pointed out that, during the course of an audit, we avoid inspection visits while the audit is being performed, although there is no legal impediment to prevent any authority from carrying out such kind of visits. In fact, both in the Working and the Environmental Compliance Agreements, inspection and supervision duties are expressly preserved, due to the fact companies are working toward compliance.

Regarding the need to advise other authorities about the undertaking of an audit, it is the responsibility of private parties to directly inform them. Despite this, in PROFEPA we are working to have a specific coordination scheme among federal, state and municipal authorities as a result of these activities. In December 1997 we signed an agreement with the Water National Commission regarding the environmental audit program. Based on this agreement, they have refrained from inspecting those private parties who are carrying out an environmental audit. A similar response has been made by other authorities.

### 3.3. Post-Audit activities

It is at this stage that a final report is prepared, based on the information gathered, which includes the conclusions arising from each process assessed.

The final report contains an account of the audit results which includes: an Executive Summary, an Audit Report, and a Technical and Photographic Appendix.

The audit results (Action Plan) must be included in the Environmental Compliance Agreement to be subscribed to by PROFEPA and the industry representative. The signing of this agreement sets forth the basis for those actions to be undertaken by the private party within strict schedule, in order to remedy the deficiencies uncovered during the audit.

#### 3.3.1. Audit Follow-up

Given that the audit process results in the preparation and implementation of the appropriate remedial plan, PROFEPA expressly reserves its right to undertake visits and monitoring in order to verify that the obligations accepted and scheduled in the Action Plan are being strictly fulfilled.

If a private party fails to perform the actions by the deadlines agreed upon, or if any irregularity is detected during a follow-up visit, PROFEPA may impose those sanctions contemplated under the General Law of Ecological Balance and Environmental Protection. Normally, these visits are made every three months, whether or not the industry has submitted a report on the activities undertaken in order to fulfill obligations under the Agreement.

Where such visits or monitoring show that the private party has not abided by terms of the Environmental Compliance Agreement, we may also impose administrative sanctions. Through these Agreements, private parties are granted extensions to comply with environmental laws and regulations, which in the final analysis, do not contradict the compliance provisions set forth by law.

One of the most important parts of the environmental audit program is the way PROFEPA agrees with the private parties on the steps to be taken in order to remedy the deficiencies uncovered during the assessment process; these steps are expressly reflected in the schedule of actions and times appended to the respective Agreement. Normally this schedule includes bar graphs depicting dates for initiation and conclusion of each one of the remedial actions to be undertaken by the audited party.

#### 4 RESULTS 1995-1998

Under the Program, from August of 1995 to June of 1998, 901 audits have been concluded and 69 in process, totaling 970 audits (see table 1). Some of the companies whose Action Plans have been worked out based on environmental audits are Petróleos Mexicanos (PEMEX), National Railroads of Mexico (FNM), Federal Electricity Commission (CFE), Nestlé Co., Ford Motors Co., General Motors, Grupo Cementos Mexicanos (CEMEX), Celanese Mexicana, Industrias Resistol, Nissan Mexicana, Grupo Acerero del Norte, Colgate Palmolive, Cervecería Cuauhtémoc, Cervecería Moctezuma, Cervecería Modelo and Grupo Peñoles.

As related to the relevance of the Audit Program in the environmental context of the North America Free Trade Agreement (NAFTA), the President of the United States, William J. Clinton, submitted to the Congress the survey on the operation and effects of the North American Free Trade Agreement, and said, *"The Mexican Government has instituted an innovative auditing program to promote industry leadership in voluntary compliance. The program has grown to maturity since its initiation in 1992, with 274 facilities entering the program in 1996. As of April 1997, 617 facilities have completed environmental audits, and 404 have signed Action Plans to implement recommended improvements to attain, continually assure, and exceed compliance. The Action Plans represent more than \$ 800 million in environmental improvement investments in Mexico."*

Another significant aspect of the Program, has been the development of the terms of reference for some of the most important industrial activities of the country as: solvents and painting fabrication, metallurgy, chemical and pharmaceutical industry, micro and small industry, hotels and hospitals.

**Table 1 The National Environmental Audit Program 1992-1998  
Number of Audits Conducted (by Year- by Sector)**

Sector	1992-1994	1995	1996	1997	1998		Total
					Concluded	In Progress	
Public	54	12	67	87	51	35	306
Private	192	167	108	130	33	34	664
Total	246	179	175	217	84	69	970

These 970 audits have been conducted across the country, more than 50% were carried out in: Mexico State (100), Veracruz (82), Chihuahua (73), Coahuila (63), Tabasco (52), Nuevo León (49), Tamaulipas (41) and Puebla (40).

The most important sectors in terms of number of audits conducted are: petrochemical with 193 facilities, chemical with 150 installations and automotive with 103 facilities. Almost all these facilities belong to the high risk type.

## **5 FINANCIAL DATA**

At the beginning, PROFEPA financed the environmental audits to introduce and evaluate the potential benefits of this tool as well as to promote its application in all industrial sectors. At this point in time, it is no longer necessary to pay for audits, because factories pay them with their own resources.

It is important to mention that during the period from June 1992 to June 1998, 970 environmental audits of companies and establishments have been conducted representing an investment of 90 million pesos by PROFEPA. As a result of these activities, Action Plans for 487 of these companies have been signed, entailing an investment by the companies of 8,500 million pesos to acquire and install pollution control devices and to modify their productive processes.

Among the companies audited, Federal Government enterprises stand out, such as PEMEX's petrochemical complexes and refineries, CFE's power generation plants, National Mexican Railroads, etc. To have an idea about the required budgets, PEMEX by itself has spent more than \$ 2 billion USD in carrying out audits and paying corrective and preventive activities to comply with Action Plans.

## **6 CERTIFICATION AS CLEAN INDUSTRY**

Under Article 38 bis of the Ecological Balance and Environmental Protection General Act, PROFEPA formalized the grant of a Certification as "Clean Industry" to the companies that fulfill the technical specifications established in the Action Plans derived from effected environmental audits in a timely manner, and permanently maintain environmental protection programs.

On April 1<sup>st</sup> of April 1997, the President of Mexico granted the first 80 certificates. Of the total audited companies, 161 have received a "Clean Industry Certificate" as a special recognition to have fulfilled the entire Action Plan.

To date, after the environmental audits, these installations work with more safety processes and comply with regulations related to air quality, waste water and hazardous wastes management standards. At the same time, they have introduced important improvements in their processes and therefore have obtained important savings in energy, raw materials, accident insurance payments, reduction of labor accidents, etc.

These certificates is in force for one year and they can be extended for the same period of time. A previous application by the company and results of a review by an audit team are requested so that there is a guarantee that conditions under the which facility was granted a certificate are being maintained undisturbed or have been surpassed.

## **7 ENVIRONMENTAL AND ECONOMIC BENEFITS**

In 1997, the Sub-Attorney of Environmental Audits carried out a survey to capture the opinion of the companies with respect to economic and operational benefits of the audit program. The following results were obtained:

**Table 2 Consumption of Raw Materials and Generation of Wastes**

Concept	Levels In Audit	Present Levels	Annual Reduction
Consumption of supply water m <sup>3</sup> /yr.	53,960,000	43,000,00	10,960,000(*)
Residual Waters Exhaust m <sup>3</sup> /yr	19,000,000	16,000,000	3,000,000
Liquid hazardous wastes lts/yr.	20,000,000	16,000,000	4,000,000
Solid hazardous wastes tons/yr	110,000	95,000	15,000
Liquid fuels lts/yr	126,000,000	90,000,000	36,000,000
Gaseous fuels m <sup>3</sup> /yr	2,000,000,000	2,251,000,000	(+)251,000,000
Pollution to the atmosphere tons/yr	1,900	300	1,600(**)

(\*) Sufficient volume to supply a city of 100,000 inhabitants during 1 year.

(\*\*) Data of 3 companies, reduction of 84%.

(+) In this case the amount increased because they changed from liquid to gaseous fuels.

Other results:

- 85% of the companies expressed benefits due to the environmental audit concerning compliance with legislation on waste water emissions; 76% on air emissions; 62% on noise reduction levels; 90% on soil and subsoil pollution control; 95% on hazardous wastes management; and 95% about lower levels of risk in their facilities.
- Concerning economic benefits, 52.4% of 21 companies expressed cost savings derived from the environmental audit and implementation of the corresponding action plan and 47.6% of those remaining indicated they have not obtained benefits or they did not have this type of data because they did not have a reliable evaluation system.

The following data are very meaningful figures of cost savings in 8 companies: 10.79 million pesos annually, of this amount 35.8% represented a decrease in water supply; 23.8% by the residual water exhausts; 13.9% by contributions to the IMSS; 10.8% in electrical energy consumption; 9.5% by payment of insurance rates and 5.7% by avoiding possible sanctions. These savings, compared with the investments agreed among the PROFEPA and audited companies (\$30.77 million), means that the total investment would be recovered in three years in constant dollars.

- About social benefits, industries expressed the following opinions:

- 85.7% of industries indicated improvements in their relationships to the federal, state and municipal authorities; 66.7% mention that the relationships to their neighbors or in their community was more favorable.
- 91% of the audited companies asserted that they have improved the management of environmental information and 100% considered that the audit encourages prevention and environmental protection.
- In 62% of the cases, facilities had optimized human and material resources and 52% of the companies expressed the fact that the audit had increased their competitiveness.
- Companies also expressed more order and cleanliness in the facility, as well as an increase in the environmental responsibility in their personal.

## **8 ENVIRONMENTAL AUDITORS**

Among modifications to the Ecological Balance and Environmental Protection General Act in December 1996, is a new mandate for the Federal Attorney for Environmental Protection to establish a system for evaluation and approval of environmental auditors. Therefore PROFEPA integrated an "Evaluation and Approval Committee for Environmental Auditors." This committee is constituted by representatives of Universities, professional institutions, professional associations and organizations of the industrial sector. To date, we have established four environmental auditor categories to be consistent with areas and technical aspects implemented during all environmental audits, such categories are:

- a. Auditing coordinator;
- b. Environmental Auditor in water, air and soil pollution;
- c. Environmental Auditor in risk and response matter of environmental emergencies; and
- d. Environmental Auditor in dangerous materials and hazardous wastes management.

The evaluation and methods for auditor approval as well as the non-governmental participation, will provide certainty to the population and a greater specialization of the environmental audit services. The Committee will value objectively the capacity and real experience of the auditors. To date, there are 107 professionals approved as auditors representing all different scientific and technical specialties: environmental sciences, chemistry, civil, electrical and mechanical engineering, as well as biology and geology among others.

## **9 REGIONAL CENTERS FOR SUPPORTING THE ADMINISTRATIVE ENVIRONMENTAL MANAGEMENT IN THE INDUSTRIAL SECTOR**

Mexico's Environmental Program 1995-2000 includes in its policies the need to increase enforcement and environment protection levels through voluntary programs. This includes policies to promote co-responsibility and organized participation among different groups and social sectors involved in environmental management processes and sustainability of natural resources.

Consistent with this policy, PROFEPA has promoted the creation of Regional Centers in the States of Coahuila, Monterrey and Puebla, involving the sponsorship of Industrial Chambers and Industrial Associations, as well as the participation of Universities and Federal State and Municipal Authorities. One of the activities established for the Centers is the promotion and implementation of low cost environmental audits for small and micro industries.

## **10 ISO 14001**

PROFEPA, U.S.A. Environmental Protection Agency and Environment Canada as well as official NAFTA documents recognize the Mexican Environmental Audit as a compliance guarantee. Its effectiveness to protect the environment beyond the law has been recognized too.

In contrast, while the Mexican, USA and Canadian Environmental Authorities recognize that the environmental management systems standard ISO 14,001 of the International Organization for Standardization is a potential tool for helping environmental compliance, they also recognize that it is not a guarantee for compliance. In our case, this standard does not fulfill the environmental protection requirements established by PROFEPA in its voluntary National Environmental Audit Program.

## **11 CONCLUSION**

The Reference Terms for Environmental Audits as well as the policy for voluntary compliance established by PROFEPA has proven to be highly successful for achieving higher levels of environmental compliance and general environmental performance and can be adapted to the domestic conditions of any country.

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## SELF-MONITORING, REPORTING AND COMPLIANCE MONITORING IN FINLAND

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### SUMMARY

Licence writing, self-monitoring, periodic reporting made by operators and inspectors must fit seamlessly to each others. In the system, all "players" must have overall understanding of what the environmental requirements are, how objectives can be reached, what actions must be taken to protect the environment and what are the consequences if a "player" breaks these "rules".

Although the self-monitoring and reporting system removes some duties (like monitoring of emissions) from authorities to the operators, it however requires that authorities must be well educated and they have to possess necessary powers to set and enforce necessary environmental requirements.

Either environmental authorities or other authorities must have the means to supervise the fact that self-monitoring done by operators is working properly. It is also essential that environmental information (like applications, permit, monitoring program and reports made by operator) are publicly available.

The basis for inspection and the enforcement are built up gradually. For most common pollutants there are national programs that are made together with all interest groups. In the preparation of the permit, authorities have close contacts with the applicant. This helps inspectors to get know the mills and to identify processes and practices that affect emissions. They are ready to carry out the inspection/enforcement work. Inspectors can help those persons who write the permit to make it clear and detailed enough. Because of possible future conflicts, it is important that permit holders and inspectors understand the requirements of the permit in the same way.

The population of Finland is about 5 millions and we have about 2,000 establishments that must have an environment permit on air or water protection. In waste management the number of establishment is about 6,000. The permit has the monitoring program that describes the monitoring of water discharges and air emission in detail. The program also has requirements for reporting. The reporting consists of the periodical reporting and reports about disturbances. Because applications, permits and reports are publicly available and because the public is interested in how installations are regulated and inspected, missuses are, to a large extent prevented.

The authorities receive and inspect the reports and make necessary site inspections. Inspection reports are written and fed into a nationwide computer system together with permits and information from periodical reports. The knowledge and experience from inspection work are taken into consideration when new legislation is drafted.

At least one laboratory has been prosecuted because it made fault laboratory analyses, one pulp mill was found guilty because it tried to hide its too large water discharges and some inspectors have every now and then been prosecuted because they have not carried out their inspection work properly. Although there are only separate cases, this demonstrates that it is possible to get caught.

In the future compliance questions will become more complex. In an integrated approach (air and water protection and waste management), regulators must be able to find a right balance between different areas of environmental protection and questions dealing with international competitiveness of installations also are becoming real issues.

## **1 ENVIRONMENTAL OBJECTIVES AND LICENCE WRITING**

Good legislation and good permits are a solid foundation for a self-monitoring.

The central administration in Finland has an obligation to draft necessary legislation and general requirements for environmental protection.

Overall goals of environmental protection derived from legislation are set by the Council of State. The Council of State can make decisions on environmental quality, emissions into air, water, quality of raw materials and fuels and on waste management. In different areas (air, waste, water) the forms may differ (air emission limit values from large combustion plant or waste management plan).

The Council of State decisions on these matters are done together with industry, energy producers and in some cases also with non-governmental environmental organizations, although the Ministry of Environment usually finalizes the drafts for the Council of State. As part of this approach to decision-making, different parties are not bound to consensus or common position papers. However, in this process, they develop a somewhat common understanding what is possible and at what costs. They may not always agree on the level of environmental protection that is needed. In a small country, almost all who have largest powers to influence decisions are known to each others and on one hand this is an advantage but on the other hand over the years problems can develop. Nevertheless, needed new regulations seems to result mostly on time.

In matters that fall under the jurisdiction of the Water Court, representatives do not take part in the preparatory work for these decisions, because the Courts are independent from administration. However persons from regional environmental centres and from the Finnish Confederation of local authorities take part in the workgroups and committees that prepare papers.

Water Courts, which focus only on water protection, and regional and local authorities are in practice bound by those decisions if they are given as orders but if the decision made by Council of State are guidelines then license writing bodies can go to more stringent requirements if local circumstances so require. There are however a limited number of decisions by the Council of State, so in many cases courts, regional and local authorities have a large independent decision making power.

In their decisions, Water Courts give the regional environmental authorities rights to decide up on compliance monitoring programs for individual establishments. For other environmental permits, regional and local authorities have according to laws rights also to decide up on compliance monitoring plans. Monitoring plans are nowadays separate, but in the near future they will be integrated.

An operator makes application for an environmental permit, and he or she also supplies all necessary technical and environmental impact studies that are needed for licence writing. Concerning an air permit there should also be a proposal for an air emission monitoring program. The preparation of the license includes different kind of hearings and statements

through which the opinions of the public and other authorities are received. If the establishment is new and a large one then there is also Environment Impact Assessment that has similar procedures as licencing procedure and actually duplicates some procedures.

The Water Court or the licence writing authority must be able to identify from a licence application:

- what is the state of environment (air quality is in the statement of the municipality);
- most important sources of emissions and what kind emissions there are into air, water and wastes;
- processes and process conditions that have large influence on emissions;
- how large are the emissions and what might be impacts into environment;
- what processes or control equipments are used to control emissions, and if the environmental situation requires what possibilities are to further control emissions and what the control costs might be;
- what is Best Available Technology (BAT) technique and what are the estimated emissions compared to emissions of BAT techniques (so far only air, but in 1999 integrated approach);
- in air permit application also a proposal for air emission monitoring; and
- how wastes are minimized, recovered or recycled and costs for further actions.

All permit applications are made available to public. In water protection there are some special procedures to get public opinion and in other areas of environmental protection persons can give their opinions. Business and trade secrets are confidential but the confidentiality is in practise rather limited compared to other Member States in the European Union.

The permit must contain environmental requirements that insure that environmental objectives can be reached. The requirements must be expressed in such a way that authorities, operators and the public understand them in a same way. It is also equally important that limit values are set in such a way that operator has technical and economical possibilities to carry out the needed monitoring.

## **2 MONITORING PROGRAM AND SELF-MONITORING**

Usually the operator proposes a compliance monitoring program during the licensing procedure. In this way operators know how these requirements can be implemented already in the planning stage. Secondly, the coverage of monitoring can be enlarged: quite a lot of measurements can be continuous instead of periodical measurements and the periodic measurements can be made more often. If an operator has a system for environmental management consistent with the European Union's EMAS regulation, where she or he is committed to further control the emissions, then self-monitoring also produces information directed to that purpose. Operators at large installation usually have a better understanding about the emissions than those measuring laboratories that mainly make routine measurements and only seldom have possibilities to measure in very demanding places.

## 2.1 Scope of monitoring required

The self-monitoring is not restricted only to the monitoring of the emissions. The monitoring of process values gives valuable information that can be used to identify such process conditions that are typical to low/high emissions.

The monitoring program should be so detailed and well written that it must define clearly what and how the monitoring is carried out. It must produce data and information that can be used to assess if the emissions are lower than set limit values.

Although we have had different licensing procedures for water and air protection, the monitoring programs have more or less same elements:

- a short overview of the installation;
- identification of pollutants and their main sources;
- naming the pollutants that must be measured continuously or periodically;
- description of measuring systems; places where samples are taken or in case of in situ measurements the locations of measuring equipments, what analyzing equipments are used, how data is collected and the emissions are calculated from the measured data;
- overall view of the quality control program of the emission measurements; this should include among other things the parallel measurements done by the laboratory that has accredited measuring methods;
  - quality requirements of parallel measurements may come into licences of the installations that have continuous measurements in the near future; and
- identification of process values to be measured and used to conform that conditions are proper for emission measurements or in some case to back up continuous measurements or to collect data in order to better understand processes in order to further control emissions.

## 2.2 Insuring quality data

The comparability of data produced by the self-monitoring is a valid question. In life one cannot be 100 per cent sure always, but certain things increase the overall confidence to self-monitoring:

- open access to monitoring program and periodic reports;
- a well working national accreditation system; and
- clear requirements how good measurements must be.

The last item is especially demanding; all quality systems of emission measurements seem to be valid only in one country because they rely so much not only on national practices but also on national structures. With globalization of production we must be able set measuring requirements in a more harmonized way.

The Ministry of the Environment of Finland has financed a series of studies by the State Research Institute concerning estimation of uncertainty of continuous measurements. The latest report is "Determination of Uncertainty of Automated Measuring Systems (AMS) Under Field Conditions Using a Second Method as Reference". And it can be downloaded from <http://www.vtt.fi/ket/ket3/pdf/puustinen.pdf>.

Our intention is to use it on a test basis when setting requirements for continuous measuring for air emissions during late 1998 and 1999. The idea of quality assurance of continuous measurements based on the estimation of uncertainty has been presented in national technical meetings. A Report to show how to do it was published on the Internet only in June 1998, so final reflections from authorities and the industries side have not been received.

### **3 REPORTING AND ENVIRONMENTAL INFORMATION SYSTEM COVERING LICENCED INSTALLATIONS**

The reporting requirements of the operator (including self-monitoring) are written either into a permit itself or into the monitoring program which is annexed to the permit. Setting reporting requirements should be closely linked to permitting. Usually there are many kinds of reporting. Reports on:

- the stoppages of control devices and accidents;
- the exceeding of the limit values;
- emissions (on monthly or yearly bases); and
- the results of the monitoring of process conditions and actions taken.

The depth of reporting depends on installation and reporting mentioned in the last bullet comes into question only with some complex process industry.

It is important that reporting requirements are clearly written not leaving any large space for interpretation. It is most difficult to tell when stoppages of control device or other non-normal emissions are so large that they have to be reported immediately to authorities. Usually it takes a little time to develop a well functioning system. When it is ready it has to be assessed periodically to compare results of reporting with information needed to protect the environment and with the resources allocated.

Reports mentioned in first, second and fourth bulleted items above are sent either to regional or to local (smaller installations) authorities. Reports mentioned in third bullet cover also production, raw materials (not all), fuels used, running times of boilers and some information on costs of environmental investments. Emissions into air and water and wastes are covered.

The reporting format is nationally coordinated, because the main part of that information is fed by regional environmental centres into nationwide data system covering information on all installations that must have some kinds of environmental licences. The system called VAHTI covers states environmental administration: regional centres, the Finnish Environmental Institute and the Ministry of the Environment. Some municipalities and cooperative partners are connected via special procedures (a copy of an emission database in a separated computer placed outside of a firewall) on trial bases (in 1998) to a part of the system.

In VAHTI all installations that have environmental permits are considered as customers. To a customer the following data is attached:

- all environmental licences
- inspection reports

- periodic data (production, raw materials, fuels and emissions, yearly running hours of boilers)

VAHTI utilizes closed Intranet networks. Periodic data is stored in SQL-server, the interface to feed in data is (so far) programmed with Visual Basic (By MS), but common reports from the database are made using IIS/ASP-technology. It is also possible to make SQL-queries into a database if more detailed information is needed. New licences and inspection reports are stored in a network server of regional environmental centres. Because of its nature VAHTI serves among other things also as a basic data bank for emission inventories in Finland.

The Finnish Environmental Institute and the Finnish Statistic make nationwide reports on emissions and wastes, regional environmental centres make regional reports and municipalities local reports. Local reports also cover environmental quality data.

If we have fresh ideas and enough resources, we will develop VAHTI to an integrated tool from where the authorities who prepare environmental licences, can get an environmental situation of an area. The situation could cover information on all installations with their permits and emissions and the environmental quality data (available) of the area of concern.

#### **4 COMPLIANCE MONITORING**

Authorities who prepare or decide on a permit also decide on monitoring programs to carry out compliance monitoring. In a small country this is workable solution.

Compliance monitoring is based on the monitoring program that the authorities have defined, on reports made by operator and on necessary site visits.

Reports concerning stoppage of control devices, non-normal emissions or exceedances are assessed immediately and site visits done if deemed necessary. Depending upon the problems (air, water or waste), authorities have different procedures to enforce regulations. On air protection they can use either administrative or court procedures, but on water protection they have to ask the Water Court to take necessary actions.

In small installations, a yearly report usually gives enough information to assess if the installation is in compliance with its limit values.

Large and complex process industry installations have to make normal periodic reports every three to four months. There are some limit values that are yearly averages and through periodic reports, authorities can follow how the situation is developing during the year and can in good time require further actions if necessary. Notes written that require installations to supply additional information or a decision to require further actions by the Water Court or operator are also in the VAHTI information system.

Regional and local authorities try make site visits every year to installations even where there does not seem to anything wrong according to reports. Authorities must make a report of every site visit and deposit it in the VAHTI information system.

In Appendix 1, there is a simplified description of how the requirements of an existing power plant (such as a permit, emission limit values, a monitoring program, reporting) are drafted and how the compliance monitoring is carried out. The Appendix tells more about the process of how emissions limit values and monitoring requirements are set. The emission limit values and their background and details of the monitoring program are discussed only to illustrate the level of environmental requirements of existing power plants and how the quality control of the emission measurements has been developed in Finland.

By doing this I want to underline the importance of good preparation of the permit and the monitoring program. The Finnish legislation does not legally allow the inspectors go above the permit by setting additional requirements. On a voluntary basis, it is possible for the inspectors to give their advise if operators want to further develop their environmental protection. And, due to procedures (in air protections and waste management) this can be integrated easily into the ordinary permitting system because changes in operation can easily trigger a new permitting process.

The authorities adopt the monitoring program. They can use an independent laboratory to audit the monitoring program if, like in the case presented in the Appendix, continuous measurements are used. If only periodical methods are used to measure "ordinary" pollutants, then the audit is not used. The operator pays the costs of the audit. The audit can be very detailed and require knowledge that only a few laboratories have. There are some laboratories in Finland that have accredited emission measuring methods.

We have, according to European Union regulation, short term emission limit values for dust, but still yearly emission limit values for SO<sub>2</sub> and NO<sub>x</sub> for power plants. In order to be able to follow how average emission of those two pollutants are developing during the year, the authorities may, like in the case in the Appendix, require two interim reports. The authorities can require additional control measures during the year and it is not necessary to wait for the yearly report if it seems that emissions will be larger than the limit values. After yearly reports have arrived, the authorities check with municipal authorities about how air quality has developed in corresponding places and make the assessments of the environmental protection situation. According to these assessments, the authorities make site visit(s).

## **5 SOME VIEWS ABOUT THE FUTURE**

### **5.1 Changing focus of inspections**

Increasing use of EMAS-systems will promote an operator's own activity to develop environmental protection systems at least in large installations. This will shift the authorities' responsibilities from actual ground work (like checking analyzers or measuring emissions) to activities that check and confirm monitoring systems run by operators.

### **5.2 International trends and changing economics put more pressure on environmental control**

Generally speaking "all easy and not so costly(?) environmental control measures" have been done. This means that for installations, investment decisions to control air emissions, water discharges and further minimize or recycle waste increasingly compete with each other. Also the international competitiveness of installations operating in Finland must be increasingly assessed against the long term environmental goals set by politicians. That is why we have to increase the performance of the environmental administration.

### **5.3 Finding ways to make environmental controls more efficient and effective**

Ways to improve the performance could be: more effective legislation, better education, more effective system to collect, assess and distribute data and information.

We, however, must remember that if the public does not approve and support the goals and means of environmental protection then administration cannot properly monitor the compliance of installations. Ultimately, it is the public demand that maintains and motivates continued environmental vigilance.

#### 5.4 Harmonization of Performance Measurement

With globalization of production we must be able set measuring requirements in a more harmonized way.

## APPENDIX 1 THE REGULATION OF AN EXISTING POWER PLANT, CASE EMISSIONS TO AIR

### Background

Acid deposition has been an environmental problem in Finland a long time. The origin of acidifying substances is both domestic and neighbouring countries. On the European scale acidifying substances (sulphur, nitrogen oxides and ammonium) has been regulated by UN/ECE conventions and protocols.

The results of model calculation showed that foreign and domestic emissions should be decreased in order to lower the acid deposition under the critical levels. The Sulphur Committee, comprised of authorities (also permitting and inspecting authorities from regional environmental centers and municipalities), industry, power producers and NGOs, was set up to study needs and possibilities to decrease sulphur emissions. Needs were identified and cost curves were established for major sulphur compounds emitting sectors. The committee made recommendations on what actions (like emission limit values, bilateral agreement with neighbours and actions on UN/ECE-level) should be made to reduce sulphur deposition. By domestic actions, we could reduce sulphur emission by 80 per cent (compared to year 1980). A similar committee has investigated possibilities to reduce NO<sub>x</sub>-emissions. The proposal was made to reduce NO<sub>x</sub>-emission by 15 per cent. The need was much more, but due to increasing uncertainties in UN/ECE negotiations, it was not possible to agree on a unanimously proposal for large reductions.

The example power plant has three boiler ( 315 MW<sub>th</sub>, 315 MW<sub>th</sub> and 315 MW<sub>th</sub>) and it produces both power and heat. The regional authority gave the present permit in 1994. Before giving the permit the authority made site inspections on:

- 11 June 1991;
- 7 November 1991;
- 24 November 1992; and
- 10 December 1993.

The emission limit values are

Sulphur dioxide	230 mg/MJ (yearly bases, but covers also disturbances)
Nitrogen oxides	200 mg/MJ (yearly bases, but covers also disturbances)

The operator has to make a study on how to further control nitrogen oxides emission to levels 180 mg/MJ, 125 mg/MJ and 70 mg/MJ. ( For new boilers the emission limit value is 50 mg/MJ.)

The earlier permit included emission monitoring requirements (continuous monitoring of sulphur dioxide and nitrogen oxides), but the 1994 permit added the following requirements:

- CO or TOC (unburned carbon) must be measured continuously after 1 January 1995
- NO<sub>2</sub> part of the total nitrogen oxides must be studied
- the heavy metal balances must be measured in 1995

- the operator must submit to the authorities a new emission monitoring plan before 31 December 1997.

The operator must submit, in addition to yearly reports, two separate ½ year reports. Requirements for the reports concerning disturbances and the exceedances of emission values were set out.

The operator started to draft the monitoring program and in the negotiations between the authority and the operator it was agreed that the operator would order an audit from an independent laboratory that has accredited measuring systems.

The audit report came into the authority May 1997 and contain some suggestions to further develop the quality control of the continuous measurement. The operator submitted the monitoring program to the authority 31 December 1997.

The main points of the monitoring program are:

- Operation
  - How efficient burning is, the condition of control equipment, operational disturbances
- Fuels
  - Main fuel is coal; coal used is measured as daily average and momentary coal use is calculated from steam generated.
  - Samples are taken periodically and from weekly samples caloric value, moisture, sulphur content, ash content and content of volatiles are analysed.
  - From yearly samples (every import country separately) heavy metals are analysed.
- Average production levels
  - Calculated from the amount of high pressure steam.
- Efficient of burning
  - Boilers are equipped with computerized systems (boiler II most modern).
  - Continuous measurement of CO-concentration.
  - LOI from ashes.
- Operation and condition of control equipments
  - ESP => voltages and currents
  - FGD => SO<sub>2</sub>-concentration and temperature before and after the FGD
- Deviations from normal conditions
  - Those deviations (and actions to bring conditions into normal) which have effect on emissions are recorded and analysed.
- Continuous measurements of emissions
  - Velocity of flue gases and temperature

- ==> SO<sub>2</sub>, NO<sub>x</sub> and TSP emissions
- SO<sub>2</sub>, NO<sub>x</sub> and TSP concentrations
- To calculate emissions comparable (mg/MJ) to emissions limit values the results of measurements are divided by fuels used.
- All relevant data and emissions are recorded into process computer of the plant and there are detailed requirements how long 1 minute averages, 10 minutes averages, 1 hour averages, daily averages, monthly averages and yearly averages are stored.
- Operation of measuring equipments are recorded (calibrations, services ...).
- Measuring systems are calibrated by parallel measurements at least once a year using equipments.
- Reporting
  - Yearly report + two separate report (January to April and January to August).
  - On monthly basis productions, fuels used, emissions and an assessment on how good measurements have been, highest hourly emissions.
  - Immediate reports concerning disturbances that have effect to emissions.



## WORKSHOP 2F DETECTING HIDDEN OPERATIONS OUTSIDE OF LEGAL FRAMEWORKS

There will always be those who evade legal processes for operating within the law and are "hidden" from the view of government officials and perhaps the public. Given the economic incentive to avoid costs of pollution control and prevention or to exploit weaknesses in the systems for the more routine aspects of implementing compliance and enforcement programs, including inspection of known sources of pollution, it has therefore become increasingly important to reward those who comply and address what can be significant environment problems posed by those who lie outside our regulatory net. These sources may be operating without permits, remain outside of our registrations, inventories, reporting and tracking schemes. This workshop focuses on how these hidden operations can be successfully detected.

Papers and workshop discussions will address the following issues:

- Problems countries experience with hidden operations, e.g. unpermitted, unauthorized wetlands or natural resource destruction, construction without a permit, illegal logging, waste or product import/export. How much is known about the magnitude of these problems given that by definition they are hidden.
- How enforcers have successfully detected hidden operations for these problems and what the key factors were in their success.
- What problems face officials and how might they be overcome with improved
  - Data analysis;
  - Education of citizenry;
  - New types of inspection and investigation methods; or
  - Other.

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See also Workshop 5A: *Illegal Transboundary Shipment of (Hazardous) Waste.*

See also Workshop 5B: *Compliance with International Environmental Agreements: Focusing on Montreal Protocol and CITES: Illegal Shipments of CFC and Other Ozone Depleting Substances and Illegal Trade in Endangered Species.*

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## THEME #3

### “CARROTS AND STICKS”

At the heart of any successful environmental compliance and enforcement program is its ability to deliver incentives for compliance and consequences — or disincentives— to violators in a timely, predictable, fair, and appropriate manner in relation to the nature of the regulated community and to the actual or potential for harm. The evolution of environmental enforcement programs includes the search for the right mix and type of carrots and sticks for different situations to change to and/or maintain compliance behavior. Both carrots and sticks are important and most effective when they are used together and in the right balance. This theme explores the development, implementation, and results of different “carrot and stick” approaches and ways to best enhance and motivate compliance by designing integrated ways to use them together.

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#### Theme #3 Workshops:

- 3 A *Structuring Incentives for Private Sector Compliance*
- 3 B *Environmental Crimes and Criminal Enforcement*
- 3 C *Citizen Enforcement*
- 3 D *Structuring Financial Consequences in Enforcement: Penalty Policies, Recovery of Damages, Recovery of Economic Benefit of Non-Compliance*
- 3 E *Role of Negotiation in Enforcement*
- 3 F *Administrative Enforcement Mechanisms: Getting Authority and Making It Work*
- 3 G *Compliance Schedules and Action Plans: Content, Enforceability and Use in Compliance and Enforcement*



## WORKSHOP 3A

# STRUCTURING INCENTIVES FOR PRIVATE SECTOR COMPLIANCE

This workshop will examine the incentives countries are using to promote compliance, and improved environmental performance generally, and also explore the relationship between these incentives or carrots and the threat of the enforcement stick. It will also examine the widening use and development of environmental audits and environmental management systems both in relation to the International Standards Organization's Series 14000 Standards, the European Union's eco-management and audit regulation or other schemes. Governments have been asked to respond to company run environmental management systems. Some have responded with explicit policies which encourage such advances but which maintain a traditional line between an independent regulatory and enforcement role for government as distinct from private sector and marketplace initiatives while others are advocating a shifting of roles from government enforcement to the marketplace. The workshop will draw upon related papers and workshop discussion summaries from prior conferences on both promoting voluntary compliance and economic incentives.

Papers and workshop discussions will address on the following issues:

- Approaches countries have employed to motivate compliance through positive incentives; what is known about how effective such approaches are, and factors contributing to the success or failure of compliance incentive schemes.
- How countries link compliance incentives and enforcement sanctions:
  - Whether and what successes of programs designed to promote compliance can be achieved independently or in relation to inspection and enforcement response;
  - Successful relationships between incentives, technical assistance, inspections, and enforcement response; and
  - How enforcement response policies might be designed to promote compliance as well as deter violations.
- How government compliance and enforcement programs are responding to regulated sources which adopt Environmental Management Systems either certified for conformity with ISO 14001 or other EMS standards:
  - What is known about the compliance status and ability to self-monitor, correct and prevent violations of entities which adopt such systems versus those who do not;
  - Potential effectiveness of the International Standards Organization's international environmental management standards (ISO 14000 series) in promoting compliance; and
  - Potential for or limitations on the opportunity for official government recognition in efforts to promote compliance and take enforcement response.

- How to maintain accountability for performance within compliance incentive schemes, how to account for their effectiveness and results and how success might be defined.

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1.	Enforcement and Encouragement; An Investigation in the Brick and Roofingtile Industry, <i>Schoenmakers, John M.J.</i> .....	307
2.	A Socio-Cultural Approach to Environmental Law Compliance: A Philippine Scenario, <i>Oposa, Antonio A., Jr.</i> .....	313
3.	See also Enforcement Versus Voluntary Compliance: An Examination of the Strategic Enforcement Initiatives Implemented by the Pacific and Yukon Regional Office of Environment Canada 1983 to 1998, <i>Krahn, Peter K.</i> .....	25
5.	See also Industrial Estate Authority of Thailand Strategy for Environmental Compliance, <i>Homchean, Kasemsri</i> .....	101
4.	See also Penalty Cap Programs, <i>Schaeffer, Eric</i> .....	459

*See also workshop 3D: Structuring Financial Consequences in Enforcement: Penalty Policies, Recovery of Damages, Recovery of Economic Benefit of Non-Compliance*

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*Promoting Voluntary Compliance: Environmental Auditing, Outreach, and Incentive Programs*

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## **ENFORCEMENT AND ENCOURAGEMENT; AN INVESTIGATION IN THE BRICK AND ROOFINGTILE INDUSTRY**

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### **SUMMARY**

Enforcement can be applied in different ways. In this project, a form has been chosen in which enforcement and encouragement go hand in hand. The article describes a project carried out by the Inspectorate for the Environment in the brick and roofingtile industry in the province of Gelderland in the Netherlands. Both the environmental and organizational aspects are described.

### **1 INTRODUCTION**

The duties of the Inspectorate for the Environment include the supervision of compliance with environmental policy and environmental regulations. One of the ways in which it performs this duty is by the systematic investigation of branches of industry, taking account of the roles of both the competent authorities and the companies. The present article describes an investigation of the brick and roofingtile industry carried out in the province of Gelderland in 1995.

The primary motive for the investigation was the agreements reached between the industry and the Ministry of Housing, Spatial Planning and the Environment (VROM) on the reduction of fluorine emissions from approximately 420 tons in 1993 to 160 in 2000. These agreements are recorded in the 'Plan of Approach' of the industry organization. The investigation examined whether these agreements have been properly implemented; it also considered a number of other important environmental aspects.

### **2 DESCRIPTION OF THE INDUSTRY**

At present, the brick and roofingtile industry in the Netherlands includes approximately 50 brickworks and 10 roofingtile factories. There are 27 brickworks and one tile factory in the province of Gelderland. In 1994 the total brick production in Gelderland was approximately one billion bricks, accounting for approximately two-thirds of the total brick production in the Netherlands. Without exception, the Gelderland companies are members of the industry organization, the Royal Dutch Brick Manufacturers Association or KNB (Koninklijk Nederlands Verbond van Baksteenfabrikanten).

The most important raw material for bricks is clay. The clay, which is normally extracted from local claypits, undergoes a number of pretreatments and after a shaping and drying process is baked at temperatures from 1000 to 1200°C. This is done increasingly in energy-efficient tunnel kilns using natural gas as fuel. Old ring kilns and reveratory kilns are generally being replaced by kilns of this type. The use of oil and coal is constantly decreasing.

The main environmental issues involved in the manufacture of heavy clay products are earth removal as a result of clay extraction, the burning of fossil fuels and the emission of fluorine. The heavy clay industry is one of the main sources of fluorine emissions in the Netherlands.

### **3 REGULATION AND COMPETENT AUTHORITIES**

The heavy clay industry is covered by a variety of environmental legislation, for which different official bodies (Local Authorities, Provinces, Water Quality Boards) are the competent authorities. Companies must have a license under the Environmental Management Act, and normally also licenses under the Pollution of Surface Waters Act and Groundwater Act.

The Plan of Approach already mentioned in the introduction is also of importance for the official supervision of the industry. In the province of Gelderland, 11 companies have to take measures to reduce emissions under this Plan of Approach. An agreement on limiting energy consumption has also been reached with the industry. These are not statutory regulations but voluntary agreements between the industry and the authorities.

### **4 METHOD**

In the following sections the various steps of the method that was used in the project are described.

#### **4.1 Determination of methodology**

In advance of the investigation, a study was made of the environmental aspects of the industry and an analysis was carried out of the current regulations and the roles of the different competent authorities involved. Based on this, an extensive questionnaire was drawn up covering all the matters relevant to the environment.

#### **4.2 Consultation**

Before the companies were visited, the relevant competent authorities were informed of the investigation and information was collected. Consultations were held with representatives of the Water Quality Boards, the Province of Gelderland and the local authorities concerned. In some cases the competent authority was present during the company visit. The relevant industry organization, the Royal Dutch Brick Manufacturers Association (KNB) was also informed in advance of the organization, object and method of investigation.

#### **4.3 Desk research**

In the desk research all the available details from licenses, the applications relating to them and correspondence between the different competent authorities was examined. Information from inspections carried out by the various bodies was also studied.

#### 4.4 Company visits

Written notice was given of the company visits. The actual arrangement was made by telephone. During the company visits, interviews were held with the company management and/or the environmental coordinator. These were followed by a tour of the works, during which spot checks were carried out on a number of license requirements. The extent to which internal company environmental protection was applied in the company was also looked at.

#### 4.5 Analysis

All the data from the desk research and the company visits were recorded and analyzed with the help of the questionnaire.

#### 4.6 Individual follow-up

Both the companies and the relevant competent authorities were informed individually in writing of the findings and where necessary their attention was drawn to any violations. Where necessary, the competent authorities, as the immediately responsible supervisory bodies, were asked to take enforcing action; here of course due account was taken to the seriousness of the violations.

#### 4.7 Report and publication

Finally, the main findings of the investigation were recorded in a report, which also contained a summary of the conclusions and recommendations to all parties concerned. The report was published and sent to all the companies and official bodies involved.

## 5 RESULTS

### 5.1 Licenses under the Environmental Management Act

The licenses which the companies are required to have under the Environmental Management Act are in general properly up to date. The quality of the licenses granted recently is a reasonable to good. In most cases the local authorities have included adequate regulations in the licenses; one exception here is on the subject of energy.

In general, the companies' compliance with the licenses is also reasonable to good. The violations noted are mostly not serious. However, the relatively large number of violations relating to the soil protection measures prescribed is remarkable.

### 5.2 Fluorine emissions

Under the voluntary agreement with the Ministry of Housing, Spatial Planning and the Environment, 11 in the province of Gelderland companies have to lower their fluorine emissions between 1994 and 2000. This can be done using a so-called lime chip reactor. In a reactor of this kind, the fluorine compounds in the flue gases are bound by grains of lime. These lime chip reactors are now used in four companies and in three of them working properly. In one installation it has emerged that where clay with a relatively high sulfur content is processed the fluorides are not removed sufficiently from the flue gases. That company is now working on a solution. Some companies have not yet decided finally whether they will install a lime chip reactor. They are still looking for possibilities of reducing the emission of fluorine by so-

called process-integrated measures. One problem which has not yet been fully solved is caused by the lime chip residue, a solid residue released by the lime chip reactor. Several companies are looking into the possibility of using this material in the manufacturing process to avoid removing it at high costs, and this is already being done in at least one company.

### 5.3 Groundwater abstraction

A growing number of companies recycles their rinsing water (used for washing the mold). This has meant a sharp reduction in groundwater abstraction in recent years, so that this is now much less than the total quantity permitted by license. All companies subject to license hold a license under the Groundwater Act. These licenses are no longer up to date and will be modified by the province of Gelderland in the near future.

### 5.4 Energy

In October 1993, the industry and the Ministry of Economic Affairs signed a Multi-Year Agreement with the central target of improving energy efficiency in the year 2000 by 20% as compared to 1989. It was established that the individual companies would draw up and implement an energy saving plan. A large number of companies have still not drawn up and energy saving plan. Furthermore, these plans are not public. Accordingly the investigation did not produce a clear picture of the industry's progress with respect to energy saving. The Royal Dutch Brick Manufacturers Association (KNB) states that the industry is on course.

### 5.5 In-company environmental management

The results of the investigation make it clear that more attention needs to be paid to in-company environmental management. The number of companies with an environmental program available for inspection and showing what measures the companies intend to take in the environmental report. Therefore the industry's target to have a functioning environmental management system in all the companies that participate in the Industry Association in 1993 has not been achieved.

### 5.6 Recommendations

The report makes recommendations towards all parties concerned, specifically the local authorities, the individual companies and the Royal Dutch Brick Manufacturers Association.

This association is asked to coordinate the research being carried out by the various companies on process-integrated measures and the possibilities of processing lime chip residues, in order to limit the risk that the agreed cleanup period will be exceeded. It is also recommended that further encouragement and support be given to the development of in-company environmental management.

The individual companies are also called on to observe the Multi-Year Agreement with the Ministry of Economic Affairs. Companies must set up an energy saving plan where this has not already been done.

It is recommended that the local authorities concerned should among other things pay more attention to the subject of energy when granting licenses.

## 6 PROJECT EVALUATION

The project has run particularly successfully. A number of factors played a role in this. Firstly, when carrying out the project an explicit choice was made for intensive and open contacts with the competent authorities principally responsible, the individual companies and the Industry Association. This open approach meant that maximum cooperation was obtained and all parties accessible to the results of the investigation and the recommendations formulated by the Inspectorate. The project's timing was a second important factor. The investigation of progress on achieving reductions in fluorine emissions was carried out at an early stage; after all, the measures do not need to be in place until 2000. This form of early inspection has an important stimulating effect of the companies' implementation of measures.

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## A SOCIO-CULTURAL APPROACH TO ENVIRONMENTAL LAW COMPLIANCE: A PHILIPPINE SCENARIO

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### SUMMARY

This paper examines the social and cultural traits that hinder compliance. It then attempts to transform these hindrances into the very moving forces that will promote compliance with environmental law. It also incorporates a study on ecological covenants or environmental agreements, a mode of environmental law implementation that may serve to supplement or reinforce enforcement methods in a country where enforcement capabilities are inadequate.

### 1 INTRODUCTION

#### 1.1 Focus on Industry

Industry contributes about 30-40 percent of air and water pollution in the Philippines.<sup>1</sup> In water pollution, 60-70 percent is caused by domestic sewage and agricultural run-offs while in air pollution a like percentage is caused by vehicular sources. In order to delimit the scope of this study, it will focus on water pollution from industrial sources. Being point sources, industrial establishments are easy to identify. They generally have some financial wherewithal to address their pollution issues, and they are also highly sensitive to economic "candies and needles" (incentives and disincentives) and, as a last resort, their officers and owners are vulnerable to legal sanction.

Law does not exist in a vacuum. It must survive and operate within a social and cultural milieu that either hinders or prompts compliance. It is easy to promulgate a set of voluminous environmental laws. However, without a social conviction or resolution that the law is necessary and/or beneficial to all concerned, the "target market" of the law will either ignore it altogether or use various means, fair and foul, to avoid and evade it. This is especially true in the case of environmental laws where the non-human victims are treated as things incapable of legal rights. Thus, where a waterway or the air is heavily polluted but with no humans suffer direct harm and injury, the person or entity causing the harm does so with relative impunity. For, after all, the waterway and the air are incapable of *locus standi* to initiate a legal action or claim for damages.

With the increasingly active Philippines economy and its status as a developing country, it is in a situation typical of other developing countries hastily seeking an industrialized economy. True, there are philosophical questions which may be raised as to the wisdom of every country becoming industrialized, whether the global resources can accommodate all the countries' need for raw materials, whether a totally industrial world will result in better trading efficiency and whether the waste sinks will be able to handle the industrial refuse resulting therefrom. But these are not questions to be here addressed. Rather, it seeks to focus on

industry for the reason that it is by far easier to address industrial pollution issues with fewer resources and with maximum impact. It is also in the industrial sector that the techniques of legal marketing and the insights of law enforcement and compliance can be better tested with greater efficiency.

## 2 THE PROBLEMS OF ENFORCEMENT

### 2.1 A Philosophical Paradox

The constant enforcement of environmental law is almost a paradox. This statement finds support in the following philosophical arguments.

The *raison d'être* of law is to modify behavior. It is either positive or negative, i.e. positive when it seeks to promote a manner of conduct or negative when it seeks to discourage a mode of human behavior. To promote conduct, it dangles the candies of economic incentives; and to discourage a manner of deportment, it imposes sanctions by the legal deprivation of liberty or property.<sup>2</sup>

An ideal method of law formulation is when the *ratio legis* — the reason for and the social good that the law seeks to promote — has been fully understood by and ingrained in the minds of the body politic. This body politic is both the source of legal authority — the sovereign will of the people — as well as the target market of the law, i.e. the group of people whose conduct is sought to be modified. "What a law means depends on the social purposes the law is intended to serve, and the purposes come down to questions of what is good and right."<sup>3</sup> If a law is fully understood and appreciated as a "right" by the target market, compliance becomes the norm. Compliance then becomes a question not of the legal target market<sup>4</sup> willingness, rather it becomes a question of capability. Admittedly, the first is an issue of enforcement; the latter is a question of management. In the first, the law has failed to positively alter behavior. If the use of force becomes regularly necessary as a reaction to the disobedience of the law, it can only mean that target market is either unaware of or unconvinced of the *ratio legis*. A re-examination of the mode of marketing is therefore necessary. If, on the other hand, there is a general willingness to comply with the social good which the law seeks to sell, it is the function of government as *bonus parens familia*<sup>5</sup> to provide the opportunity to access the resources and enable its "children" (citizens) to reach the behavioral goal set forth by the law.

In sum, a good law does not need to be enforced. Conversely put, if a law must always be enforced, it is a failed law.

This is especially true in environmental law. On the one hand, it seeks to enjoin a positive mode of conduct by declaring lofty policy declarations for anthropocentrically-safe and sound environmental conditions. On the other, it seeks to punish deviant conduct that threatens to or damages the environment. Environmental resources however being fragile, the repair or remediation of which takes a long period of time and/or the expenditure of substantial resources, a violation of the injunction against damage must be avoided as much as possible. If damage is constantly and regularly inflicted, and the law is constantly and regularly enforced against the malefactors, the affirmative purpose of the law has failed.

## 2.2 Practical Considerations

On the practical level, the adequacy and sophistication of countries' environmental laws vary. For this paper, we shall examine the setting of a country that has a relatively adequate environmental regulatory framework such as the Philippines, perhaps among the most sophisticated in Asia. Like all growing economies in Asia it has been recently faced with the specious policy dilemma of economics development and environmental protection, and on the question of the appropriate level of environmental law enforcement.

To be sure, environmental awareness in the Philippines is of very recent vintage. While there have been grumblings of environmental abuse by a handful of citizens in the 80's, it was not until the occurrence of forest-degradation-related tragedies of the early 90's that caused the increased momentum of awareness.<sup>6</sup> Natural resources catastrophes and the resultant deaths have a certain drama that attracts attention, "nature's way of making herself heard." That is not to say that the problems are being resolved effectively. But that there already present the perception that a problem exists is by itself a movement of progress.

In the industrial environment however, no such major disaster has yet occurred. No thousands have died because of smoke or water pollution, neither has there been a Bhopal-like incident that creates the impetus for people and politicians to sit up and take serious cognizance of the industrial environment issues. So far, the slow and creeping eutrophication of water bodies and waterways such as the historic Manila Bay, Laguna de Bay and the Pasig River have killed off only fish and other marine life, life incapable of being represented for redress of grievance before a legal forum. Thus, their demise has been the subject of general neglect and indifference by the body politic. Furthermore, the imperatives of industrial development take precedence over the pollution of a river. Only to find out a little too late that it costs much more to clean up a river than to have prevented its sullying in the first place.

That brings the discussion to the subject of *post hoc enforcement* of environmental laws. Small and medium scale industries, the back-bone of growing economies, have been allowed to sprout following *laissez faire* models of environmental management controls. On cost considerations, immediate achievement of environmental standards can mean very substantial investments, investments that have nebulous benefits to their bottom lines. On the part of the regulator, having to close down a factory presents difficulties in the narrowing of policy implementation options. The economic and employment dislocations, and their political ramifications, subject the regulators to intense social and political pressures. These pressures, when succumbed to, result in diminished credibility and morale on the part of the regulators. Cost considerations of enforcement are also critical. If the industrial environment is not high on the political agenda of the regulator, little budget is allocated for monitoring and enforcement support. With an incapacitated bureaucracy, little can be expected, motivation-wise and result-wise.

In the Philippines, there is also a systemic faultline. The Pollution Adjudication Board, the primary agency tasked to address industrial pollution issues and adjudicated controversies, is a part-time agency, with part-time staff. Consequently, it results in "part-time" environmental quality improvements.

There are also sociological, social and cultural characteristics that hinder even the most determined environmental law enforcement efforts. It must be recalled that environmental violations, like gambling and prostitution, are "victimless crimes." Sociologically, the theory of an entire society being the victim in a criminal offense is more theoretical than real. With no personally and privately-aggrieved warm bodies complaining to the media, following up with authorities, and giving testimony in a formal hearing, the regulators are more malleable with their enforcement options. This is not an indictment against the regulators, rather a mere

statement of fact. Even the Philippine criminal justice system recognizes this weakness and thus allows for private prosecutors to actively assist (albeit formally under the direction of) the prosecutor in a criminal case in representation of the "private offended party."

There are social and cultural values that come into play in the game of undermining the adverse sanctions of the law. They are briefly examined here and portrayed how they affect enforcement efforts in victimless offenses such as environmental violations.

### **3 THE SOCIO-CULTURAL VALUES: PRESENT HINDRANCES, FUTURE OPPORTUNITIES**

The following are some cultural values and characteristics of Filipinos that inter-play in enforcement efforts: "pakisama" (getting along, consensual), "pakiramdaman" (feeling one another's feelings usually the result of person-to-person contact and the highly-personalized nature of social interaction), "utang na loob" (debt of gratitude), "hiya" (shame in the context of doing something that does not "go along") and "galang" (respect, usually for authority), loss of face (also shame in the context of embarrassment, also referred to as the "face value"), and the "Bayanihan" system, a cooperative mode of working together such as when a house needs to be transferred and all the men in the community get together and physically lift the house and relocate it to its new site, while the women prepare food and drinks for the men. This list is not exclusive and exhaustive but is merely used as a sample of the suggested approach.

Let us depict a typical enforcement scene: A low-level and poorly paid environmental agency inspector goes to visit an industrial firm to conduct a spot-check inspection of its wastewater discharges. He is met by the general manager of the firm, a highly educated and more well-to-do person, and a social interaction takes place. Immediately, a certain level of respect for a social superior is created, i.e. respect for the General Manager who is superior in rank and substance. Personal "connections" are made, where the inspector is person is from, what province, what school did he go to, and the like. When a discharge sample is taken, the Manager continues to talk to the inspector, and if there is exceedance of standard, a "request" is made to "take it easy", to "go slow" or "to give them a break" in the interest of "pakikisama" or getting along. The sample is then taken to the laboratory and analyzed. In the meantime, the firm, knowing that it has violated the standards, finds a personal "connection" to the inspector or to his superiors, and to seek the preemption of a notice of violation. Usually, the connection made is a good friend or a close relative of the inspector or his officer and a "favor" is requested to either minimize the damage of the report or to find ways and means by which the report is not released at all. In the interest of preserving relations ("pakikisama") between the personal connection and the inspector or agency officials, the favor is granted. Thus an "utang na loob" (debt of gratitude) is created, which is goodwill capital that may be called upon one day when the need arises. In another scenario, the violator may be well-connected politically. A congressman or the Mayor of the town may intercede in behalf of violator to return a favor (bayad sa utang na loob — repayment of a debt of gratitude) and in turn seeks a favor and from the environmental agency official concerned. The environment official grants the favor. What often prompts this is a misapplied "pagagalang" (respect) and to avoid the Mayor or Congressman having to lose face ("mapahiya"). Unless the offense is egregious or the violator has been specifically targeted to set a high-profile example, or that there are complaining and aggrieved citizens, the polluter, more often than not, gets away with it.

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#### 4 COMMAND AND CONTROL DEFICIENCIES

Aside from social, cultural and political dimensions of enforcement, there are very real budgetary and manpower resource constraints. In the three regions of Metropolitan Manila, the Laguna Lake Development Authority area and Region IV where about 90 percent of the industrial facilities are located numbering not less than 3000 large, small and medium scale industries, there are no more than 15 poorly-paid industrial inspectors who are generally without land transportation vehicles. In addition, they are tasked to review documents and process environmental impact assessments and applications for a variety of environmental permits. The physical impossibility is at once made manifest. Moreover, poor record monitoring and verification capabilities disable an efficient review of industrial facilities' discharges. Indeed, for obvious reasons, most of the inspections are conducted only when an adverse report has been made or a complaint has been filed against an industrial facility. By force of circumstance therefore, the process of monitoring and enforcement is reactive.

The traditional enforcement approaches of constant inspections, prosecution, fines, etc. have not worked in this environment. Economically, it means government having to allocate substantial budgetary allocations for manpower, inspectors, laboratory and transportation equipment and the like. It is also socially inappropriate. It means adversarial confrontation, prosecution, fines, sentences, (if it ever reaches this point) and ultimately results in a society torn by unnecessary enmities. Thomas Church, citing Kagan and Scholtz, describes it as —

To treat every firm as an amoral calculator, whereby any deviation from specific regulatory rules is met by legal penalties, burdens the economy with unnecessary costs. It also breeds legal and political opposition on the part of good corporate citizens who are offended by being forced to meet unreasonable requirements and by the perceived injustice of punishment pursuant to legalistic application of rules.<sup>7</sup>

The command-and-control deficiencies in a growing economy must give us pause. For one, the governmental priority is economic development. Second and precisely because of the first, scarce governmental resources are hardly ever directed to environmental regulation. Third, as a necessary consequence of the second, it is then necessary to examine the possibility of tapping into private resources for self-or-collaborative regulation. Fourth, is that the socio-cultural make-up of both the regulators and the regulated community is inappropriate for pure enforcement techniques. Fifth, command-and-control is essentially a reactive and remediative response. For a growing economy that can ill-afford prohibitively costly clean-ups, it would be better off adopt preventive policies, and a proactive approach.

#### 5 GOAL AND STRATEGIES OF COMPLIANCE

The goal of compliance is not "merely to secure compliance with the rules per se, but to mobilize available resources to solve the particular social problem in the most efficient and least disruptive way. Its mission would be to affect the consciousness, organization, or culture of the regulated enterprise in order to make it sensitive to serious sources of harm."<sup>8</sup> A long-term program for compliance therefore involves changing the mind set and culture of the regulated enterprises in such a way as to inculcate in them the desire to comply with the environmental rules and standards because they understand the reason for it and the social goal that it seeks to achieve. Undoubtedly, this is a long-term acculturation program that must begin with the regulatory agency.

Approaches to compliance have been classified as prosecution, accommodation and public works. Under prosecution, the emphasis is on legal coercion and the heavy dependence on a legal system used by the government to compel responsible behavior on the part of the regulated community.<sup>9</sup> Environmental law is then fully likened to criminal law where the goal is detection, apprehension, punishment and the role of the regulator is to "use its resources to create the perception in members of the regulated community that it is more risky to refuse to fulfill their obligations than to fulfill them." The regulator must then be ready to pull out all stops to punish those who refuse to fulfill their obligations.<sup>10</sup> It involves selecting high-profile sample cases that have the promise of victory for the regulator. This statement is almost an oxymoron.

High-profile violators are often the ones who can afford the best lawyers and experts to entangle the legal process interminably. More often than not, they also have enough political clout to hold off aggressive challenges. Given the weakness of government in its environmental prosecutorial capabilities and in situations where there is hardly any media coverage nor an aggrieved party of individuals, cases of this nature are likely swept under the rug of oblivion.

To be sure, there is an excellent opportunity to use this on occasion. It is, however, culturally inappropriate to use it at the first instance. Confrontation and adversarial processes only create unnecessary hostility, acrimony and delay. If all else fails however, and the legal ammunition must be discharged, it must be done with amazing alacrity, ruthless effectiveness and maximum publicity in order to create a bang louder than its burst. After all, deterrence and fear of the law are the ultimate goals of punishment. The strategy for the proper and effective use of this approach will be later discussed. It will essentially incorporate the bargain-and-bluff technique of negotiation.

"Accommodation" is another compliance strategy. It requires the environmental agency to assemble its discretionary powers, personnel and resources to create an atmosphere of trust and cooperation to elicit valuable information without which a standards monitoring program cannot be accurately implemented. Unlike the prosecutorial approach, this emphasizes on both the regulator and the regulated cooperating to solve a common problem. This problem-solving premise and attitude at once builds psychological alliances on being on the same side, and creates the functional and constructive working relationship. It has been noted that this cooperative and open process has accelerated decision-making and improved agency-industry relations in the long run.<sup>11</sup>

Finally, the "Public Works" strategy seeks to utilize technical and engineering remedies to undertake clean up operations at the very outset. It seeks to achieve on-the-ground results quickly, an approach which is essential especially where there exists imminent danger to life and/or property.

## **6 TURNING THEORY INTO ACTION**

### **6.1 Over-all Design**

The general design of this practical compliance strategy adopts a mix of the approaches abovementioned which will also incorporate and capitalize on the socio-cultural characteristics of the body politic or concerned target group<sup>12</sup>. On the one hand, it will espouse a consensual and accommodating approach to compliance by seeking to identify common interests and address common. These interests consist of, on the part of government and the

public, achieving the environmental standards, and on the part of industry, to minimize unnecessary government intervention in their operations. Thus, the techniques of negotiated compliance patterned after the Dutch model of Ecological Covenants will be examined and a draft agreement shall be formulated. Appreciating the fact that industry's willingness often revolves around the issue of financial capability, the public works strategy and possible financing options will be explored.

On the other hand, and in order not to be paralyzed by inutility in the event of non-compliance, a method of strengthening the prosecutorial capabilities of the Environment Agency will also be outlined. Existing, albeit infant structural mechanisms for environmental enforcement used in the field of natural resources enforcement shall be further developed by long-range developed institutionalization and capability-building.

## 6.2 Leadership and Determination

In order to maximize the value of "paggagalang", the leadership role must be initiated and prosecuted by the Department of Environment and Natural Resources (DENR) Secretary, or even the President of the Philippines. One scenario is for the President to deliver a policy speech before a plenary meeting of the Philippine Chamber of Commerce and Industry (PCCI) expressing the political determination (also known as political will) to address industrial pollution. On this occasion, he can outline the program that designed to accommodate the constraints of industry by allowing for a consultative phased-in approach to compliance as well as the availability of a financial incentive mechanism. The Secretaries of Environment, Agriculture, Finance, Health, Trade and Industry, Labor, should be in attendance in order to create the impression of an organized and holistic approach. This also plays on the "pakiramdaman" traits of Filipinos. When they personally feel that the Government leadership (many of whom are personally known to members of the PCCI anyway) is determined to pursue a reasonable campaign, only the truly obstinate will resist. It can also enunciate the policy of "reciprocal accommodation" whereby those who will cooperate will be requited with forbearance against closures and fines.

The leadership role must, however, be taken by the Secretary of Environment and a professional program staff (hereinafter "Environment Staff"). High-level meetings and workshops shall then be conducted between the Staff and the industry sector representatives (e.g. textiles, food processing, etc.) on their respective pollution loads and on the appropriate time frame with which they will seek to achieve compliance. The Philippine Business for the Environment<sup>13</sup> can be tapped to facilitate these meetings as neutral mediators. Concerns and issues of industry can then be ventilated and addressed accordingly. Under the topic of Environmental Agreements below, the items that should be in the agenda will be identified. As much as possible, the Secretary<sup>14</sup> must attend most of the meetings if only in its concluding stages. This is to maximize the value of personal contacts, Filipinos being very personalistically-oriented, and to again create the impression of determination and "hiya".

## 6.3 The Strategy

### 6.3.1 High-Level Personal Contacts

In order to establish high-level contact and personal contact with industry representatives, it is not enough that middle managers of the agency and the industry initiate and participate in the meetings. While they may exercise influence within their respective areas of competence, they do not have the plenipotentiary authority to commit the resources of the

firm. It is therefore essential that the Secretary establish personal contact with the Chief Executive Officer or the Chairman of the Board (CEO/Chair). Not only are these the persons who have the power to commit the firm to a certain course of action, they are also the most concerned with its financial welfare. This can be done in small dinner meetings between the Secretary and CEOs/Chairs of representative firms. The selection of who shall be invited to these dinner meetings can be based on the membership of the industry sector representatives in the Philippine Chamber of Commerce and Industry. For example, if the working committee membership of the textile sector is composed of managers of companies A, B, C, D and E, the Chief Executive Officers of these firms will be invited to this meeting.

The importance of a dinner meeting sponsored by the Secretary cannot be over-emphasized. For one, it again creates the perception of seriousness of purpose. Lest it is forgotten, in the realm of politics and governance, perception is reality. Second, no CEO/Chair will dare to decline an invitation for dinner from the Secretary, especially when the firm is in violation of environmental law. On the contrary, the CEOs/Chairs will deem it a distinct honor. Third, it affords a more convivial ambience that quickly establishes the necessary personal relationships conducive to creating an atmosphere of trust. Fourth, more time is afforded for frank discussion than meetings done during so-called "power lunches." Fourth, the "galang" (respect) value is also activated. By inviting the CEO/Chairs to a meal together, the Secretary has shown the former a great measure of respect that will be most cherished and treasured. As an offshoot of this meeting, it is most likely that these Chief Executive Officers will be the "unofficial spokesmen" of the Secretary and of the program and, by the most effective means of propaganda (the word-of-mouth) positive word will quickly spread among the regulated community.

Subliminally, when top-level personal contact is made between the Secretary and the CEO/Chair, the cultural traits of "face value" (*hiya*) and "pakikisama" (getting along) comes into play. The Secretary can appeal to the CEO/Chair to "go along" with the program, which will be to the firm's ultimate benefit. The "favor" which the Secretary can grant is forbearance against closure and the imposition of fines, in addition to the financial incentives. This inculcates the sense of "utang na loob" (debt of gratitude) on the part of industry which, in Filipino culture, must be reciprocated if only to avoid being called a "balasubas" (ingrate and scoundrel).

After an agreement has been reached between the CEO and the Secretary, the mid-level managers can then proceed to discuss the details and work program with a sense of trust and confidence in the knowledge that the "big-bosses" already have an understanding in principle. The Environment officials can request information on the respective pollution discharges with the written assurance that this will not be used for incrimination during and after this negotiation stage. This written assurance is necessary to create a confidence level on the part of industry since the nature of bureaucracy is that it is transitory, i.e. the persons with whom one is dealing with at the moment may be transferred, replaced, or otherwise separated according to the exigencies of the service, or of the political climate.

During these meetings and workshops, which incidentally must be publicly transparent and where moderate an NGO representative can be invited, cooperative industry leaders and laggards in an industry sector can be identified. While it is anticipated that cooperation will be maximal, there is always the possibility of unreasonable resistance by certain mid-level managers of industry. For them, a special treatment may be accorded in the form of a reciprocal tightening of the administrative and regulatory screws.

First, the Secretary may call upon the CEO/Chair to report to the latter that his manager is giving the Environment people a hard time and that if this attitude persists, the regulatory system will be allowed to run its normal and more determined course. And, without

having to say it, all bureaucratic and legal bedlam will thereafter ensue. This will constructively capitalize on the friendly relationship between the Secretary and the Chief Executive Officer. A report by a top level official to his 'friend' the Chief Executive Officer of the concerned company makes for an extremely embarrassing situation for the mid-level manager especially if that report is coupled with a request for replacement in the negotiations. Secondly, a firm whose representatives display unreasonable resistance to the program can then be subjected to regular (and most bothersome) inspections accompanied by leaks to the mass media. Reports may be also made to environmental NGOs, consumer organizations (in case the firm markets consumer items). Thirdly, preparations can be made to utilize the prosecutorial approach with methods that will achieve maximum shock value. Always, these options shall be pursued and treated as a public relations campaign to capitalize on the "hiya" to which the firm and their owners and officials shall be exposed.

However, these pressure-tactic options shall be reserved only for extreme situations that call for such a drastic solution and only to deliver a message to the regulated community. They are very painful and severe remedies that can backfire if not properly managed.

#### 6.4 Public Works Approach

##### 6.4.1 Small and Medium Scale Industries — The Promise of Critical Mass

In a developing country such as the Philippines, the small and medium-scale enterprises with capitalizations ranging from 1-25 million pesos (US\$0.05 to \$1.0 Million) are the backbone of the economy. They are also usually the firms that have either not installed pollution control equipment, or only minimally so, because of capital constraints. Given the opportunity, however, these firms can create the critical mass that can quickly lead to a marked improvement in the environment. They must therefore be the object of special concern specifically in the area of financing options.

The public works approach seeks to address the technical and engineering issues. Given the fiscal constraints of Government, private resources must be tapped. The "Bayanihan" system of cooperation will be utilized in this effort, albeit in modern-day technological application. For example, where common waste streams are identified, the companies can put in their best engineers to design the most appropriate technology to significantly reduce or eliminate the waste stream and arrive at compliance over a period of time. Another area by which the "bayanihan" system can be utilized is in the proposed revolving door environmental fund (REFUND).

##### 6.4.2 The Revolving Door Environmental Fund (REFUND)

Under this concept, firms that have common waste streams shall be grouped together in small geographically-compatible cooperative units. They may however choose to associate themselves in a bigger cooperative model. The polluter pays principle will then be applied whereby units in excess of standard will be levied a fixed or sliding-scale environmental user fee. Strictly, an environmental user fee must be assessed for even those discharges within the regulatory standards, for after all, the use of the environmental resource must be valued and priced accordingly and not be treated as an externality. However, without sufficient legal basis under the present framework of Philippine environmental law, it is possible that this may be the subject of an unnecessary legal complications.

Thus, the companies in excess of their discharges shall be levied the corresponding amount. By assessing this amount, the inherent market mechanism of firms wanting to reduce unnecessary costs will fall into place: the companies will seek ingenious ways and means to reduce their costs, perforce reducing the pollution discharges, or internalize them into the price of the products sold in the market.

The key to a politically-palatable and environment-friendly financial plan is to appropriate the amounts collected for environmental purposes. To this end, the charges should not be treated as a tax that must then be remitted to the Government and lost in the National Treasury's black hole of finances. Rather, these funds must be deposited in a special account to be managed by the small "waste-stream group" of (say) 5-10 geographically-compatible companies, with an environment official sitting as ex-officio member performing oversight functions. The funds thus built up over time shall then be used to build a common waste treatment facility (CWTF) for the concerned and cooperating enterprises. If the same shall not be sufficient, the Government's financial institution may extend outright subsidy in the form of grants or through long-term/soft loans.

The "bayanihan" and the "pakisama" values can be productively exploited in applying the REFUND mechanism. When a project, such as a common waste treatment facility, is too large for one entity to accomplish, the REFUND mechanism allows people to collaborate to achieve the desired objective. Where the firms are geographically situated near one another, there is a "neighborly" sense of community ("kapit-bahayan"). The refusal of one to join ("ayaw makisama") in an undertaking for common benefit is a social *faux pas* that can lead to social and even economic ostracism.

A necessary corollary to "pakisama" and "bayanihan" is the characteristic of "walang lamangan". Transliterated, it means "no advantage". This means that where people are placed in a similar situation working for a common end, one does not seek to gain undue advantage over the other. Thus, in the practice of lifting houses, it is anathema for an able-bodied male to join the bayanihan but then just sit around and simple watch while the others are working. It is the behavior of the shameless ("walang-hiya"). In the context of the REFUND, when the firms agree to the concept, they should also institute a self-policing mechanism whereby a neutral representative of industry, perhaps with the ex-officio participation of an environmental agency functionary, can conduct spot-checking to verify the discharges and the corresponding deposits made. In the spirit of "walang lamangan", and especially considering the fact that they will be the ultimate beneficiaries inasmuch as the funds they have contributed will serve as their equity in CWTFs or other environmental management enterprise, self-regulation will be the norm. To be discharging pollutant plentifully and be caught by one's peers for not paying correspondingly according to the agreement is extremely "nakakahiya" (shameful, causing one to "lose face").

## 7 FINANCING OPTIONS

Money is the fuel that powers — and the oil that lubricates — the machinery of human society. This truism has many facets. From a negative perspective, money is used to buy one's way out of non-compliance. The most vulnerable are the lowly-paid environmental officials who, in the spirit of "pakisama" would rather play along, or look the other way, than play hero in a time and under circumstances where bureaucratic heroes are either transferred, demoted or sued with harassment suits. Similarly, an otherwise attractive program that is without a viable and sustainable means of funding will be met with resistance both from the

bureaucracy, the target group/beneficiary, and even from the public. Conversely, where financing can be readily secured on beneficial or concessionary terms, the serious ground for objection is removed.

The general options available to government are as follows:

- a) Government-financed: Government extends all the funds for outright grants to small and medium scale industries. While allowed by section 57 of the Philippine Environment Code, this is not practically feasible.
- b) BOT: Government allows private industry to establish under the Build-Operate-and-Transfer modalities (including build-own-operate, build-transfer-operate, etc.) and require industrial entities to use them.
- c) REFUND: Government only supervises and creates the condition for industry to cooperate with one another to address their environmental load. The caveat on this is the initial costs of training professional environmental staff to launch and supervise this program, as well as the high and time-consuming initial transaction costs of meetings between industry representatives and environment officials.
- d) Others: Self-financed individual environmental management systems, foreign soft loans, foreign grants, etc.

The foregoing are not mutually exclusive. A combination of the options may be formulated and a sound financial package developed to suit the needs of a particular industry sector. Thus, in the case of a toxic and hazardous waste facility, a highly capital-intensive facility, an outright Build-Operate-and-Transfer mode of financing and operation. Adopting the socio-culturally sensitive approach, the cooperation of the waste generators, transporters, and disposers will be secured to ensure proper compliance. They can even undertake the construction and operation of the waste facility on their own through the Build-Operate-and-Own mode. With piggery operators, for example, a REFUND concept may be appropriate to finance a waste treatment/bio-gas facility with minimal outright grants from government for technical assistance. With all the waste from piggeries for example flowing into the Bulacan River (near Metro Manila) and ultimately into Manila Bay, they can form a cooperative whereby the septage can be stored in a common facility and its methane discharges be converted to electrical power. Parenthetically, this method is particularly suitable to "night soil" collectors which presently indiscriminately and surreptitiously dump said "soil" into open canals and waterways. Because methane is a greenhouse gas, the availability of foreign grants from sources such as the Global Environmental Facility cannot be discounted. In sum, waste stream groups must be closely examined for appropriate/case-specific financial packaging.

## **8 PREPARATORY GROUNDWORK**

Various legal, administrative, political and enforcement preparations need to be undertaken to lay the groundwork for this compliance program. These are conditions precedent to:

- a) Build internal capacity of the Department of Environment and Natural Resources to undertake a proactive and unprecedented system of environmental governance;
- b) Ease the path of possible political misunderstandings;

- c) Provide legal and fiscal authority in the absence of specific legal enactments allowing the same;
- d) Strengthen the enforcement and prosecutorial team for the residual power to deliver swift, picture-perfect, painful and public justice.

### 8.1 Legal

The Philippine environmental laws are of 1970's vintage. While broad in scope, it does not reflect the current thinking on market-based incentives, environmental tax/user fees, etc. and relies on strictly command-and-control approaches. Relying on Congress to amend, revise or recodify these laws has, over the last 10 years of Congress' existence, proven to be a singularly elusive. Other priorities take precedence. It is the challenge of policy-makers and implementors, however, to "satisfice" — to be satisfied with the present sacrifice of inadequate legal authority. Law begins with desire. If the desire to achieve a particular goal exists, it is the role of creative lawyering to provide the legal basis.

Providing for the legal basis gives some level of comfort to all concerned parties — the Secretary, the staff, industry players, and other actors — against legal challenges to the program, personal harassment suits, partisan political investigations, and reckless criticism.

Two particular activities need legal justification: a) The REFUND Mechanism; b) Phased-in Compliance Approach.

With respect to the REFUND mechanism, points that need to be clarified with the Departments of Justice and of Finance are, among others, a) the levy or imposition of an environmental user fee. While this can be justified as a form of penalty, the use of the term and concept of penalty is to be avoided because it connotes punishment (thus immediately creating an adversarial atmosphere), and because penalties are remitted to government coffers and goes into a general fund; b) allowing industry to hold the funds collected under the scheme and self-appropriating it for earmarked environmental management objectives.

Fortunately, there is a one-sentence provision in Section 57 of the Environment Code that allows government to provide for grants and incentives for small and medium scale enterprises and local government units. Imaginatively interpreting this provision, its meaning can be extended to justify the REFUND scheme as a way by which incentives can be afforded to the small and medium scale enterprises given the fact that Government is not in a position to dispense outright grants. It can therefore be argued that this is a mode of self-help incentive mechanism pursuant to the Constitutional principle of "people empowerment." Procedurally, this legal "cover" can be facilitated by a top-level discussion between the President and the Secretaries of Environment, Justice and Finance, followed by a request for an opinion from the Secretary of the Department of Environment and Natural Resources. To further expedite and provide the necessary parameters for the opinion, the Department of Environment and Natural Resources can provide for a draft of the requested legal opinion. In order not to isolate the legal counsel of government agencies, i.e. the Office of the Solicitor General (OSG), said office can also be brought on board. In this manner they will know the legal justification in case a judicial challenge is brought against the scheme.

Under the rubric of "incentives-provision", the justification for phased-in/staggered compliance can be made. It can also be justified on broader grounds of public policy, i.e. avoiding employment dislocations, economic disruption and provide for a participative form of democratic governance. It is also justified on the ground of the economic realities in the country. The legal mechanism of "variances" can thus be adopted. An Executive Order declaring this as a public policy may be promulgated.

## 8.2 Political Backstopping

Even absent a legal challenge, Congressional representatives who are not in the loop of information can misunderstand the program and subject it to numerous and paralyzing investigations under the cover of its being "in-aid-of-legislation." It is therefore necessary for the Secretary to make personal contact with the Chairs, Vice-Chairs and influential members of the Congressional Committees on Environment, Natural Resources, and Good Government in both chambers of Congress, i.e. the House of Representatives and the Senate. Two items can be discussed with them a) a suggested provision for amendment to the present Philippine Environment Code providing in more specific terms for the authority of the Department of Environment and Natural Resources to develop market-based instruments, which amendments can be jointly "authored by them" (thus giving them political credit and mileage); and b) to enlist their preliminary support for the program pending its "legalization" by legislative enactment.

The due importance accorded to the legislators in this consultation process will pay back manyfold in political goodwill, increased budgets, understanding and non-criticizing legislators, and general cooperation by the concerned members of Congress. It may be noted that the Committee on Good Government is included. This Committee often conducts investigations of graft and corruption for even the flimsy and baseless allegations. It is "powerful" precisely because of this discretion to investigate. Well-built careers have often been destroyed because a member of the Committee on Good Government caused the investigation of a certain issue, under the glare of media spotlights and the protective mantle of parliamentary privilege. Ultimately these investigations show nothing, and after the spotlights are gone, no report nor recommendation is prepared for the simple reason that the accusation was unfounded in the first place. In the meantime, the program has been paralyzed by wanton subpoenas and good people exposed to the media as having been "investigated for graft and corruption".

The importance of bi-partisan political alliances must therefore be properly addressed.

## 8.3 Administrative

Underlying this effort is the assumption that a well-trained staff within the Department of Environment and Natural Resources can carry it out. Various matters need to be addressed, among them that a full-time staff is sufficiently skilled in negotiations to consummate the environmental agreements, to coordinate and work with mid-level industry sector representatives, to liaise with mid-level congressional staffers, NGOs and media, to provide transitory leadership or oversight *ex-officio* in the REFUND scheme, and other similar activities. This needs a full complement of about 22 persons consisting of 12 professionals, 8 technical and support staff.

In the theory of professionalization of inspectors, these people must be "professionalized" with training in negotiations and on the other aspects of program requirements. Their principal task is to provide a detailed management program.

It is also important to utilize all present resources for the technical requirements of monitoring and verification. The laboratory equipment necessary at the outset of the project will need only those required by the identified waste streams to be addressed, e.g. BOD.

#### 8.4 Enforcement and Prosecutorial Capability

Lest forbearance be misconstrued for softness and the project fall into the pit of negotiated non-compliance, the monitoring, enforcement and prosecutorial capabilities must be strengthened. While this can be done quietly in order not to create an adversarial attitude in the negotiations, the effort must be taken to sufficiently create a well-placed leak of the information, with hyperbolic amplifications if necessary, to create a sense among the regulated of the seriousness of the effort and of the readiness and willingness of the Government (the Secretary) to pursue the goal. The perception of determination is necessary to strike a strong sense of fear of the consequences of serious behavioral deviation.

In the natural resources protection effort, specifically in the intensive anti-illegal logging campaign executed between 1992-1995, very productive institutional linkages were created between the Department of Environment and Natural Resources on the one hand and the DOJ, NBI, OSG, and the Philippine National Police on the other. These linkages developed a corps of incorruptible and dedicated high-level officials who waged daring battles against powerful adversaries. Maintaining and improving institutional and personal linkages as well as further exposure to training and detection of industrial environmental law violations will sufficiently sensitize them to the legal and factual issues in this operational area.

While the Philippine pollution control law (Pres. Decree 984) presently provides for a criminal sanction, its efficacy has not been fully tested. If at all the hammer of law enforcement must be used, however residually, the blow should be directed to the highest-ranking responsible officials in a manner that is swift, painful and public. This is to maximize the deterrence value of the enforcement action.

### 9 ENVIRONMENTAL AGREEMENTS

The regulatory structure of Environmental Law always followed the vertical flow. An order is issued by the Environmental Agency and disseminated to the regulated. While there is some consultation in the preparation of these regulations, it ends right there after promulgation of the order. Hardly any consultation and discussion is held on the most important part of legislation — the implementation. The movement to "horizontalize" implementation is growing. This is in the form of Environmental Agreements.

Environmental agreements have been increasingly used by governments and industry in the spirit of cooperation. Also called covenants or declarations of intent depending upon the binding effect of these agreements, they are used either as a stop-gap measure pending legislation or as a mode of compliance by which industry and government arrive at an agreement for staggered or phased-in implementation program. They also serve to reduce the volume of regulatory requirements and allow industry to adopt a proactive attitude of ecological self-organization to customize cost-effective technological solutions for their respective sectors. In addition, it creates a transparent process by which industry can be effectively monitored, by others and by themselves. It seeks to involve and engage the concerned levels of industrial society in the spirit of shared responsibility and enlarge social support for policy measures.<sup>15</sup> On the part of industry, their incentive to join and actively participate in this process is the prospect of reduced bureaucratic interference. Furthermore, industry is allowed to prescribe for itself the most appropriate technology to address their waste streams within a realistic time frame and given their available resources.

In the context of the proposed socio-cultural approach to compliance, it opens up the avenue whereby problems are discussed openly and consultations held between the regulated and the regulator and mutually acceptable solutions are arrived at ("pinag-uusapan"). Furthermore, the face-to-face discussions afford the opportunity for the personalistic and the "face" value traditions to play out extensively. The occasion for informal discussions between government and industry representatives, and even NGOs, makes for the establishment of personal ties, a cherished value in Filipino, and in Asian culture for that matter ('tayo-tayo'). This is an established technique even in the negotiation of the most difficult international environmental conventions. The informality breeds trust and confidence among the actors. Unlike in formal negotiations where "positions" are negotiated, informal discussions facilitates the communication of interests which interests are definitely easier to address than often inflexible positions. Yet, because of the transparency, and the preparatory agreement in principle between the CEO/Chairs and the Department of Environment and Natural Resources Secretary, each side of mid-level managers and environmental staff that they are being monitored on the outcomes of the negotiation. "Regulatory capture", i.e. of the regulator captured in its sentiments and attitude by the regulated, is therefore remote.

A word need be said about the face value being allowed to come into play. Once an agreement is reached by mid-level management, and ratified by the top-level officialdom, renegeing on commitments becomes a social anathema. Especially when the agreement is multi-party as in members of an industry sub-sector, the "pakisama" and "hiya" values become the over-riding considerations. In Asia, to lose one's face is a sanction of a higher order and of more painful consequences than of legal sanction. It may also be noted that the shame attendant to losing one's face affects not only one's personal self but also to members of his family.

Environmental agreements have become a major policy instrument in the Netherlands and Japan.<sup>16</sup> Even in the United States and Germany, known for their strict environmental standards and copious environmental regulations, environmental agreements have increasingly played a role as an instrument of dispute settlement between industry on the one hand and the surrounding community or the central state agencies on the other.<sup>17</sup>

#### 9.1 Guidelines for the Preparation of Environmental Agreements<sup>18</sup>

The following will outline and discuss the different indicative components that an environmental agreement must contain:

##### 9.1.1 Preamble of Principles

The general objectives of the agreement are here stated, *inter alia*:

- Expression of the mutual desire for cooperation between industry and government in reducing the environmental load of the industrial sector concerned.
- Industry takes responsibility for, and assuming a proactive role in, reducing its environmental load in the spirit of stakeholder empowerment
- Government's expression of trust that industry will be a socially responsible corporate citizen and fulfill its role for the sustainable development of the country
- Need to set definite and verifiable reduction targets and transparent monitoring verifiable standards.
- Industry's expression of confidence that Government will take all efforts to achieve a consistent environmental policy.

### 9.1.2 Parties

#### **The First Party**

The parties must be clearly identified. The First Party would be the government, specifically the Department of Environment and Natural Resources represented by its incumbent Secretary. Where however, there are other agencies involved, it is appropriate that they too be made party to the Agreement. Where involvement is tangential, attenuated or symbolic, they may be made witnesses to the Agreement. When, for example, the Agreement relates to the reduction of agro-industrial wastes discharged into the Laguna de Bay from piggeries, the Laguna Lake Development Authority (LLDA) is a necessary party to the agreement. Another necessary party or parties are the local government units (LGUs) where the industry is located. Its proximity to the industrial concern, coupled with its inherent constitutional police powers, makes it in the best position to monitor the progress of the industry's commitments. Indeed, to by-pass them would be a serious political blunder. With the changes in the person occupying the office of the town's chief executive, it is necessary to monitor political developments in order to create the necessary linkage with whomever shall later be elected to said office.

In the case of a piggery, the Department of Agriculture, specifically the Bureau of Animal Industry and the Department of Health, are tangentially involved. For the purpose of establishing participative political perceptions, their respective Bureau Directors may be included as witnesses. However, where the design for collection of environmental charges are directly linked to the water use of the industry, the waterworks/ water supply authority is a necessary party.

Permutations of agency involvement can be multiplied. The general guideline may be summarized as "inclusion", if only symbolically, and "not exclusion and isolation."

#### **The Second Party**

Depending upon the level of the sector's integration, an industry sector or sub-sector association may already be in existence and functioning. It is best to discuss, negotiate, transact and conclude an agreement directly with them to minimize the transaction costs. Again, this will depend upon the level of unity and sophistication of the industry association. However, even if the industry association is the negotiating party, all the individual industrial firms must be duly represented and must execute for and in behalf of their respective companies. This will institute individual accountability.

#### **Other Parties**

As appropriate and to promote transparency, it may be possible to include responsible community organizations and NGOs, with an established track record, in the agreement as a witness. While the agreement will not unduly saddle it with any monitoring function, the mere presence and knowledge that an NGO may be looking over the shoulders of the parties is sufficient to promote the purpose of oversight and create transparency, in addition to lending credibility to the exercise.

### 9.1.3 Declarations and Covenants

The agreement, being in the form of a contract, must provide for a sections concerning

- a. Definition of terms — this avoids misunderstanding, confusions and ambiguities on the meanings of terms that can give rise to contentious interpretations and counter-interpretations

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- b. **Quantified Objectives** — not only facilitates monitoring and verification, it also presents a measure of certainty as to the contribution a sector or an establishment is making toward the overall target for environmental quality improvement. Great care must be taken to avoid unclear quantification measures. Both the baseline and goal must be established, e.g. present rate of discharge and objective rate of discharge after (say) 3 years with intermediate goals.
  - c. **Staged Approach** — Realizing that industry may not be in a position to immediately comply with the regulatory standards, a staged approach may be adopted whereby industry establishes intermediate and quantifiable objectives ("milestones"), which on the one hand compels it to undertake the measures agreed upon, and on the other, facilitates the monitoring of the environmental improvements.
  - d. **Monitoring Mechanism** — Self-monitoring may be allowed whereby industry submits to the Parties the periodic results of its self-testing. On the part of government however, it should begin to take serious efforts to verify self-monitored reports and strengthen prosecutorial capabilities for deliberate and fraudulent reports.
  - e. **Transparency** — the monitoring reports must be available to the public. For which reason these reports must be reliable and faithful as they will be the bedrock of the implementation system. From the perspective both the company and the government, this can be viewed positively. From the point of view of the company, it can allow the public to perceive its compliance of the phased/staged implementation as being socially and environmentally responsible. For the government, it monitoring much easier. Moreover, the public scrutiny to which these reports may be subjected creates an additional incentive for industry to endeavor best efforts.
  - f. **Independent Verification of Results** — A system for independent verification may be instituted. This is especially necessary in consideration of the other firms that may need to prevent the undue disclosure of business secrets or manufacturing processes. An institution of higher learning, such as university laboratories, may be tapped to assist in the independent verification of results. The government must however take the lead in these verification inspections.
  - g. **Financing Options**. A menu of financing options may be outlined in the agreement, e.g. self-financed, Build Operate and Transfer (BOT) modalities, government subsidy/joint venture, foreign funding or a cooperative model of the Revolving Door Environmental Fund (REFUND) Mechanism.
  - h. **Consultative/Working Group**. This small working group, consisting of representatives from the Government and the industry sector concerned, shall be the continuing nexus of the two parties and implement the terms of the agreement. It shall also be responsible for the necessary policy or regulatory recommendations and adjustments. In order to prevent cultural/fraternal "capture" of the government representative, the design must be such that the balance is equal, i.e. the number of government representatives must be equal to the number of industry representatives, and the total number of persons comprising the Consultative Group be preferably small so as to

facilitate the convening of meetings and exchange of information. The group may also include ex-officio membership by a responsible non-government organization.

- i. Guarantees of Compliance. While the phased-in compliance approach may be adopted and assistance may be rendered in the facilitation of permits, this is not to be construed that government relinquishes its enforcement powers. A serious and unjustified deviation (e.g. beyond 20% variance) can justify the deployment of the enforcement apparatus against the industrial entity concerned.

## 10 CONCLUSION

Developing countries, struggling with the dual imperatives of economics and environmental need not emulate at the first instance the highly regulatory and legalistic approaches used by the more industrialized and less culturally-homogenous societies. Realizing that law is only one of the tools for behavioral change, a student of environmental compliance should examine other social and cultural influences that strongly affect the conduct of the law's target market (a.k.a. consumers of the law). Often these socio-cultural characteristics are used to subvert and undermine legal enforcement. It is then the ultimate challenge of creative enforcement to identify them, and imaginatively utilize them in and under culturally-appropriate conditions and circumstances.

Among the powerful motivating factors in Filipino culture is the "pakisama" (personalism/getting along with others) and the "hiya" (shame). This study sketches the environmental dimensions of these cultural traits, and seeks transform them into influences that will prompt and maintain compliance with environmental law. It is the premise of this narrative that while this approach may have high up-front transaction costs, it will ultimately be much more cost-efficient in the long run, and will promote a more harmonious relationship between the regulator and the regulated.

The use of Ecological Agreements as a policy instrument for compliance is also explored. It may be said that this is an attempt to de-legalize environmental regulation in that it is a form of promoting "compliance without enforcement" by affording industry to adopt a staged/phased-in achievement of the standard. At the same time however, it is a form of "legalized delegalization"<sup>19</sup> in that the agreements are binding and may be judicially enforceable. To recall, the use of these ecological contracts are as tools of compliance or as bridges to voluntary standards where there are as yet none.

In the end, environmental enforcement and compliance is not a simple question reducible into the Dostoyevskian equation of crime and punishment. Rather, it proceeds from the assumption of good faith on the part of industry, i.e. if given the chance between complying and not complying with the law, industry will, pursuant to the dictates of "enlightened self-interest" will exert its utmost best to comply. True, industry may be an amoral calculator and profit-maximizing actor. But when faced with the choice of expensive non-compliance versus cost-efficient compliance, the absence of alternatives begins to clear the mind marvelously. The principal role of government is therefore not as a policeman lurking in the bushes to spring in ambush only when sight of a jaywalking pedestrian emerges. Not only is this expensive, it also does not promote social and political maturity. Rather, government's role is as a *bonus paterfamilias*. Seeing some of his children-citizens fall out of line, he calls them to a meeting to guide them on the proper conduct, and thereafter provide oversight.

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Human psychology is reciprocally anticipative. When measured trust is given, especially to an intelligent sector, one may reasonably anticipate a reciprocal fulfillment of that trust, by most of the actors most of the time. However, lest trust be abused and mistaken for weakness, the good father of the family should, of course, always retain and be ready to use the residual power of the rod.

#### ENDNOTES

1. Citation from Industrial Environment Management Project — World Bank Study in the Philippines.
2. The imposition of a fine is a deprivation of property in the form of money.
3. Hazard, Geoffrey Jr., *Ethics is the Practice of Law*, 137 (1978).
4. By "Legal Target Market" is meant the sector of people whose behavior the law seeks to positively adjust. It will be used in varying contexts in this paper.
5. "Good parents of the family" of citizens.
6. In November 1991, a flashflood in the City of Ormoc in the mid-eastern part of the Philippines, resulted in the deaths of about 5,000 people in a matter of minutes. Constant floods in other parts of the country brought about by the regular typhoons repeatedly bring the issue of deforestation and consequential flooding to the public attention of the public.
7. Church, Thomas, Nakamura, Robert, Cooper, Phillip, *What Works? Alternatives Strategies for Superfund Cleanups*, Rockefeller College of Public Affairs and Policy, State University of New York at Albany, 110 (1991).
8. Bardach, Eugene and Kagan, Robert, *Going by the Book, the Problem of Unreasonableness*, 123-124 (1982).
9. Church, *supra*, note at 7, 75-77.
10. *Id* at 76.
11. *Id* at 81.
12. The term "Target Group" shall mean the concerned sector of industry which behavior is sought to be modified.
13. The PBE is a young and credible non-profit Foundation composed of environmentally-conscious industry representatives.
14. Unless otherwise indicated, Secretary shall mean the Secretary of the Department of Environment.
15. *Ecological Covenants: Regulatory Informality in Dutch Waste Reduction Policy, in Environmental Law and Ecological Responsibility: The Concept of Practice and Ecological Self-Organization*, Gunther Teubner, Lindsay Farmer and Declan Murphy, (eds), 1994, 186.

16. Yamaouchi, Kazuo and Otsubo, Kiyoharu, Agreements on Pollution Prevention: Overview and One Example, In *Environmental Policy in Japan, 1987*, 221; cited by Eckard Reh binder, *Ecological Contracts: Agreements between Polluters and Local Communities*, in *Environmental Law and Ecological Responsibility*, *id* (1994) at 151
17. Reh binder, Eckard, *id.* at 148 and 156.(1994)
18. These guidelines have been distilled from the materials of the Ministry of Housing, Spatial Planning and Environment (VROM) of the Government of Netherlands in part prepared by Kees Bastmeijer, Senior Legal Officer in the Legal Policy Affairs Division of the Directorate-General, April 1996.
19. Reh binder, Eckard, *Ecological Contract: Agreements between Polluters and Local Communities*, *Environmental Law and Ecological Responsibility: The Concept and Practice of Ecological Self-Organization*, G. Teubner, L. Farmer and D. Murphy, eds., 149 (1994 ).

## WORKSHOP 3B ENVIRONMENTAL CRIMES AND CRIMINAL ENFORCEMENT

Internationally, the role for criminal enforcement is very varied with some nations relying exclusively on criminal enforcement mechanisms for the full range of possible violations of environmental requirements and others reserving criminal enforcement for actions thought to be "criminal" in nature. Nevertheless, there is increasing recognition of at least a set of violations of environmental requirements that are recognized as "environmental crimes" worthy of treatment under criminal codes and criminal prosecution. The players involved in criminal enforcement sometimes differ from those in civil enforcement requiring different forms of cooperation both nationally and internationally.

Papers and workshop discussions will address the following issues:

- How countries are using and developing criminal enforcement authority for addressing environmental crimes and for deterring and correcting violations of environmental requirements.
- Kinds of sanctions and other consequences made available through criminal enforcement and how effective are they in achieving compliance.
- The proper role of criminal authorities and sanctions in environmental enforcement. The relationship between criminal and civil enforcement and for what types of violations criminal enforcement (rather than civil enforcement) is particularly well suited.
- National cooperation in criminal enforcement: government entities that might be involved in making criminal enforcement successful and how these different groups can be encouraged to work together.
- Training required to support criminal enforcement, and training materials available.
- How INTERPOL works and how to access country contacts and INTERPOL.
- International cooperative efforts to prevent, detect and prosecute crimes: what has worked well and what has not worked well, what improvements can be made, what information needs to be shared.

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1. The G-8 Mandate for Expanded Cooperation to Combat International Environmental Crime, Recent Developments in the United States, and a case study: Project Exodus Asia, *Devaney, Earl E. and Penders, Michael J.* ..... 337
  2. Cooperation among the Police, the Judiciary, and Government to Control Crimes Against the Environment, *Bakx, R.C., Spel, A., and Wabeke, J.W.* ..... 347

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3.	Strategy on Enforcing Environmental Law through Criminal Law by the Public Prosecutions Department in the Netherlands, <i>Biezeveld, G.A. and Wabeke, J.W.</i> .....	353
4.	Local Enforcement: The Role of the Criminal Investigator, <i>Drielak, Steven C.</i> .....	361
5.	Transboundary Environmental Crimes: German Experiences and Approaches, <i>Gallas, Andreas and Werner, Julia</i> .....	375
6.	The Position of the Public Prosecutions Department in the Enforcement of Environmental Legislation in The Netherlands, <i>de Lange, Ton and Wabeke, Jan Wolter</i> .....	383
7.	Environmental Crimes and Criminal Enforcement, <i>Mbouegnong, Pierre</i> .....	387
8.	Local Enforcement: A Fundamental Component of Environmental Compliance, <i>Spahr, Linda A.</i> .....	393
9.	Improving the quality of the environmental task of the police in the Netherlands: a permanent process, <i>Spel, A.</i> .....	407
10.	See also Compliance Assistance and Environmental Enforcement in Sonoma County and the San Francisco Bay Area, <i>Paige, Dean C. and Gam, W. John</i> .....	555

See also Workshop 3F: *Administrative Enforcement Mechanisms: Getting Authority and Making It Work*

See also Workshop 5A: *Illegal Transboundary Shipment of (Hazardous) Waste*

See also Workshop 5B: *Compliance with International Environmental Agreements: Focusing on Montreal Protocol and CITES: Illegal Shipments of CFC and Other Ozone Depleting Substances and Illegal Trade in Endangered Species*

See also Workshop 5C: *Illegal Shipments of Dangerous Chemicals Including Pesticides*

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See related papers from other International Workshop and Conference Proceedings

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**THE G-8 MANDATE FOR EXPANDED COOPERATION TO COMBAT INTERNATIONAL ENVIRONMENTAL CRIME, RECENT DEVELOPMENTS IN THE UNITED STATES, AND A CASE STUDY: PROJECT EXODUS ASIA**DEVANEY, EARL E.<sup>1</sup> AND PENDERS, MICHAEL J.<sup>2</sup><sup>1</sup> Director<sup>2</sup> Special Counsel

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**SUMMARY**

This paper examines the 1997 and 1998 G-8 Summit Leaders' call for expanded environmental enforcement cooperation, their commitment to ensuring access to environmental information and effective administrative and judicial mechanisms, and the Leaders' mandate for improved collaboration to fight international environmental crime. It summarizes recent developments in the United States and internationally undertaken to enhance the types of cooperation called for by the G-8 Leaders and many others around the world.

The paper then describes an U.S. Environmental Protection Agency investigation into US exports of waste to Asian nations following the People's Republic of China alleging violations of their import and pollution control laws in connection with one such shipment. This investigation and the enforcement project that ensued - Exodus Asia - demonstrates the type of cooperative mechanisms between nations that are necessary

to achieve the type of enforcement cooperation called for by leaders and the public alike. It also illustrates the type of networks and integration of information between federal, state and local agencies which are critical to detecting, investigating, and therefore deterring illegal shipments in the first place. Finally, the paper notes the recent deployment of the Center for Strategic Environmental Enforcement designed to improve the United States capacity to detect such environmental violations and conduct the types of sophisticated collaborative investigations necessary to combat environmental crime.

**1 INTRODUCTION: THE CURRENT INTERNATIONAL CONTEXT FOR NATIONAL LEADERS' FOCUS ON ENHANCING ENVIRONMENTAL ENFORCEMENT AND COMPLIANCE MECHANISMS.**

In the last year, the enforcement of environmental laws and the implementation of international agreements have remained prominent issues on the international agenda. For example, last December, in Kyoto, Japan, the nations of the world reached agreement on an historic first step to control greenhouse gas emissions. While the Kyoto Protocol represents a framework for action and is still very much a work in progress, rarely has there been an international effort more ambitious in scope or complex in implementation than developing legally binding targets for the reduction of the various emissions which contribute to global warming.

As nations and governments contemplate how to meaningfully and fairly implement such an agreement, renewed attention is being paid to other international agreements, the workings of their enforcement mechanisms, and the relative merits of different forms of implementing legislation. Increasingly, as governments evaluate the terms of international cooperation, their environmental ministers and diplomats are insisting upon an elaboration of compliance regimes and a thorough understanding of the objective criteria underlying legal obligations before moving forward with new agreements.

Further, recognizing that agreements have little or no effect unless they are enforced, environmental ministers and their governments are calling for strong rules with fair and transparent procedures and the capacity and resources for enforcement in practice to protect existing agreements and lay the groundwork for the expanded cooperation necessary to assure compliance with new agreements such as the Kyoto Protocol.

## **2 THE G-8 MINISTERS STATEMENT ON ENVIRONMENTAL ENFORCEMENT, INTERNATIONAL COOPERATION, AND PUBLIC ACCESS TO INFORMATION**

The Environmental Leaders of the United States, Canada, Italy, France, Germany, Japan, Russia, the United Kingdom, and the European Union convened in Miami, Florida in May, 1997 and addressed environmental enforcement issues for the first time in the context of the G-8 Summit process. U.S. Environmental Protection Agency Administrator Carol Browner chaired the Environmental Leaders Summit of the Eight which produced a strong agreement on environmental enforcement and access by citizens and groups to environmental information.

At the conclusion of the Summit, the leaders issued a joint statement, declaring that:

*"Effective enforcement of environmental law is essential to punish and deter environmental violations, ensure fairness for those who pay the costs associated with environmental compliance, and provide a basis and give incentives for voluntary efforts to improve environmental performance. The G-8 leaders agreed to move forward domestically with efforts to improve the integration of environmental enforcement with traditional law enforcement institutions and other agencies.*

*"The environment leaders also committed themselves to support and enhance the emerging international cooperative efforts among their governments and international bodies. They noted the value of compliance mechanisms under international environmental agreements and the importance of individuals and groups having access to environmental information and effective administrative and judicial mechanisms. They agreed to enhance a collective focus on trade which is illegal under international environmental law, including shipments originating in their countries and those that have adverse impacts on developing countries."*

### **2.1 The Consultation of Environmental Enforcement Officials of the G-8**

On January 21 and 22 of 1998, the environmental enforcement officials of these G-8 nations convened in Washington, D.C. to consider the directive of the Miami Summit and develop a framework and adopt measures to expand their cooperative efforts as called for by the G-8 Ministers. U.S. Environmental Protection Agency Assistant Administrator for Enforcement and Compliance Assurance, Steven A. Herman, hosted and chaired the consultation. Other principals of the United States delegation included Assistant Attorney

General Lois Schiffer, Chief of the U.S. Department of Justice's Environment and Natural Resource Division, and Edward L. Dowd Jr., United States Attorney for the Eastern District of Missouri. In addition to representatives from each of the G-8 nations, there was participation by the U.S. State Department, the European Union, and the Secretary General of INTERPOL, Raymond Kendall. (See Appendix 1)

At the end of the two day consultation, after exchanging information about how environmental enforcement and compliance assurance is organized in each of the nations, examining the existing mechanisms for cooperation, and considering the legal and other constraints on such international processes, the enforcement officials of the G-8 issued a five page Chair's Summary setting forth the practical measures their agencies would take to expand their cooperative efforts to address violations of environmental law and international agreements.

The enforcement officials agreed that among their cooperative efforts, priority must be given to the framework of the existing multilateral environmental agreements and their compliance mechanisms, such as those for the Montreal Protocol, CITES, and agreements dealing with hazardous waste. They also agreed to further develop public access, in accordance with national law, to environmental information, including, where possible, compliance information held by public authorities.

The consultation found that to improve environmental enforcement domestically it was important for countries to establish or improve national networks of officials involved in enforcing environmental requirements and to work with other appropriate agencies, like the approaches developed in the United States to address the smuggling of ozone-depleting substances. The officials also emphasized the need for appropriate resources to support effective environmental enforcement and the promotion of public awareness and training to ensure that law enforcement personnel are prepared to safely and effectively investigate environmental violations.

To improve environmental enforcement internationally, the consultation pledged full support for effective implementation of the existing multilateral agreements and their mechanisms for exchange of information and for achieving compliance. The officials also called for continued informal exchange of information and experience and the establishment of a working international directory identifying responsible officials for particular areas of environmental enforcement. They also agreed to cooperative efforts to detect and prosecute transboundary violations, focusing on illegal shipments originating in the G-8 nations and those that have adverse impacts on developing nations, and to support international training and capacity building efforts.

Finally, the participants of the consultation suggested that the environmental leaders have a full discussion of environmental enforcement in the spring of 1998 when the G-8 ministers reconvened and consider reporting their conclusions to the heads of state and governments.

## 2.2 The 1998 G-8 Environment Ministers Meeting at Leeds Castle, Kent, England and the Heads of State Summit

As the G-8 reconvened in Great Britain this spring with meetings of the environmental ministers and heads of state, international crime and environmental enforcement efforts remained near the top of the agenda. On April 3-5, 1998 the ministers and representatives of the European Union met at Leeds Castle, Kent, to consider progress made since they last

met in Miami and to discuss five key environmental issues facing the world. They identified these issues as climate change, environment and employment, protection of marine biodiversity, enforcement of multilateral agreements, and children's environmental health.

Of these issues, most of the press coverage in such places as the BBC, the Deutsche Press-Agentur, and New York Times, as well as the press statements issued by UK Deputy Prime Minister and Secretary of State for the Environment, John Prescott, who hosted and chaired the sessions, focused on the ministers' efforts to combat 'environmental crime'. In the Communique published at the conclusion of the meeting, the ministers introduced the subject of environmental enforcement this way:

*"We recognize the vital role of international agreements in delivering sustainable development at the global scale. However, these agreements will have no effect unless they are effectively enforced. We therefore express grave concern about the ever growing evidence of violations of international environmental agreements, and particularly the involvement of international organized crime. This harms not only the global environment, but also the health and livelihoods of people in developed and developing countries alike. We believe that our Governments must act now to protect existing agreements, and must insist on strong rules and enforcement procedures for international emissions trading under the Kyoto Protocol, recognizing that we must guard against fraudulent activity."*

After negotiations at the castle, the ministers readily endorsed the work carried out by the environmental enforcement officials in Washington DC, and pledged their ministries support in sharing information and cooperation in transboundary investigations, strengthening the capacity of enforcement agencies including international efforts to train law enforcement officials in environmental enforcement, and undertaking national activities to raise public awareness. They noted the progress in coordinating action to combat international crime generally, and called upon the Heads of State to adopt similar approaches in tackling environmental violations.

On May 15-17 1998, the Heads of State convened in Birmingham, England. The G-8 leaders pledged to help developing countries cut pollution in line with the Kyoto agreement. In the final communique, the leaders devoted much attention to their commitments for greater cooperation in the fight against international organized crime generally. The communique specifically referenced the work of the environmental ministers at Leeds Castle, and endorsed the ministers efforts to achieve greater cooperation in the fight against environmental crime specifically.

### **3 RESPONDING TO THE MANDATE FOR GREATER COOPERATION IN COMBATING INTERNATIONAL ENVIRONMENTAL CRIME**

While recent cooperative efforts and the growing international attention paid to these matters are encouraging, the technical capacity and resources necessary to investigate potential violations of complex environmental laws have barely coalesced. In many places there remains an extremely limited capacity to enforce environmental laws. Still, governments and the public alike have come to expect vigorous enforcement of environmental laws, particularly with respect to hazardous waste and other dangerous substances that may illegally cross national borders and is illegally dumped or released.

Effective enforcement remains a challenge for all nations in this era of limited government resources and competing priorities. At the very least, enforcement requires the capacity to monitor compliance with environmental requirements, trained personnel to safely and effectively investigate violations in cooperation with other law enforcement agencies, and sanctions that serve as a credible deterrent to noncompliance and as a basis for remediation and pollution prevention.

Experience in investigating and prosecuting environmental crimes have taught the U.S. Environmental Protection Agency that cooperative efforts are essential in confronting the law enforcement challenges associated with the nature of pollution which, once released to the environment, respects no borders and defies traditional law enforcement jurisdictions. With this in mind, the Agency has worked to promote structures for extensive cooperation between federal, state, local and international law enforcement authorities.

Internationally, the Agency's Office of Criminal Enforcement, Forensics, and Training has worked closely with INTERPOL and its Working Party on Environmental Crime since its inception in 1992. In the last two years, INTERPOL's international network for law enforcement to law enforcement communication has been utilized increasingly to cooperate by nations on both ends of a transboundary investigation into environmental crime. At this writing, the INTERPOL Working Party is nearing completion of an international training video and curriculum for police agencies responding to environmental crimes. It is scheduled to be delivered in Eastern Europe in the fall of 1998.

The U.S. Environmental Protection Agency's office of Enforcement and Compliance Assurance also supports a variety of bilateral, regional, and multilateral networks of environmental enforcers. These include border task forces and working groups, the North American Commission for Environmental Cooperation, and the International Network for Environmental Compliance and Enforcement (INECE).

Domestically, state regulators and enforcement personnel, local police, and other federal law enforcement agencies have long been essential partners with the Agency in environmental enforcement. The Agency's criminal investigators participate in some 90 task forces composed of specialized federal, state, and local law enforcement agencies to pool resources and intelligence and conduct high profile, multi-jurisdictional investigations such as those currently underway to address the illegal smuggling of CFCs into the United States. Another leading example of transboundary cooperative investigations are those conducted under the auspices of the Law Enforcement Coordinating Committee in western New York State and Ontario, Canada, which coordinates investigations and mutual assistance in a wide variety of environmental crimes in the areas surrounding Buffalo and Toronto.

Interagency cooperation has been facilitated by joint training exercises, the sharing of data and intelligence among law enforcement agencies, and formal agreements for cooperation such as the Memorandum of Understanding between the Agency and the US Customs Service for the enforcement of environmental laws at the border. Also important, the Agency's Office of Criminal Enforcement, Forensics, and Training now deploys its special agents in 40 different communities across the United States so that they can work directly in the communities that face the greatest pollution problems in concert with the local authorities in an attempt to achieve a consistent and fair level of environmental enforcement across the nation.

#### 4 PROJECT EXODUS ASIA: THE INVESTIGATION AND THE PROJECT.

A recent Office of Criminal Enforcement, Forensics, and Training (OCEFT) effort involved both the coordination of domestic enforcement agencies to identify suspect shipments of waste destined for export and cooperation with law enforcement agencies abroad. The Office named this project 'Exodus Asia' in part because it brought together a network of state and federal law enforcement agencies to focus upon potential illegal shipments of waste from the United States to Asian nations. An examination of this project illustrates the type of coordinated law enforcement response necessary to track unknown waste shipments and build cases against those who illegally transport waste, particularly those shipments that cross national borders.

Actually, what became the Exodus Asia project was precipitated by urgent diplomatic communications and international headlines that accompanied the arrest of a U.S. citizen in June of 1996 by the People's Republic of China for illegally importing waste into that country. The defendant was responsible for importing shipments of recyclable paper materials originating in the United States. Upon arrival in China, however, the shipments were alleged to contain undeclared hazardous waste materials. The waste was alleged to include garbage, medical waste, and other unknown substances.

It was apparent that the People's Republic of China was intent on prosecuting the importer under laws governing imports and its Law on Solid Waste Pollution Prevention and Control. The immediate concern for the United States government was to determine what facts it could about this incident so that it could respond as appropriate to the Chinese government. Those facts would not only inform any diplomatic decisions that needed to be made in the near term but also whether there was a potential violation of U.S. law as well related to the illegal export of waste.

First questions for U.S. investigators included whether these shipments in fact contained a "waste" and whether the waste was "hazardous" as defined by U.S. law. If the shipments contained an illegal export of hazardous waste, without proper notification and acknowledgment of consent by the receiving nation as required by U.S. law, then the Environmental protection Agency and other federal authorities would have jurisdiction to pursue charges for illegal export of waste.

Under U.S. law, these questions are not always easily answered even when there is knowledge of the source of the waste and the industrial process which produced it. In order to establish that a waste is hazardous in the U.S. for enforcement purposes, the government must prove that the substance first is a waste and then that it is either one of the thousands of listed hazardous wastes under federal regulations or exhibits the characteristics of a hazardous waste as defined by law, almost always by scientific sampling and analysis.

If the shipments were merely wastepaper intended for legitimate recycling, however, then there would be no violation of U.S. law. Indeed, the massive volume of wastepaper generated by U.S. consumers is attractive to certain Asian nations where trees are scarce, making it one of the nation's top export commodities. In 1995 alone, the United States shipped more than 6 million tons of recyclable paper overseas, most to Asia. U.S. industry standards do not permit wastepaper to contain more than 10 percent trash, but overseas mills are often willing to buy loads that contain 20 percent or more. Relative labor costs often make it cheaper for businesses to ship it mixed and have the receiving nations sort it out according to their standards.

Of course, it is illegal under U.S. law to mix hazardous waste in with this waste paper and it may be illegal under the receiving nations laws to import waste paper when mixed with other types of waste or too much trash beyond specification. Thus, the fundamental questions for this investigation became: (1) what exactly was in the rejected containers?; and (2) how did these shipments get contaminated and who was responsible?

Accordingly, the investigation proceeded along two tracks. First, to find out where these shipments originated, it was necessary to track them back to their point of origination in the U.S. by investigating everyone involved in the transaction: the brokers, the shippers, the exporters, and finally a recycling center where the shipping containers were loaded with waste paper.

At the same time, it was also important to establish precisely what the Chinese law enforcement authorities were alleging and what exactly was discovered in the containers. It was appropriate, therefore, that the Office of Criminal Enforcement, Forensics, and Training made a formal request of the People's Republic of China law enforcement officials through INTERPOL of the details of China's accusations and the facts they were alleging. The Chinese government responded to this request with information about the charges and specifics of the allegations. In turn, they requested information about the business operations of the defendant in the U.S.. These communications demonstrated the utility of INTERPOL's international system of law enforcement to law enforcement exchange in cases where it is essential for nations to cooperate in an international investigation and learn the facts in the possession of another nation.

Not only was such international cooperation critical to this investigation, but coordination with state and local authorities was required as well. Indeed, the State of California and The California Environmental Protection Agency were concerned about this matter in their own right. The shipments in question had departed from ports in California and wastepaper export for recycling purposes had become an important business in the state. This incident had raised questions about the legitimate trade in recyclable paper and for a time the People's Republic of China authorities suspended all such trade.

In fact, there was a high ranking delegation of California officials and businessmen in Beijing when the publicized arrest was made. Ironically, this delegation was promoting, among other things, expanded trade in paper recycling. Upon their return, California officials requested a U.S. Environmental Protection Agency investigation into these allegations and readily offered their support when they learned that such an investigation was underway.

#### 4.1 The Project

As the investigation unfolded, several concerns became apparent about the capacity of the different governmental agencies to detect or track suspect shipments intended for export and recycling, which may include waste materials. First, the U.S. State Department, the Customs Service, the Environmental Protection Agency, and different agencies within California may receive information relevant to potential illegal shipments, but there was limited capacity to investigate such allegations by any one agency acting alone.

Second, in an era of increasing global trade, mechanized transport with containerized shipping, and a high priority assigned to keeping shipments moving, it is more difficult than ever to have meaningful inspections of material intended for export or import. To the extent that Customs Services focused on illegal trade, most resources and technology were devoted to investigating incoming shipments, not those intended for export. Even then, only a small percentage of incoming traffic is actually inspected at the border.

In the modern era, it is not uncommon for shipments to be loaded in a container in the middle of America, sent by trucks or rail to ports in California, and then packed on ships which are underway without the container being opened or its contents inspected. Many of these containers are never opened until they reach their final destination, perhaps in the middle of China.

With more international trade, and relatively fewer opportunities for meaningful inspection, the potential for those to abuse the system by sending illegal substances increases. Thus, it is more important than ever that all levels of government work effectively together to detect and respond to suspect shipments.

These different law enforcement agencies must integrate or at least coordinate their data, intelligence and technology, and build joint capacity by developing routine mechanisms for cooperative operations. Moreover, these domestic agencies must establish a network with their law enforcement counterparts in other nations, particularly their most frequent trading partners, to facilitate international investigations. Otherwise, there is small deterrent to those who would export waste illegally to avoid the costs associated with disposing of it in an environmentally sound manner at home.

#### 4.2 The Network

As it became clear that a broader and more coordinated approach was necessary to identify, interdict, and prosecute illegal exports, OCEFT found it necessary to initiate and structure a network of state, local, and federal agencies to pool their resources and combine their authorities to cooperate in the enforcement of laws which govern waste and the export of waste products. This network then needed to solicit and establish the active cooperation of other nations' agencies abroad. This became the genesis and mission of the project known as 'Exodus Asia'. By this effort, OCEFT set out to establish an enforcement network with a particular focus on exports from the USA to Asia.

A first step was to establish a compilation of domestic and diplomatic data about potential illegal shipments and obtain a baseline of information from other governments and regions about shipments which they had rejected in recent years because they contained waste products not correctly identified in manifests or which violated laws of the receiving nation. To this end, OCEFT made a formal request through INTERPOL of the appropriate authorities in Taiwan, Korea, Hong Kong, and the People's Republic of China to identify all suspect and illegal shipments rejected or investigated by their agencies since January 1, 1995.

Next, meetings were arranged with senior managers in the U.S. State Department, Customs Service, State of California, different offices within the Environmental Protection Agency, and local waste regulators to obtain all relevant data their agencies maintain about waste processing, including waste or by-product that may be intended ultimately for export. It was necessary for these agencies to then establish a coordinated liaison function in order to bring their respective information together for periodic analysis in order to identify potential illegal shipments before they left the U.S.. Review of this data was also essential so as to enable cooperation with other nations law enforcement in cases discovered abroad or in transit.

To date, largely by bringing together these various levels of government with different functions and the information they manage about waste, there have been numerous cases of suspicious waste management practices identified. Also, as a result, several cooperative investigations into illegal exports of hazardous waste and other dangerous substances have been initiated.

#### 4.3 The Investigation and its Aftermath

With respect to the original investigation, on January 13th, 1997, the Chinese government reported that the defendant was sentenced to 10 years imprisonment and ordered deported for illegally importing 238 metric tons of garbage and medical waste from California in shipping containers falsely labeled as scrap paper. After these shipments were returned to the U.S., and the shipping company repatriated them as they were obligated by contract to do, subsequent OCEFT investigation at the U.S. port confirmed that these shipments contained large amounts of garbage and other waste, though not necessarily hazardous waste under U.S. law. The waste was then lawfully disposed of in the United States.

On October 1, 1997, the People's Republic of China reported that traffic in illegal dumping declined in the past year due to the threat of imprisonment and more rigorous inspections of foreign waste shipments. "Large-scale U.S. waste exporters now take more care with the quality of China-bound waste," the People's Republic of China State Administration of Import and Export Commodity Inspection said in a statement. The Administration said less than 1 percent of foreign waste imported since January failed to meet federal standards, according to random inspections by Customs agents. "Imports of harmful waste have been successfully prevented," the administration reported.

It is hoped that with a continued cooperative law enforcement focus on illegal imports and exports at home, and enhanced coordination with law enforcement agencies abroad, that the U.S. and all nations may collectively be in a better position to detect, respond and therefore deter illegal shipments.

## 5 CONCLUSION

The United States environmental enforcement efforts must continue to emphasize and improve the cooperative networks that reach every municipality and extend beyond our national borders. In addition to building alliances with other nations and international organizations, Environmental Protection Agency is stepping up its cooperative work with state and local officials.

In October of 1997, OCEFT, in collaboration with the Department of Justice, opened the Center for Strategic Environmental Enforcement in Denver, Colorado as a centralized office for the compilation and analysis of data and intelligence for the purpose of identifying environmental crimes, both domestic and transnational, which have historically gone undetected. The Center is designed to function as a resource for local, state, federal, and international law enforcement agencies or prosecutors who require assistance in developing criminal investigations of environmental laws and related violations.

It is hoped that the Center will further enable interagency cooperation in the investigation and prosecution of environmental crime by generating targeting techniques, and providing link analysis of data and intelligence from a wide variety of sources, so that each of these agencies' information may be more efficiently utilized to identify potential violations and trends of illegal activity. In this way, law enforcement agencies should be in a better position to carry out the type of labor and resource intensive investigations required to combat international environmental crime, and fulfill the mandates from national leaders for greater cooperation.

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**APPENDIX 1 THE DELEGATES AND ENFORCEMENT OFFICIALS  
REPRESENTING THE G-8 NATIONS AND OTHER ORGANIZATIONS****Canada**

Mr. Ian McGregor, Director General, Environment Canada  
Mr. George Webb, Chief, Export Control and Counter-Terrorism Section,  
Customs Canada  
Mr. Dale Kimmet, Director, Enforcement Branch, Environment Canada

**European Commission**

Mr. Guy Chauvin, Principal Administrator, International Affairs Unit  
Mr. Georges Kremlis, Head of Legal Affairs Unit

**France**

M. Jean-Pierre Thebault, Diplomatic Counsellor, Ministry of the Environment  
Mme. Marie-Laure Tanon, Legal Counsellor, Ministry of the Environment

**Germany**

Herr Kriminaldirektor Claus-Peter Holz, Director, Federal Office of Criminal  
Investigation  
Frau LMR Edeltraud Boehm-Amtmann, Assistant Director, Bavarian Ministry  
Dr. Julia Werner, Assistant Director, Federal Ministry for Environment

**Italy**

Min. Valerio Augusto Astraldi, Diplomatic Counsellor  
Dr. Corrado Cini, Director General, Ministry of the Environment  
Colonel Nicola Raggetti, Commander, Nucleo Operativo Ecologico, L'Arma Dei  
Carabineiri

**INTERPOL**

Mr. Hiroaki Takizawa, Assistant Director, Economic and Financial Crime Sub-  
Directorate

**Japan**

Mr. Satoshi Tanaka, Assistant Director, Global Environment Department,  
Environment Agency

**Netherlands**

Mr. Pieter Verkerk, Inspector General, Inspectorate for the Environment, Ministry  
of Housing, Spatial Planning and the Environment

**Russia**

Mr. Denis Evgenyevich Dymov, Director, State Committee for Environmental  
Protection

**United Kingdom**

Ms. Claire Brialey, Department of the Environment  
Dr. Alan Duncan, Acting Director of Environmental Protection  
Mr. David Slater, Department of the Environment  
Mr. Bill Townend, Chair of the UK Interpol Environmental Crime Group.

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## COOPERATION AMONG THE POLICE, THE JUDICIARY, AND GOVERNMENT TO CONTROL CRIMES AGAINST THE ENVIRONMENT

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### SUMMARY

About 25 years ago, the Netherlands started the structural development of the necessary legislative instruments to deal with environmental issues. Until that time, environmental legislation had virtually been limited to regulations aimed at controlling local nuisance caused by industrial activities, resulting in the Nuisance Act which dates from the mid-1800s. Over the past 25 years, environmental laws have been introduced for surface water, noise, air, waste, and for the soil.

It was not until the late 1980s that a serious start was made with the development of an efficient organization to enforce environmental laws. Government, the police and the judiciary were attracting many new employees, and they largely focused on developing their own organizations and on enforcing the environmental laws for which they were competent.

However, some violations proved to be so serious that the term "crimes against the environment" was introduced. This also led to the awareness that crimes against the environment cannot be properly controlled by individual organizations. Cooperation became the key word because:

- The police and the judiciary are primarily experts in investigating and prosecuting environmental violations, and government has experts with the necessary knowledge of environmental issues. Crimes against the environment can only be successfully controlled through the supplementary use of such experts.
- The competencies of the police and the judiciary are not the same as those of government. The competency of the police and the judiciary is to enforce environmental laws and regulations through criminal prosecution and repressive measures. Government has the task of preventive enforcement. Cooperation in controlling crimes against the environment, after weighing the possibilities to do so, leads to deployment of the best possible instrument(s).
- The transport of waste typically involves different regions or even countries. In order to effectively control unauthorized transports, an extensive enforcement network of authorities who are prepared to cooperate is an absolute requirement.

This paper outlines the various forms of cooperation among the main authorities assigned to control crimes against the environment in the Netherlands, and explains how this cooperation was achieved.

## 1 INTRODUCTION

In the Netherlands, environmental legislation is embedded in a large number of laws and regulations. Dutch environmental legislation in the 1970s was divided into sectors. Statutory regulations for environmental issues such as water, air, noise and waste were covered by separate laws. During the 1980s and 1990s, these regulations were increasingly integrated, resulting in the Environmental Management Act.

Several authorities are responsible for enforcing these laws and regulations. Basically, government (national, provincial, municipal) is responsible for licencing and for enforcing the rules laid down in environmental laws and licences. This is also referred to as preventive enforcement. The police are primarily responsible for repressive enforcement, and the judiciary is responsible for prosecuting violations presented as a result of repressive enforcement.

The results of the efforts by the aforementioned authorities strongly depend upon the degree to which they cooperate in matters which are within the competencies of two or more of these authorities. Thus, this cooperation is very important in controlling crimes against the environment.

This memorandum will first describe the term "crimes against the environment" as it is used in the Netherlands. This will be followed by a discussion of relevant legislation, enforcing authorities and their tasks. Subsequently, the different forms of cooperation will be described in detail. Finally, a number of examples and results will be described.

## 2 CRIMES AGAINST THE ENVIRONMENT

For the purpose of clarity in the discussion, it is important to have a clear understanding of the term "crimes against the environment" as it is used in the Netherlands.

In recent decades, the phenomenon of crimes against the environment has frequently been the topic of research in the Netherlands, with different definitions of this term. From this multitude of definitions, we have selected the following definition because it is short, clear and practical. It is a definition of organizational crime which can also be applied to crimes against the environment. It describes organizational crime as follows:

***Crimes committed - either individually or in a group - by members of respected, bona fide organizations in the exercise of their organizational tasks***

As a working definition and as a framework of thought for this memorandum, the description of the term organizational crime will be used for crimes against the environment.

## 3 LEGISLATION

To properly understand the need for cooperation in controlling crimes against the environment, it is important to have an overall understanding of applicable (environmental) legislation in the Netherlands.

The Environmental Management Act is the most important law. It includes such items as: a planning framework, regulations for waste management, the framework for licencing, enforcement competencies, and instruments for harmonization with other environmental laws. The Environmental Management Act is a so-called framework law, which means that it is

detailed in implementation regulations, such as the Facilities and Licensing Order for Environmental Management, and in provincial environmental regulations. The memorandum entitled "Environmental Law Enforcement in Practice in the Netherlands, an Integral Approach"<sup>1</sup> discusses the details of legislation and the organization of enforcement.

Other important laws in addition to the Environmental Management Act include the Pollution of Surface Waters Act and the Soil Protection Act. The names of these laws already indicate the aspects covered. The reasons why these aspects are covered by separate laws, in addition to the Environmental Management Act, are primarily of a historical nature and they fall outside the focus of this memorandum.

Violations of environmental laws are punishable under the Economic Offence Act. Depending upon the seriousness of the violation and whether or not it was committed intentionally, the maximum punishment is six years imprisonment. The Economic Offence Act also defines the competencies of criminal investigators with regard to the enforcement of environmental laws. We will clarify, below, which authorities are currently responsible for enforcement or investigation, and we will also clarify the meanings of these terms.

The investigation of matters which can be considered crimes against the environment often involves common penal law. Crimes against the environment frequently go hand-in-hand with offences such as fraud and forgery. Whenever such offences are present in environmental violations, the investigation team can make use of the often more extensive competencies pursuant to the Code of Criminal Procedure. Competencies such as observation, the monitoring of telephone conversations, and house searches, may be options in certain cases.

#### 4 TASKS

The fragmented nature of environmental laws and regulations is not the only factor which makes enforcement complicated. Tasks and competencies are divided among many different authorities. As indicated earlier, government is primarily responsible for preventive enforcement, and the police and judiciary are responsible for repressive enforcement. However, the actual situation is different from what one might expect based on this simple structure.

First of all: who is government, and who are the police and the judiciary? Government in the Netherlands is the civilian government. In environmental laws and regulations, they are identified as the competent authorities. Examples of competent authorities include the State, the 12 provinces, the nearly 600 municipalities, and the approximately 30 district water boards.

The police in the Netherlands include regional police forces and a national police force. Their tasks are basically divided as follows: the regional police forces carry out all police tasks within their specific regions, and the national police force only carries out those tasks which cannot be carried out regionally or which can be carried out more efficiently and effectively on a national basis. Examples include coordination in supra-regional matters, the supervision of national highways, the water police, and the Aviation Department.

The judiciary is also divided into regions. Without going into further details, it is important to note that crimes against the environment are handled at the district court level. Violations presented by the police are initially prosecuted by the various district courts.

Government is the competent authority for enforcing environmental laws. Enforcement is: verifying whether companies act in accordance with environmental laws and regulations without necessarily suspecting them of any violation. The Association of Provinces (IPO) and the Environment Inspectorate (IMH) also continuously strive to achieve quality improvements in enforcement. The project entitled "Quality in Enforcement"<sup>2</sup> was established for this purpose.

The police are the main investigation authority. They have competencies to initiate investigations, also when there is a reasonable suspicion that a punishable act has been committed.

To make the situation even more confusing to outsiders, a number of enforcement officers employed by the various competent authorities have also been appointed as police officers. As a result, they also have police competencies. These officers have specific knowledge and skills with regard to the environment which regular police officers frequently lack.

## **5 COOPERATION**

The above situation provides ample reason for establishing and maintaining structural forms of cooperation. However, each enforcing authority also has its own sources of information. For example, the competent authorities have many (in)formal contacts in companies, and the police and judiciary have many local contacts.

Provincial and regional consultative bodies have been established throughout the Netherlands in order to make optimal use of the knowledge and skills available within the above organizations. Within this structure, they establish contacts, exchange information, and conduct joint enforcement campaigns. This structure has thus far worked very well for the regular enforcement of environmental legislation, but companies committing crimes against the environment require a different approach. From the early 1990s, a number of major criminal-type investigations have been conducted by teams composed of police and government officials. Since these teams would be dissolved upon completion of each investigation, there has been a movement during the past two years to replace these ad hoc teams by structural teams at various levels. Such teams would greatly improve the level of efficiency and effectiveness in dealing with crimes against the environment. Knowledge would be retained, transitions between different investigations would be smoother, and time would be used more efficiently.

Structural enforcement teams to control crimes against the environment have already become operational at the national level, such as the core team for serious crimes against the environment. Provincial and regional teams currently include those in Utrecht, Zeeuws-Vlaanderen and Zuid-Holland. The province of Noord-Holland is about to establish its own team also. A number of other enforcement teams are expected to be established shortly.

## **6 EXAMPLES AND RESULTS**

Various extensive environmental investigations have been conducted in the Netherlands in recent years. Many of these were triggered by environmental scandals in the form of excessive soil pollution, water pollution, or odor nuisance. These investigations showed

that many of these signals were only symptoms and that the underlying actions could be considered environmentally criminal behavior. Below is a summary of cases which were the subject of recent investigations:

- a. The investigation of Company A was related to the systematic illegal discharge, processing and export of hazardous waste originating from vessels. The company was suspected of discharging a total of 3.5 million kg of chemical waste into the surface water over a two-year period. A multi-disciplinary investigation team investigated these facts for several years. Various managing directors and owners of this company were eventually sentenced to long-term imprisonment and to fines of several millions of guilders.
- b. The investigation of Company B involved a monopolist in the processing of sewage sludge and organic waste. The government had become dependent upon this company. The company took advantage of this situation by failing to carry out, or failing to carry out as agreed, the agreed processing of the several hundreds of thousands of tons of this type of waste per year. This caused odor nuisance to the vicinity and it resulted in the large-scale use of this waste material as fertilizer in agriculture. This case was investigated by a multi-disciplinary investigation team. The company and the Public Prosecutor eventually settled the matter by payment of 5.5 million guilders.
- c. The investigation of Company C involved a company which discharged bottom sludge as non-cleanable soil instead of hazardous waste. By using this construction, the costs for discharging this material were only a fraction of what they would have been if the bottom sludge had been discharged as hazardous waste. This case was investigated by a multi-disciplinary investigation team and will be handled in court, or settled, in 1998.

The above cases are only a sample of cases that have been investigated. The enforcing authorities do not think that the worst is over. This view is partly supported by the many new initiatives, both provincial and regional, to establish permanent enforcement teams with the exclusive task of controlling crimes against the environment.

#### REFERENCES

1. Environmental Law Enforcement in Practice in the Netherlands, an Integral Approach. Capelle aan den IJssel, May 1995, pp. 25-70 and 91-120
2. IPO/IMH, Quality in Enforcement, Arnhem, August 1996, pp. 5-26



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## **STRATEGY ON ENFORCING ENVIRONMENTAL LAW THROUGH CRIMINAL LAW BY THE PUBLIC PROSECUTIONS DEPARTMENT IN THE NETHERLANDS**

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### **SUMMARY**

This paper describes the strategy of enforcement of environmental law through criminal law by the public prosecution department. It provides an overview of the environmental responsibilities of the department and defines the core provisions.

## **1 THE ROLE AND POSITION OF THE PUBLIC PROSECUTIONS DEPARTMENT**

### **1.1 Terms of reference**

Under Article Four of the Judicial Organization Act, the Public Prosecutions Department is responsible for law enforcement. This should be interpreted as enforcing law and the legal order, which goes beyond combating crime. Enforcement of law also implies legal protection. Responsibility for legal enforcement is mainly enacted in the field of criminal law, but not exclusively so.

### **1.2 Position in the chain**

The Public Prosecutions Department occupies a central place in the enforcement of criminal law. For example, it is responsible for identifying punishable offences and to this end has power to say how investigation will be carried out by the various investigative bodies.

In addition, the Department is the sole body with access to an independent court. This role of magistrate means that the basic principle governing the Department is that all its actions must be capable of being submitted for review to the court and public sessions.

The Department is also responsible for the final piece in the administration of criminal law - implementation of criminal verdicts. Thanks to its central role in the legal chain (investigation, prosecution, trial and implementation of sentence), the Public Prosecutions Department is the most appropriate body to ensure the most effective use of the scarce resources available to each of the links in the chain. This means that the Department is best placed to anticipate the consequences of existing or new regulations for the workload of all those involved in the enforcement of criminal law. Given this position, it is obvious that the Department should be the authority to decide whether the enforcement of criminal law can be expected to have the desired effect.

### 1.3 Position of the Public Prosecutions Department with regard to enforcement of the law

It is against the background of these general terms of reference that the Department is now outlining its position regarding the protection of the legal order as a collective right against illegal conduct and its consequences.

Legislation and regulation have an important part to play in government policy on providing adequate safety. In many cases, enforcement of criminal law is provided alongside administrative enforcement, each with its own enforcement resources. Meeting society's demand for enforcement of a safe legal order therefore cannot be the Department's responsibility alone. The Public Prosecutions Department must constantly be aware of the existing means of enforcement and of the bodies that have a part to play in this process. This requires an interplay with the other government bodies responsible, with the aim of developing a successful enforcement strategy and deploying effective enforcement tools.

### 1.4 Motives

The contribution that enforcement of criminal law can make to safety in society goes beyond the classical motives of retribution, confirmation of standards and prevention (general and special). Removing any gain or advantage acquired by contravention of the law and restoring or compensating damage incurred increasingly constitute grounds for action under criminal law. Crime must not pay.

### 1.5 Basic principles

Enforcing criminal law to apply legal standards to a satisfactory level covers prevention of punishable offences as well as repression. The Department has to comply with a number of important conditions in this respect:

- The enforcement of criminal law must be able to safeguard the safe legal order as a collective right which offers protection against violations of standards, which our society in all reason has a right to expect. This demands adequate capacity and quality of the resources available for enforcement and the right priorities.
- The enforcement of criminal law must comply with the requirement of equality before the law. This means that legal action must be taken against the perpetrators of crimes without distinction on the basis of personal circumstances - i.e. regardless of their legal status, social position or economic importance - in equal measure and in accordance with the severity of the offence committed.
- What determines the nature and speed of the legal system's response to an offence is the severity of the violation of legal order, the urgency for protective or reparatory measures and the need and opportunities for confirmation of standards. This requires a deliberate, balanced and creative use of the means and powers of criminal law enforcement.
- Adequate attention must be given to the position of victims of crime. This goes beyond considering those directly experiencing the disadvantages. Since some groups in society cannot speak for themselves, representatives and organizations must be seen as representing their interests; as is the case in administrative law and civil law (children, the elderly, nature and the environment).

- Care must be taken to ensure satisfactory degree of lawfulness. This implies constantly monitoring the protection of the position of suspects and those granting them legal aid. This calls for lawful and careful investigation and gathering of evidence, as well as protection of privacy.

#### 1.6 Relationships

- In relation to the courts, the Public Prosecutions Department occupies the position of magistrate with a monopoly of prosecution and the power to decide upon the expediency of prosecution.
- In relation to the police, the Public Prosecutions Department is the competent authority on investigation, both selecting and prioritizing cases, as well as the methods and resources to be used.
- In relation to the administrative authorities, the Public Prosecutions Department is a partner in legal enforcement and partner in authority over the police. The Department formulates the need for enforcement, prioritization, objectives and enforcement arrangements.

#### 1.7 Accountability

- The Department reports to the Minister of Justice and the courts.

## **2 WHY THE PUBLIC PROSECUTIONS DEPARTMENT CONCERNS ITSELF WITH ENFORCING ENVIRONMENTAL LAW**

### 2.2 The Department's environmental duties

To contribute (by applying criminal law) to the integrated enforcement of environmental law by:

- a. investigation and prosecution;
- b. controlling the investigative services.

### 2.2 Objectives of deploying criminal law

- a. to confirm standards established in the interest of:
  1. the environment or public health;
  2. government credibility (standard-setting);
  3. fair competition;
  4. government control.
- b. restricting/repairing damage in urgent cases, including situations in which the government is unable to act.

2.3 The reasons for deploying environmental criminal law and the ways in which this is done are variable, as they depend upon:

- a. the type of suspect (*bona fide/calculating/mala fide*);
- b. nature/degree of violation of standards;
- c. nature/severity of consequences in violation of standards;
- d. scale on which the type of violation occurs;
- e. risk of "contamination" (multiplier effect).

### 3 THE DEPARTMENT'S ENVIRONMENTAL RESPONSIBILITIES

3.1 Bringing criminal proceedings against Infringement of *core provisions*

Core provisions are provisions which, within the law/regulation or licence of which they form part, are the core of protection of interests for which the legislation/regulation or licence exists.

A provisional (indicative) list of core provisions is included as Appendix 1.

3.2 Bringing criminal proceedings against infringement of *non-core provisions*, if one or more of the following *circumstances* applies:

- direct significant encroachment or threat to the following interests: the environment or public health, credibility of the standard-setting government, fair competition, government controls; or
- the conduct of the perpetrator indicates a calculating or *mala fide* attitude; or
- significant "contamination hazard"; or
- offence occurs on a large scale with accumulation or possible accumulation of undesirable effects, while no competent administrative authority is in a position to take effective action; or
- international law compels enforcement, while no competent administrative authority is in a position to act effectively.

Where an effective approach so requires, *priorities* and *focal points* will have to be laid down in conjunction with government bodies and investigative services - at national and regional/local level - based on analysis of the area in question. They will have to be given some place within the policy plans of the Public Prosecutions Department and the investigative services.

### 4 HOW ENVIRONMENTAL RESPONSIBILITIES ARE SHAPED AT THE INVESTIGATION PHASE

One of the key powers of the Public Prosecutions Department is the expediency principle, i.e. to deliberate on the importance of prosecution in relation to other interests. The way in which the Department will generally apply the *expediency principle* during the investigation phase is laid down in the following measures:

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The investigative services are instructed to draw up an *official report* immediately (i.e. without prior warning) after an (initial) identification or examination, if the following applies:

a. Infringement of a *core provision* unless the offence:

- was not perpetrated deliberately
- is clearly an isolated incident and
- is small in scale

or

b. Infringement of a *non-core provision*, if one or more of the following *circumstances* applies:

- direct encroachment or significant threat to the following interests: environment or public health, credibility of standard-setting government, fair competition, government control; or
- if the perpetrator's conduct indicates a calculating or mala fide attitude; or
- significant "contamination hazard"; or
- offence occurs on a large scale with accumulation or possible accumulation of undesirable effects, while no competent administrative authority is in a position to take effective action; or
- international law compels enforcement, while no competent administrative authority is in a position to act effectively.

In other cases, having regard to the nature of the offence or the circumstances, there is in principle no need to begin criminal proceedings, and so the need to draw up an official report is dispensed with. In such cases, however, the Department may decide to send a *written warning letter* to the perpetrator if:

- a. the offence does not require an official report to be drawn up immediately, but where, in view of the *attitude* of the perpetrator, serious allowances must be made for the possibility that he will not automatically be prepared to cease offending or avoid re-offending; and
- b. the offence falls within the agreements that have been made on such "flanking" action by the Department with the competent administrative authority.

## APPENDIX 1 CORE PROVISIONS

### 1 DEFINITION OF CORE PROVISIONS

Provisions which, within the regulation or licence of which they form part, constitute the core of the protection of interests for which the regulation or licence exists. The provisional list includes core provisions for which provisional agreement exists within the Public Environmental Prosecutions Department, following the results of an initial discussion on this point at the Platform on 28 May 1998.

### 2 ESTABLISHMENT-RELATED ACTS

- Setting up, changing, operating an establishment without a licence
- Discharging from an establishment without a licence
- Setting up, changing, operating an establishment without prior notification
- Failure to comply with the requirements in the event of an emergency
- Acting in contravention of the following types of regulations laid down on the basis of the Environmental Management Act or the Pollution of Surface Waters Act and which are of genuine importance to the protection of the environment, in view of the nature and risks of the establishment and the sensitivity of the environment (including administrative regulations which are of vital importance to effective control by the competent authority):
  - Air:
    - standard regulations
    - maintenance and operation of extraction installations and emission-restricting facilities
  - Noise/vibration:
    - standard regulations
  - Waste water:
    - regulations to avoid discharges of harmful or polluting substances or waste substances directly into surface water or the sewerage system
    - regulations to prevent discharges of blacklisted substances
    - maintenance and working of separators
    - standard regulations
  - Soil:
    - testing and inspection of underground tanks  
clean-up by a recognized company  
liquid-proof facilities and leakage trays
    - regulations to avoid illegal clean-up
    - benchmark studies
  - (Hazardous) waste substances
    - regulations to prevent incineration

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- regulations to prevent the dumping of waste substances
  - disposal of hazardous waste to an accredited collector
  - registration obligations
  - External safety
    - storage of hazardous (waste) substances and gases
    - instruction/expertise of personnel
  - Emergencies
    - regulations to prevent emergencies occurring
    - notification required in the event of emergencies

### 3 ACTS INVOLVING SUBSTANCES/PRODUCTS

- Use of fertilizers in contravention of regulations
- Use of unauthorized pesticides or incorrect use of permitted pesticides
- Unauthorized use of (environmentally) hazardous substances or pesticides posing a direct threat to humans and the environment
- Use of illegal fireworks
- Selling fireworks to children below the age of 16
- Use of unauthorized substances in protected nature areas or designated environmental protection areas

### 4 ACTS INVOLVING WASTE SUBSTANCES

- Waste incineration or dumping (to a significant degree) of waste substances in the open without licence
- Introducing waste water or other waste substances other than from an establishment into the sewerage system or surface water (without/or in contravention of the licence)
- Failure to submit destruction material or incorrect submission of same
- Disposal of underground tanks in an improper manner
- Disposal of construction and demolition waste, contaminated soil, dredge spoil, industrial waste substances and hazardous substances in an improper manner
- Transferring (transporting) waste substances in an improper manner
- Demolishing buildings containing asbestos without licence or in an improper manner
- Unauthorized/improper collection of industrial waste substances or hazardous waste

**5 ACTS INVOLVING ANIMALS/PLANTS**

- Cutting down trees or hedges without licence or failing to comply with the requirement to replant
- Unauthorized acts involving protected birds or their nests or stealing lapwing's eggs in the closed period
- Plucking or taking cuttings from protected plants
- Poaching mammals, birds, reptiles, fish or other animals
- Hunting in an improper manner or outside the designated times
- Unauthorized acts involving protected plants and animals

**6 ACTS THAT ENCROACH UPON THE SOIL, NATURE OR COUNTRYSIDE**

- Seriously encroaching upon/destroying a habitat for flora or fauna or a nature reserve (without or in contravention of a licence)
- Removing (substantial) timber vegetation without licence or failing to comply with the replanting requirement
- Removal of earth (without/or in contravention of a licence)
- Damming up ditches (without or in contravention of a licence)
- Abstraction of ground or surface water (without or in contravention of a licence)
- Encroaching upon valuable land (without or in contravention of a licence)

Any of these acts whether or not in combination with collective offences connected with the above.

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## **LOCAL ENFORCEMENT: THE ROLE OF THE CRIMINAL INVESTIGATOR**

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### **SUMMARY**

This paper is based on experience gained investigating environmental crimes in the Suffolk County, New York, District Attorney's Office. Part One describes the specialized training, equipment, and planning necessary to successfully investigate environmental crimes. Part Two describes some of the methods which may be utilized to develop probable cause to believe that a crime is being committed at a facility. In the United States, law enforcement must establish such probable cause to obtain a search warrant. A search warrant is a court order authorizing the search of premises to gather evidence of a crime.

## **1 THE CRIMINAL ENVIRONMENTAL INVESTIGATOR**

### **1.1 The Training**

A successful criminal environmental investigation requires the application of several different disciplines. The environmental investigator must bring basic police skills such as interviewing and interrogation, surveillance, search warrant execution and experience in the proper handling of criminal evidence to the investigation. In addition, he or she must be trained and equipped to gather physical evidence at an environmental crime scene, in a safe and proper fashion. This requires specialized training in the handling of hazardous materials and a full understanding of the appropriate environmental laws, supporting regulations and hazardous waste sampling and analysis protocols.

Fortunately, this specialized training is available to the criminal investigator from a variety of sources. The United States Environmental Protection Agency offers many training programs in the areas of Hazardous Materials Incident Response, Hazardous Materials Sampling and Criminal Environmental Investigations. Many state and local agencies also offer similar courses. Many of these training programs are free and are offered throughout the country several times a year.

### **1.2 The Equipment**

The well-trained criminal environmental investigator should also be well-equipped. Most successful criminal investigations, be they burglaries, arsons or homicides, depend upon the investigator's ability to examine and gather physical evidence. Even in situations where evidence technicians are gathering the physical evidence, it is normally done under the direct supervision of the criminal investigator. This same basic investigative principal also applies to criminal environmental investigations. The criminal environmental investigator must be equipped with the proper crime-scene, safety and field monitoring equipment to allow for a safe

and proper examination of any physical evidence found at an environmental crime scene. Appendix 1 lists some of the items that may be utilized by the environmental investigator at a crime scene.

### 1.3 Standard Operating Procedures

In addition to obtaining the proper training and equipment, there is a federal requirement to establish standard operating procedures.<sup>1</sup> These standard operating procedures must address the issues of health and safety for the environmental investigators working in areas which may contain hazardous substances, hazardous materials<sup>2</sup> and biological hazards.<sup>3</sup>

These procedures should address such topics as organizational work plan, site evaluation, site control, monitoring, personal protective equipment, communications and decontamination procedures. In addition, it is recommended that standard evidence gathering procedures be incorporated into the standard operating procedures. Such topics as note taking, removal of fingerprints, tire track and footprint castings, the crime scene sketch, crime scene photography and evidence chain-of-custody procedures should be addressed within the standard operating procedure.

### 1.4 Locating and Utilizing Resources

One of the most difficult challenges facing the environmental investigator is locating and utilizing the resources necessary to effectively gather evidence at an environmental crime scene. Safety and chemical sampling protocols clearly establish the need for additional personnel with special training.

#### 1.4.1 Safety Resources

Whenever the presence of hazardous substances, hazardous materials and/or biological hazards is suspected at an environmental crime scene, a qualified safety officer, a Backup team and decontamination facilities are needed. The first step in locating the resources necessary to fulfill these requirements is the identification of the local Hazardous Material Response team (HazMat).<sup>4</sup> The Superfund Amendments and Reauthorization Act of 1986 (SARA), includes an emergency planning provision known as Title III. Under this legislation, each locality in the United States must establish an emergency plan to respond to the release of an extremely hazardous substance. These emergency plans include the requirement for a local hazardous materials response team. In some jurisdictions, the HazMat team may fall under the control of the local fire department, while in others it may be a function of the local police department. The environmental investigator should locate this team and make every effort to utilize its resources for any environmental crime scene. The environmental investigator may be surprised to find willing and cooperative emergency response personnel. There is a mutual benefit in having HazMat trained criminal investigators and HazMat team emergency responders working and training together. Most HazMat teams are designed to mitigate dangerous situations involving the release or potential release of hazardous chemicals. The HazMat response plan might not have any provisions established to affix culpability on those individuals responsible for the chemical release. When criminal negligence or criminal intent is suspected, the HazMat team should have a qualified environmental investigator available. In addition, environmental crime scenes offer the HazMat team an opportunity to work and train under less than life-threatening situations.

### 1.4.2 Sampling Resources

The proper gathering of chemical evidence is crucial to the success of any criminal environmental investigation. The personnel utilized for this procedure must be highly trained in safety, hazardous waste sampling and the handling of criminal evidence. Fortunately, many local and state regulatory agencies have such individuals available to assist the environmental investigator. In addition, the United States Environmental Protection Agency has many trained individuals available to assist state and local authorities. The environmental investigator should contact these groups and establish protocols in which their resources may be utilized.

## **2 SEARCH WARRANTS: DEVELOPING PROBABLE CAUSE**

When attempting to gather evidence to support an application for a search warrant it is essential that the type of environmental contamination be identified. The facility in question may have air, ground, underground and/or sewer system hazardous discharges taking place. Each type of release has its own unique properties. In gathering probable cause as to their existence, the environmental investigator has a multitude of tools, resources and investigative techniques at his or her disposal.

### 2.1 Typical Surveillance

The typical surveillance involves personnel using vehicles and natural cover in an attempt to personally witness the events taking place at a facility. Still photographs and videotape should assist the environmental investigator in recording these events.

While conducting this type of surveillance, the environmental investigator should note any evidence of past or present discharges which may be seen from his or her surveillance point. Overflowing leaching pools, liquid streams from hazardous waste storage areas and chemical stains on parking lots may be an indication of illegal hazardous waste release. The exterior walls of the buildings should also be examined for stains. Plating lines, when placed against interior walls, may have their hazardous chemicals leach through those walls. The interior location of plating lines can, at times, be determined by the chemical stains on exterior wall surfaces. Also, the environmental investigator should look for any recent signs of excavation. A long cut in an asphalt or concrete parking lot leading from a building to a storm drain may indicate a recently installed underground discharge pipe. Any sunken or depressed areas around the facility may indicate the presence of a hidden leaching pool. Depressions such as these are normally caused by soil settlement after a leaching pool has been installed.

This type of surveillance will also provide investigators with the vehicle license plate numbers of the various individuals employed at the facility. Once these numbers have been obtained, employee background investigations can begin. These may include criminal record checks and outstanding arrest warrant checks for those employed at the facility. However, there may be times when this type of surveillance is not practical and other methods must be utilized to obtain the desired information.

### 2.2 Remote Surveillance

This type of surveillance comes in many forms. The use of aerial photography, infrared, remote video cameras, or automatic air and sewer samplers, allow the investigator to gather a large amount of data while limiting the risk of exposing the investigation.

### 2.2.1 Aerial Surveillance

Aerial surveillance of a suspected facility may reveal recent excavation sites, ground stains, manufacturing areas, waste storage, air pollution sources, as well as point sources for waste discharges<sup>5</sup>. On occasion, aerial surveillance may also reveal illegal activities in progress. The use of aerial infra red may be useful in determining underground areas where there is an obvious heat differentiation. It may also assist in locating areas in the facility where certain types of heat related manufacturing activities are taking place.



**Figure 1** An illegal asbestos storage facility. Note the workers' lack of respirators.

### 2.2.2 Remote Video Surveillance

Remote video cameras have been in use by law enforcement for many years. They are useful in determining if certain types of activities are taking place when ground surveillance is impossible. A telephone pole-mounted video camera, disguised as an electrical transformer, may be useful in determining what activities are taking place at the suspected facility. However, legal restrictions regarding this type of surveillance may differ from state to state. Therefore, it is essential that this type of surveillance operation be reviewed by a prosecutor prior to implementation.

### 2.2.3 Remote Air Sampling

Remote air sampling is one of the best methods available today in determining if certain types of chemicals are being used at a facility. Most volatile and semi-volatile chemical compounds, when used in quantities or discharged at a facility, can be found in the atmosphere. Today's air sampling devices will allow the investigator to set a timer, leave the area and return at a later time to retrieve the samples. A chemical analysis of the sample may reveal the presence of these compounds in minute concentrations.

However, using this investigative technique for the gathering of probable cause must be well planned. Many variables may bring into question the validity of the sample results. Other nearby manufacturing facilities, vehicle traffic and/or low flying aircraft may contaminate the air sample to such an extent that it is no longer reliable.

The best investigative technique to use in remote air sampling is to place air sampling devices on all four sides of a facility. Determine and document the wind velocity and direction. Set each remote air sampler to begin air sampling at the same time. This will enable you to determine what air contaminates originated up wind of the facility and which contaminates came directly from the suspected facility.

This technique has been used successfully in cases involving clandestine cocaine manufacturing laboratories. Remote air sampling has been used to show that trace amounts of tetrachloroethylene were coming from a particular building. By surrounding this building with air monitoring devices, it was easy to determine, after analysis, that the building in question was the only possible source of the tetrachloroethylene. The presence of this compound, along with its known use as a precursor in the manufacturing of cocaine, helped supply the necessary probable cause to obtain a search warrant. This same technique can be used to identify chemical usage at various industrial facilities such as plating operations, circuit board manufacturers, furniture strippers, auto body repair shops and a whole host of other industries utilizing hazardous chemicals that may be indicative of the nature of the business.

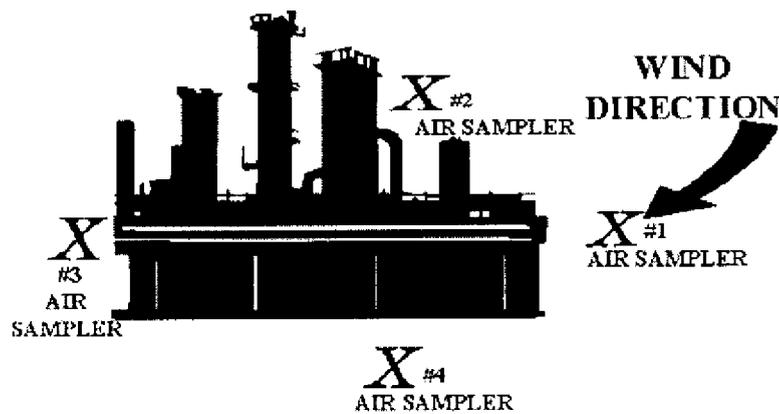


Figure 2 Air sampling devices positioned around facility suspected of illegally discharging its waste

### 2.2.4 Remote Sampling in Sewer Systems

Hazardous waste discharges to Publicly Owned Treatment Works (POTWs) offer a unique challenge to the environmental investigator. In many cases, the hazardous waste generator will have a permit to discharge certain types of wastes to the POTW.<sup>6</sup> This permit will list the various discharge limitations. In addition, copies of discharge-monitoring reports (DMRs), which may be required under the conditions of the permit, may have been filed with the regulatory authority which issued the permit. Copies of these discharge-monitoring reports should be obtained and reviewed by the environmental investigator.

Some generators may exceed the permitted discharge limitations and in some situations, completely bypass any hazardous waste treatment system existing within the facility. This may result in untreated industrial and/or hazardous waste being discharged directly into the publicly owned treatment works. Finding evidence of such releases has become easier in recent years due to improved remote video and sampling technology.

When hazardous waste is discharged into a sewer system, trace evidence may be left behind. The trace evidence may be in the form of scarring and pitting of the discharge pipe's interior. The hazardous waste, especially if it is in the form of hazardous metals, may leave behind a distinct discoloration. Evidence of this may be determined by sending a sled, equipped with a remote video camera, through the system. The video camera may reveal the damage described above. Videotaping of this type of evidence may assist the environmental investigator in gaining the probable cause necessary for obtaining a search warrant.

Portable liquid samplers can be placed into an existing sewer system and retrieved at a later time. This equipment can be set to automatically sample the waste stream based upon time, flow rates and/or waste stream characteristics (i.e. pH). The samples are then analyzed and the results of the analysis may be used for probable cause purposes. However, as in the air sampling technique discussed earlier, the investigator must be certain that the suspect facility is the source of the contamination. There may be several businesses discharging into the sewer system. By thoroughly reviewing all available sewer system piping plans the investigator will be able to determine the proper positioning of the portable liquid sampler. Portable liquid samplers also have the ability to transmit data. If a facility is in the act of discharging hazardous waste with a high (or low) pH, the portable liquid sampler will send a message to a nearby receiving unit. The investigator monitoring this unit will know that the illegal discharge is occurring at that point in time. This is useful in situations when law enforcement personnel wish to catch the suspect facility in the act of discharging.

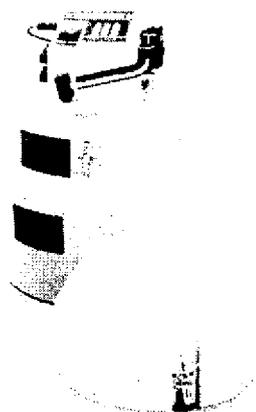


Figure 3 Portable liquid waste sampler with remote notification capability

If the above technology is not available to the environmental investigator, there is an additional technique available. A sample team may covertly enter the sewer system and physically retrieve a sample. As with the use of the portable liquid sampler, the environmental investigator must be insure that the point being sampled can be directly traced to the suspect facility.

This type of surreptitious sampling operation is usually done at night and through some entry point in the street. This type of operation will take a great deal of planning due to the risks involved with sampling hazardous waste within a confined space. There are numerous state and federal confined space regulations that govern this type of activity.<sup>7</sup> In this type of surreptitious operation, the safety of the entry personnel must be of primary concern. In addition, any violations of existing confined space regulations and/or laws on the part of the environmental investigator will diminish his or her credibility at trial. It is important to remember that law enforcement personnel "may not violate the law to enforce the law."



**Figure 4** An improper confined space entry into a Publicly Owned Treatment Works (POTW) line. An air line-supplied respirator with winch and tripod are required here

### 2.3 Regulatory Files

Regulatory files are a very good source of information that may assist the investigator in establishing probable cause. On a local level, vast amounts of information concerning a specific facility may be found in Fire Inspection records, Fire Department records, Building Inspection records, Health Department Inspection records, local water board records, and state Environmental Agency files.

### 2.3.1 Fire Inspection Records

Local Fire Inspection records may indicate an inventory of hazardous chemicals present at the facility. Building Inspection records may reveal the presence of hazardous vapor venting systems. In cases involving air pollution, this type of information may be vital to the environmental investigator.

### 2.3.2 Permit Files

The best source of information regarding a facility's environmental history may be found in regulatory air permit files, waste water discharge permit files and related hazardous waste management files. Inspections for these programs may have been completed by local water boards, health departments, environmental agencies and/or public works departments. In some jurisdictions, it may be the state environmental regulatory agency that completes the majority of these inspections. In other instances you may find that a federal inspection was completed by employees of the United States Environmental Protection Agency (US EPA). In each instance the inspector should be located and interviewed regarding what he or she may have seen at the facility during the inspection process. The inspection files may contain information as to type of industry, chemical raw product inventory, hazardous waste inventory, air release limits, water release limits, facility management as well as information regarding how any hazardous waste produced by the facility is disposed of. This may include the name of the licensed hazardous waste transporter utilized by the facility. The environmental investigator may then contact the hazardous waste transporter to determine if the suspect facility has been properly shipping out its hazardous waste. Discretion should be exercised, as this may alert the suspect facility as to law enforcement's interest. It is recommended that the environmental investigator review hazardous waste shipment information by utilizing the data in the Hazardous Waste Manifest System.<sup>8</sup>

### 2.3.3 Occupational Safety and Health Administration (OSHA) Files

When attempting to build probable cause for a search warrant, there is one regulatory agency that must not be overlooked. That agency is the Occupational Safety and Health Administration (OSHA). This Agency receives thousands of complaints each year from employees concerned about workplace safety. Many of these complaints involve the use and/or misuse of hazardous chemicals in the workplace. The information contained in these files may lead the environmental investigator to employees and former employees who are willing to be interviewed regarding possible illegal activities occurring at the facility under investigation.

### 2.3.4 Emergency Planning Data Bases

Another source of information which should not be overlooked is the local Emergency Planning and Community Right-To-Know Act<sup>9</sup> database. This Federal legislation was enacted in 1986. One of its purposes is to help increase the public's knowledge of and access to information on the presence of hazardous chemicals in their communities. This Act requires certain facilities with quantities (>500 pounds) of Extremely Hazardous Substances<sup>10</sup> and large quantities (> 10,000 pounds) of Hazardous Substances<sup>11</sup>, to submit a list of these chemicals or the Material Safety Data Sheets for these chemicals, to the Local Emergency Planning Committee, State Emergency Response Commission and the local fire department. In some jurisdictions this database may be maintained by the local Hazardous Material Response team

or the local emergency preparedness office. This database may assist the environmental investigator in determining what specific chemicals (and quantities) are present at a specific facility.

#### 2.4 Hazardous Waste Manifest System

This system was designed to track hazardous waste from "cradle to grave." It requires certain generators of hazardous waste to fill out a multi-part Hazardous Waste Manifest. This document provides information on the amount and type of waste being removed from the facility. It also lists the hazardous waste transporter's name. The generator must keep a copy of the manifest and give the remaining copies to the transporter. Once the hazardous waste has reached its final disposal site, a copy of the manifest is sent to the regulatory agency. It is at this point that the manifests, in many states, are placed into an accessible computerized database. However, it should be noted that some state databases may be lacking in up-to-date information regarding recent hazardous waste shipments.

Copies of a facility's hazardous waste manifests may be found in several locations. A copy of the manifest is normally kept by the generator (facility), the transporter, the treatment facility and the state of origination. By examining the originating state's manifest database, the environmental investigator can determine the following:

- Dates of hazardous waste removal.
- Amounts of hazardous waste removed.
- The types of hazardous waste removed.
- The method of removal (i.e. drums or tankers).
- The transporter utilized for removal.
- The treatment, storage and disposal facility which received the waste.

This allows the environmental investigator to research the hazardous waste disposal history for a particular facility. There may be a dramatic decrease in the volume of hazardous waste shipped from the facility in a year-by-year comparison. There may be no record of hazardous waste ever being shipped from the facility. This type of information is vital to the environmental investigator. If he or she can establish that raw hazardous chemical products are being utilized at the facility and there is no record of hazardous waste being shipped out, there may be probable cause to believe that the hazardous waste is being stored or disposed of illegally.

There are very few industries that can utilize hazardous chemicals, yet create no hazardous waste. However, it is possible that an on site waste treatment and/or reclamation system exists. Information regarding these systems may be found in the regulatory files. However, it is incumbent upon the investigator to obtain additional probable cause beyond that which is offered by the hazardous waste manifest system.

#### 2.5 Regional Enforcement Associations

There are four regional environmental enforcement associations within the United States. These are Regional Enforcement Associations are:

- Midwest Environmental Enforcement Association.
- Northeast Environmental Enforcement Project.
- Southern Environmental Enforcement Network.

### Western States Project.

These associations have joined together to create an environmental database. This database is known as The Regional Associations Information Network (RAIN). The information contained in this database includes the "Criminal Pointer System." This system consists of information regarding state and local criminal environmental actions filed throughout the United States and member Canadian Provinces. Environmental investigators may search via modem for information regarding a suspect company or individual. Database access information may be obtained by contacting your local Regional Enforcement Association.

#### 2.6 Workman's Compensation

This database supplies information regarding employees work related injuries. In some jurisdictions, the database may be accessed by the name of the employer. However, you may need the name of an individual employee to obtain the information desired. This database can supply the environmental investigator with the names of current and former employees at a particular facility who have been injured on the job. In some cases, the injury may be due to chemical exposure. These records, combined with interviews of any injured employees, may provide additional information needed to establish probable cause.

#### 2.7 Unemployment Records

The value of interviewing former employees can not be overstated. These individuals have the potential for supplying detailed information as to the day-to-day operations at a suspect facility. Information regarding the manufacturing process, hazardous chemical inventory and waste disposal may be obtained through interviews with these individuals.

#### 2.8 Certificates of Incorporation

Certificates of Incorporation normally indicate the type of business that is being conducted by the corporation. These certificates will also provide information regarding the legal name of the corporation. This legal name is vital when it is time to prepare the search warrant and the search warrant application. These records are normally filed with the Secretary of State, for each individual state. In addition, numerous commercial services exist which can supply detailed corporate information regarding individual companies. This information can include the number of persons employed, corporate credit history and detailed information regarding management personnel.

#### 2.9 Property Records

Property records are essential in determining the exact location of the suspect facility. These records will assist the environmental investigator in describing the property's location for the search warrant and the search warrant application. These records may also indicate when the property was purchased. Knowledge of the prior owners and operators of a particular suspect facility may be essential as the investigation progresses. It is a common practice today to blame any environmental contamination found at a facility, on the prior owners and/or operators.

## 2.10 Building Plans

In many locations throughout this country it is a local requirement that builders of commercial buildings file engineering plans with the local city, town or county government. These plans often contain engineer's drawings showing the exact locations of air stacks, fresh-water plumbing, waste-discharge pipes, sanitary pools and connections to sewers and storm drains. The environmental investigator should make every effort to have any existing engineering plans available during the execution of the search warrant.

## 2.11 Chemical Suppliers Records

It may be difficult to determine the exact types of hazardous chemicals being used at a facility. Simply knowing that the facility in question is using a "press" wash may not be sufficient for probable cause purposes. Press wash normally contains hazardous chemical solvents. However, the exact type of solvents and their percentage present in the product, may vary by chemical supplier. Therefore, it is vital that the chemical supplier utilized by the suspect facility be identified. This may be accomplished in three ways:

- A telephone survey of all local chemical suppliers may be productive. A listing of chemical suppliers may be found in the "OPD Chemical Buyers Directory."<sup>12</sup>
- Surveillance of the facility may detect a drum storage area. Through the use of binoculars, the environmental investigator may be able to note the name of the chemical supplier as listed on the labels of the drums.
- A thorough examination of the facility's trash may produce the name of the chemical supplier. However, evidence obtained under these circumstances may come under future legal review. The environmental investigator must make every effort to strictly follow the laws that govern this type of law enforcement activity. It may become necessary to take the local trash removal company into your confidence. If the suspect facility's trash is picked up and placed into an empty truck and then later examined by the environmental investigator, it is unlikely that any successful legal challenge could be made.

This same technique may be used when it is suspected that the facility is mixing their hazardous waste and trash together. However, it is essential that the prosecutor review any plan regarding this type of evidence-gathering procedure.

## 2.12 Neighboring Businesses

Interviews of the surrounding businesses may be of value to the environmental investigator. These individuals may have witnessed suspicious activities such as discharges to storm drains, installation of outside waste pipes and/or the presence of chemical odors at specific times of the day or night.

## 2.13 Delivery Services

Surveillance of the facility may reveal numerous deliveries being made. These deliveries may include office supplies, spare parts and/or refills for any vending machines. The delivery personnel have had the opportunity to make observations while inside the facility and may be a valuable source of information for the environmental investigator.

### 2.14 The Landlord

Many commercial businesses rent the space that they are occupying. The landlord, having a vested interest in the property, may be cooperative in supplying information to the environmental investigator. In many cases, it is the landlord who has brought forth the initial complaint regarding environmental problems at a suspect facility. It is also common for the landlord to be the complainant in a situation where the tenant has abandoned the facility and left behind quantities of hazardous waste. In cases such as these, the investigator should proceed with caution: if there is a bankruptcy involved, it is possible that the former businesses has listed its hazardous waste with the bankruptcy court and the criminal intent on the part of the former tenant may be questionable. However, if a bid for hazardous waste removal was received by the generator prior to the bankruptcy proceeding and the hazardous waste was abandoned at the site, it still may be possible to pursue criminal charges against the generator. Cases involving any bankruptcy issues should be thoroughly reviewed by the prosecutor.

It is also important to determine if the tenant has had access to the building after his or her business ceased operations. If the landlord has changed the locks on the building, the former tenant may not have been afforded an opportunity to remove the hazardous waste. This may prevent the establishment of criminal intent. Cases such as these may be best left to the civil courts and the regulatory agencies.

### 2.15 Multi-Tenant Buildings

Multi-tenant buildings add significant challenges to the environmental investigator who is attempting to enter a specific suite or area in the building. These problems are usually compounded by the fact that many of the tenants may share the same waste discharge system. It may be necessary to obtain a search warrant for each tenant in the building. If a hazardous waste discharge to a joint leaching pool is suspected, it will be necessary to execute a search warrant at each tenant's facility. Using evidence gathered during the searches, the suspect tenant will, in all likelihood, be isolated and identified based upon chemical sample analysis.

## 3 CONCLUSION

The topics covered in this paper are intended to give investigators a basis understanding of information sources available in a criminal investigation. Other parts of the investigation, including the execution of the search warrant, are not covered. For further information on those areas, readers are urged to consult the sources mentioned in footnotes, or the textbook from which this paper is taken.

## ENDNOTES

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1. OSHA Hazardous Waste Operations and Emergency Response, 29 C.F.R. § 1910.120 (b) (1) (i) (1996).
2. DOT Hazardous Material Table, 49 C.F.R. § 172.101 (1996).

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3. OSHA Hazardous Waste Operations and Emergency Response, 29 C.F.R. § 1910.120 (3) (B) (1996).
  4. OSHA Hazardous Waste Operations and Emergency Response, 29 C.F.R. § 1910.120 (3) (B) (1996).
  5. Navigation and Navigable Waters, 33 U.S.C. § 1362 (14) (1996).
  6. Navigation and Navigable Waters, 33 U.S.C. § 1342 (a) (1996).
  7. OSHA Permit-required confined spaces, 29 C.F.R. § 1910.146 (1997).
  8. EPA General Requirements, 40 C.F.R. § 262.20 (1997).
  9. EPA Hazardous Chemical Reporting: Community Right-To-Know, 40 C.F.R. § 370.20 (1990).
  10. EPA Emergency Planning and Notification, 40 C.F.R. § 355 Appendix A (1995).
  11. EPA Reportable Quantities and Notification, 40 C.F.R. § 302.4 (1995).
  12. OPD Chemical Buyers Directory. New York: Schnell, 1998.

**APPENDIX 1****Items that may be utilized by the environmental investigator at a crime scene**

- Chemical boots
- Surgical gloves
- Cartridge Respirator
- Fully encapsulating suit
- Chemical suits
- Chemical gloves
- pH Paper
- Duct tape
- Measuring tape
- Steel toed boots
- Overalls
- Dosimeter
- Goggles
- Geiger Counter
- Chemical dictionary
- Binoculars
- First Aid Kit
- Bold markers
- Flashlight
- Bung wrench
- Spark-proof clipboard
- Knife
- Trash bags
- Sterilized sample bottles
- L.E.L./O<sub>2</sub> meter
- Compass
- Communications equipment
- 35mm Auto focus camera
- DOT Emergency Response book
- Self-contained breathing apparatus
- Spare 60 minute air bottle

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## **TRANSBOUNDARY ENVIRONMENTAL CRIMES: GERMAN EXPERIENCES AND APPROACHES**

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### **SUMMARY**

Criminal enforcement of environmental law is a necessary supplement to administrative enforcement. Also in the field of transboundary environmental protection there are many infringements that are damaging to human health and the environment. Only criminal sanctions offer an adequate response. Under German law most domestic cases of infringements of environmental law can be dealt with using administrative instruments which do not require public prosecution. But as these instruments are at present not well adapted to transboundary cases criminal prosecution in this field is more important than on the national scale.

Criminal infringements of environmental law are not easily prosecuted, neither in serious domestic cases nor in transboundary cases, although the legal instruments for prosecution are sufficient. There are some areas of uncertainty internationally where the lack of harmonized law makes transboundary prosecution difficult. But the main problem is lack of cooperation between the competent authorities, especially between police forces and environmental administration authorities, and the quite often insufficient qualification of officials and judges. An exchange of personnel should help to overcome both deficiencies.

### **1 INTRODUCTION**

Criminal enforcement of environmental law has been on INECE's agenda from the very beginning and is a permanent topic on other international agendas. For example the Birmingham G8 summit in 1998 stressed again the importance of joint law enforcement action against organized environmental crime in order to protect the global environment, the health and livelihoods of people in developed and developing countries alike and last but not least to enforce multilateral environmental agreements.

Combating environmental crimes on the national scale is not an easy task. Profound qualification of and efficient cooperation among the competent bodies are necessary to sentence not only somebody disposing of his refrigerator in an environmentally unsound way but to react adequately as well if somebody disposes illegally thousands of tons of dangerous wastes. The problems increase if the offender goes international. The legal situation becomes much more complicated and less known as the number of authorities and (within Europe) languages involved multiplies.

In Germany, administrative sanctions play a larger role than these statements may suggest. But as these sanctions lack supporting legislation for transboundary cases authorities have no adequate instruments to react efficiently to transboundary infringements. Thus for the time being transnational cases have to be dealt with in Germany by enforcing criminal law.

## 2 ENVIRONMENTAL CRIMES UNDER GERMAN LAW

However, before dealing with transboundary prosecution it seems necessary to give a short general introduction into the German law concerning environmental crimes, its sanctions, enforcing bodies, practise and scope in contrast to the administrative legal instruments.

### 2.1 Criminal Offences and their Sanctions

In 1980 most of the regulations dealing with criminal offences were transferred from various Statutes into the Criminal Code thus underlining the seriousness of environmental crimes. Now the following acts or omissions may constitute a major environmental crime:

- water pollution (§ 324 Criminal Code);
- soil pollution (§ 324 a Criminal Code);
- air pollution (§ 325 Criminal Code);
- environmentally unsafe waste management (§ 326 Criminal Code);
- unlicensed running of a plant (§ 327 Criminal Code);
- unauthorized use of nuclear fuel or emission of radiation (§§ 328, 311 d Criminal Code);
- endangering protected species (§ 30 a Federal Nature Conservation Act); and
- illegal handling with dangerous substances (§ 27 Chemicals Act).

Civil servants might become liable under these provisions, too, but presently there is no criminal liability for companies. This might change in the future as some German politicians speak up for criminal liability of corporations in general.

The main sanctions for criminal offences are imprisonment (up to ten years in the most serious cases) and criminal fines. In addition, the following sanctions and measures may be applied: confiscation of instruments and proceeds, including saving of expenditures, ban on driving, revocation of driver's licence, and/or a ban on a professional activity.

### 2.2 Competent Bodies

Germany is a federal state. Legislation, administration and jurisdiction are divided between the federation (Bund) and the federal states (Laender). Criminal law is federal law, but criminal law is enforced by Laender authorities and by Laender courts without supervision of federal authorities. There are only small, but important federal competences, as is shown in the following summary:

The preliminary investigations are conducted and coordinated chiefly by a number of police forces and other authorities, Laender police forces doing the bulk of the investigation, federal police forces concentrating especially on coordinating activities:

- Police stations/headquarters (Laender authorities): investigation with specialized departments for environmental crimes, and sometimes additional tasks, e.g., monitoring of waste shipments.
- Laender Bureaux of Investigation: mainly coordinating activities.
- Federal Bureau of Investigation (Bundeskriminalamt): focal point for national and international investigations concerning environmental crime, intelligence work/exchange of information; coordination and support in foreign criminal investigations, investigations in cases of special interest, development of counteractive measures, partner of EUROPOL and INTERPOL, membership in INTERPOL Working Parties.
- Customs (federal authority): monitoring the import and export of goods, including related criminal investigations.
- Water Police (Laender authority): investigations on larger rivers and in harbors.
- Federal Border Police: investigations at territorial seas and within the Exclusive Economic Zone, investigations on sites owned by the Federal Railway.
- Mining Authorities (Laender authority): investigations on mining sites.

During formal investigations all of them act under the supervision of the (Laender) public prosecutor. As criminal sanctions require always a court decision and the right to bring action before a court rests with the public prosecutor in environmental cases, he is in a key position. By now public prosecution has specialized departments dealing with environmental crimes.

Whereas Laender police forces and public prosecution are not supervised (although sometimes advised) by their federal counterparts, a sentence of a criminal court may be contested by lodging an appeal to the Federal Supreme Court (Bundesgerichtshof). In contrast to police forces and public prosecution there are no special courts for environmental crimes.

The role of environmental administrative authorities is important because they have decisive information on the administrative legal situation and can provide technical and scientific assistance.

### 2.3 Some Statistics

The police reported about 40,000 cases of environmental crimes in 1997 of which the front runner was the environmentally unsafe waste management (nearly 29,600 cases, including 58 cases of illegal transfrontier shipment of wastes), followed by water pollution (6,300 cases) and soil pollution (1,900 cases). The success rate of the police in solving cases has been falling over the last years and was about 60% in 1997.

One reason for the large number of cases of illegal waste management might be that it is especially profitable to dispose of the wastes ignoring the provisions and tight procedures of the law.

The data have to be taken with some care as experts estimate that the number of unrecorded cases is particularly high with regard to environmental offences. An important factor might be the problem of evidence, for example in cases of rapidly evaporating atmospheric pollutants. In addition, environmental crimes are reported less often than other crimes. The police force is the most frequent reporter of environmental crimes, followed by municipal and local authorities and private individuals. State authorities only rarely call in public prosecution.

The large scope of administrative sanctions explains at least partly the reluctance of administrative bodies to choose criminal sanctions and the cooperation with criminal enforcement bodies. Another reason for slow cooperation might be insufficient communication structures as the example of the Land Hessen shows: only after the police had transferred one officer into the Hessian Ministry of Environment did prosecution start to become more efficient. On the other hand internal instructions for environmental authorities aiming at a better cooperation with the police proved less successful. Finally the prospect of criminal liability of the individual civil servant may have hindered cooperation with the police in some cases.

Further it has to be taken into account that the data reflect the monitoring activities of the police and other authorities. An increase in recorded cases might be due to an increasing number of inspections.

If a case comes before a public prosecutor despite these obstacles, the public prosecutor or the judge usually will stop investigations. In case a wrongdoer is actually sentenced, imprisonment is rarely imposed; in addition in most cases of imprisonment up to two years probation is granted. Usually a criminal ban on a professional activity is imposed in serious cases only, i.e. if there is a danger of recidivism. In 1996 there were two cases.

These rather low sanctions are due to the fact that most cases coming before the courts are of a minor nature. In addition, most offenders are first time offenders.

## 2.4 Other Sanctions

Most infringements of environmental law are dealt with not by criminal law but by administrative law. There exists quite a variety of possible reactions for the authorities. In a noncompliance situation the authorities have different options:

- order alterations (including a deadline);
- order that the operation of the installation/other activity be discontinued;
- order a ban on a professional activity.

If the order is unchallengeable or immediate enforcement is ordered the authorities have three options for action:

- order the payment of a certain sum and take the money until the illegal situation has ended (coercive payment);
- ask a third party to carry out the modifications or close the factory at the operator's expense (substitute performance);
- carry out the alterations or shut down the factory themselves (direct compulsion).

If these measures prove unsuccessful they might be repeated, especially the coercive payment, or combined responses.

In addition, the authorities might impose a non-penal fine of up to 100,000 DM (1,000,000 DM for companies; in practice the fines are usually much smaller). The non-penal fine may also cover the confiscation of proceeds. The confiscation of instruments is possible as well.

It is within the discretion of the authorities to decide whether and how to proceed if this course of action is reasonable and no rights (health or property) of a third party are infringed upon.

One other common feature of all these administrative reactions is that the power to enforce administrative law is with the authorities. They do not have to ask a court in advance, but rather it is up to the private party affected to seek protection by taking legal action. This is often done by summary proceedings. The courts might stop the enforcement or - in case it already happened - they might order compensation.

To sum up: Administrative authorities have their own set of instruments. These instruments are rather efficient as

- they include the possibility to give orders to companies, not to individuals only;
- enforcement does not require a prior court decision; and
- except for imprisonment administrative instruments can achieve nearly the same results as criminal sanctions.

## 2.5 Interim Conclusions

German administrative and criminal law offers adequate sanctions to serious infringements of environmental law. As environmental crimes are committed quite often for economic reasons it is essential to confiscate the illegal profits and thus give an economic incentive to comply with environmental legislation. Confiscation is possible under administrative law as well as under criminal law.

However the majority of cases concerns minor offences. There are only few serious cases recorded which is partly due to the fact that causation and individual responsibility is difficult to prove. Additionally cooperation between environmental authorities and the police is often slow and sometimes the professional qualification of the officials should be better. The qualification and specialization have sometimes been improved during the last years although more qualification and specialization in environmental law particularly within the judiciary is desirable. But presently the main problem seems to be a certain reluctance of environmental authorities to cooperate with police forces.

## 3 TRANSBOUNDARY PROSECUTION

### 3.1 The Legal Framework

Germany is party to most multilateral environmental agreements, namely the CITES Convention, the Basel Convention and the Montreal Protocol. But these conventions, the decisions of the bodies set up by the conventions, as well as national legislation implementing the conventions, do not provide legal provisions for transboundary enforcement. Rather it is necessary to have its own set of international law to enable transfrontier enforcement.

For example Germany is Party to the following treaties:

- European Convention on Mutual Assistance in Criminal Matters (service of summonses, transmissions of writs, interrogation of witnesses, letters of rogatory for search and seizure).
- European Convention on Extradition.
- Convention on the Transfer of Prisoners.

- Schengen Convention and Schengen Agreement (including interstate police cooperation, e.g. hot pursuit across the border, informal exchange of information; and transfer of execution).

By contrast there is only a small number of treaties facilitating transboundary administrative enforcement. The number of Contracting Parties is very small and the number of cases even smaller. Thus the administrative instruments which are effective in domestic cases fail in transboundary cases. Under existing international legislation criminal law is better adapted to deal with transboundary infringements than administrative law.

### 3.2 Practice

Except for illegal waste management there are no specific statistics dealing with transboundary offences. But the general impression is that the vast majority of suspected and sentenced offenders committed minor crimes, e.g. tourists trying to import souvenirs made out of endangered species. So far the overall picture is similar to that of domestic cases. By contrast the types of serious crimes committed across borders (presumably) differ partly from the national ones. Illegal shipment of wastes, dangerous substances and endangered species as well as oil pollution at sea are deemed as the main offences.

To illustrate the problems of transboundary prosecution two recent cases may be described below.

#### 3.2.1 Case 1

The first case concerns the illegal trade of ozone depleting substances. Up to now this case is the single one recorded but it very well could be the tip of the iceberg. In 1997 a German enterprise imported some 1,200 tons of CFCs from China which had been shipped via the Netherlands and Belgium by companies seated in the United Kingdom and Belgium. The firm pretended that its CFCs were recycled German CFCs whose trade is legal under existing legislation. They even got a certificate of the chamber of commerce confirming the domestic origin. But the chamber of commerce did not check the information obtained from the enterprise. Based on information received by the European Union's anti-fraud unit the national authorities were able to trace the actual origin and started criminal proceedings.

A crucial point in CFCs cases was according to a customs officer that he - and presumably his colleagues, too - could not "distinguish CFCs from olive oil". The competent federal ministries responded by issuing a guideline on the characteristics of CFCs. But implementation will probably take some time.

#### 3.2.2 Case 2

Another area of environmental crimes occupying the Federal Bureau of Investigation right now concerns the illegal shipment and disposing of shredded wood waste. In 1997, 22 cases were reported, 9 of them concerning illegal export, chiefly to Italy. The main obstacle to prosecution is that there is no clear classification of wastes, i.e. it is open to discussion whether shredded wood waste is waste falling into a list of especially dangerous waste and requiring a formal permit before shipment. A Bund-Laender-working group drafted a guideline on shredded wood waste, but did not implement the draft. Instead they asked for a federal binding regulation which is still under consideration. Therefore, the key problem here is that uncertain legal provisions might be interpreted in a way that at least some of the offenders did not commit an environmental crime at all. Under the clause of the conventions on mutual

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assistance requiring dual criminal liability a second problem might arise if the state of export classifies shredded wood waste as waste demanding a permit but the state of import does not. In these cases transboundary prosecution is possible only subsequent to international harmonization of the classification of wastes.

#### 4 CONCLUSIONS

In Germany transboundary enforcement of environmental law is limited by two legal deficits:

- Although German administrative law can deal with infringements of environmental law rather efficiently in domestic cases, it does not provide sufficient international rules for transboundary cases.
- Criminal law depends on environmental law which it is proposed to protect. It cannot compensate for the deficits of environmental law. Thus criminal prosecution in general is hindered by unclear environmental provisions and transboundary criminal prosecution is hindered by not harmonized environmental law.

But these legal deficits are not the main obstacles to efficient transboundary prosecution. Deficiencies in administrative cooperation dominate. The cooperation between environmental authorities and police forces has to be improved and officials and - especially judges - need further training, including language training. Pure internal guidelines prove less helpful whereas the exchange of personal is particularly apt to minimize both shortcomings.



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## **THE POSITION OF THE PUBLIC PROSECUTIONS DEPARTMENT IN THE ENFORCEMENT OF ENVIRONMENTAL LEGISLATION IN THE NETHERLANDS**

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### **SUMMARY**

The Public Prosecutions Department in the Netherlands is closely involved in the enforcement of environmental legislation. It could even be said to play a prominent role. Close cooperation within government takes place. The majority of environmental violations in the Netherlands are tackled collectively, an approach which is fairly unique in the world today. The purpose of this contribution is to provide background information on the situation in the Netherlands.

### **1 INTRODUCTION**

As far as we are aware, the Public Prosecutions Departments of many countries have little or no involvement in the enforcement of environmental legislation. Such activities are mainly left to the government environment agencies. The role of the Public Prosecutions Department is often limited to bringing environmental cases to court. Cooperation with government in areas such as planning, making agreements and the phases prior to prosecution is seldom seen as accepted practice. In the Netherlands, however, this is the approach taken. In our opinion there is a clear explanation for this. One of the contributing factors is the active and independent position which the Public Prosecutions Department occupies within the Dutch system. On one hand it is a government body with responsibility for policy on crime, while on the other it also forms part of the judiciary. In other words, it is a hybrid organization. In order to acquire a thorough understanding of this situation, it is important to say a few words about the Public Prosecutions Department from the point of view of comparative law. After this, we will turn our attention to the duties and relations of the Public Prosecutions Department. In conclusion, we will discuss the way in which cooperation with government takes place in the form of enforcement agreements.

### **2 THE SITUATION AS IT STANDS**

Many countries operate on the basis of the adversarial system. This system is based on argument and is therefore built upon the antagonistic principle. The judge is passive, a kind of referee who adjudicates on motions and objections, while the jury observes and reaches its verdict. The quest for truth depends upon the outcome of the battle between the two parties involved, one of whom is the State. The public prosecutor is plaintiff for the State and therefore

represents one side of the argument. Of course, it is only logical that this structure also influences the phase prior to the trial itself. The preparations for the case are also characterized by the battle between opposing sides, with the emphasis very much on winning the case.

Other countries, including the Netherlands, have a less dualistic system. These nations have adopted the so-called 'inquisitory' style of hearing, also known as the continental system. The most important characteristic of this approach is that the judge is active and embarks upon his own independent search for the truth. This system also has a public prosecutor who acts as plaintiff, but the scope of this role is more broadly defined. The public prosecutor also has authority over the police, as well as forming part of the judiciary. In order to collect evidence from this double position, he is in charge of the criminal investigation, the police and the special investigative services. The gathering of evidence is not only limited to evidence which can lead to prosecution but also takes in evidence in defence of the accused. In this process the public prosecutor is the enforcer of procedural standards. As such he safeguards justice and lawfulness, ensures the integrity of investigative methods and also protects the constitutional rights of the accused. Here the focus is on the search for the truth and not winning one's case.

The Public Prosecutions Department in the Netherlands is therefore a hybrid organization. It is a government body which at the same time forms part of the judiciary. Both of these aspects are reflected in the tasks fulfilled by the public prosecutor in the enforcement of criminal law.

The public prosecutor is responsible for the gathering of evidence. If a punishable offence (e.g. a violation of environmental law) is committed, investigation is the responsibility of the police and other (special) investigative services. They search for clues, take samples and measurements, hear testimonies, arrest suspects and so on. However, these are all tasks which come under the authority of the Public Prosecutions Department. It is this body that determines the subject and the nature of the investigation. In the case of serious (environmental) offences, the public prosecutor sometimes takes direct charge of an investigation. The investigative role of the Public Prosecutions Department can also be seen as a government task, if regarded within the context of law enforcement. However, such a description would be too limited to encompass the public prosecutor's role in the investigation. As magistrate, he must also ensure that the investigation takes place with due care and integrity, a task which must be carried out in accordance with established legal procedures.

If severe coercive measures, such as a search of premises or the tapping of telephone conversations, are deemed to be necessary to an investigation, permission has to be granted by a judge. The public prosecutor meanwhile is able to authorize less far-reaching coercive action, such as the confiscation of administrative documents or the arrest of a suspect. In this regard he functions as a magistrate. This means that he does not take a one-sided approach by selectively searching for evidence which suits his purpose in the battle against environmental crime. It is a task which calls for a thorough and dispassionate approach.

When the police or the (special) investigative services have completed their investigations, the results are recorded in the form of a written report. This report serves as the most important piece of evidence which the public prosecutor puts before the judge. In practice, the majority of cases do not come to trial. Failure to gather sufficient evidence will result in a decision not to prosecute. The public prosecutor is allowed to take such a decision independently. It bears all the hallmarks of a magisterial decision in that it pre-empts an eventual decision by a judge, who would rule in favour of the accused if such a case went to trial. However, the public prosecutor can also decide not to bring charges in cases where there is sufficient evidence available. He can also attach conditions to such a decision, such as the

payment of damages, the restoration of the rightful situation or demanding that the accused not reoffend within a certain period. Those who do not abide by the conditions set will receive a summons. In this case the public prosecutor acts as judge to all intents and purposes.

The same may be said of the public prosecutor's authority to impose payment of a set amount instead of criminal proceedings. Failure to pay will mean that the accused will still have to appear in court. The sentence demanded by the public prosecutor will then be at least equal to the proposed settlement amount and is often a little higher. In the majority of cases, the judge agrees with the amount set by the public prosecutor and can generally assume that the public prosecutor has acted with magisterial impartiality.

If an offence is regarded as too serious or if no settlement can be reached, then the public prosecutor will directly issue the accused with a summons. The summons lists the offences for which the accused must stand trial. Further legal description of these offences are contained in the indictment. The judge can only sentence the accused for offences which are included in the indictment. For example, a company which has committed offences against the environment which also involve fraud cannot be prosecuted for environmental offences if fraud is the only offence mentioned in the indictment. The public prosecutor therefore decides the scope of the criminal case. He is also the only party with access to the criminal court.

At the trial itself, the public prosecutor takes on the role of plaintiff for the State. In his closing speech, he presents his interpretation of the evidence and the culpability of the accused. He also gives an indication of what he regards as a just sentence. Three main categories of punishment are available under Dutch law: imprisonment, financial sanctions and community service. These can also be given in the form of a suspended sentence. The conditions attached to such a sentence are particularly interesting in relation to environmental legislation. For example a company might be ordered to make certain provisions in order to limit or prevent environmental pollution. In addition to these primary forms of punishment, a public prosecutor can also ask the judge to impose other measures, such as the closing down of a company or the appointment of an administrator. The public prosecutor may also submit that the accused be deprived of any profits illegally obtained through violation of (environmental) legislation. The public prosecutor has the obligation to inform the judge as fully as possible. He may not withhold any information and in his demands for a sentence he must also take (mitigating) circumstances into account. He must formulate his sentence demand in such a way that it can be taken over directly by the judge, which indeed is often the case. The judge must be able to trust the facts as presented by the public prosecutor and rely upon the fairness of the decisions taken by the public prosecutor prior to the trial. As this account shows, the public prosecutor is able to determine the policy as regards the investigation and to decide which cases qualify for punishment by law.

These tasks can also be viewed from a governmental perspective. As already stated, it is the Public Prosecutions Department alone that decides who has to appear before the judge and for which offences. Due to the discretionary nature of this power - policy is made for this part of the process - we may also assume that this is also a task for the Public Prosecutions Department as government body. After all, this process involves public prosecutors making decisions about the implementation of their governmental task, in this case the combating of environmental crime.

The fact that the Public Prosecutions Department is both a government body and part of the judiciary influences its relationship with the Minister, the judges, the police and also the public administration.

In carrying out its tasks, the Public Prosecutions Department reports to the Minister of Justice and the judge. This too can be seen as an expression of the hybrid character of the Department.

The Minister of Justice bears the political responsibility for combating crime (including environmental crime). An important part of the policy is implemented by the Public Prosecutions Department. By law, the Minister of Justice is permitted to give instructions to the Department and in turn, the Department reports to the Minister. In this context, planning and control play an important role.

The Minister establishes the general policy outlines for the year ahead, after consultation with the Public Prosecutions Department. The Department then translates this policy into frameworks which apply to all public prosecutors. These also incorporate resolutions which emerge from the public prosecutor's consultations with local government and police.

The attention focused on prevention in recent years has made an important contribution towards bringing the Public Prosecutions Department and government closer together. The shared feeling of responsibility for finding solutions to safety and quality-of-life issues strengthens these ties. This bond is particularly strong with regard to the environment. Government is the most important partner for the Public Prosecutions Department when it comes to formulating local enforcement policy.

These various relations are not without their tensions. The problems experienced at local government level do not necessarily reflect the national priorities identified by the Minister. What the world of politics wants or does not want is not always echoed by the legal system. What the investigative services regard as necessary is not always compatible with the rights of the accused. However important the political aspects of combating crime may be, at the end of the day, the public prosecutor has to be able to explain his case to the judge. At the same time, these tensions serve to clarify the benefits of having an intermediary institution in the field of law enforcement. This has to be an institution with a degree of independence, which can report to the Minister and the judge, but also to the local government with whom cooperation is taking place.

From its hybrid position, the Public Prosecutions Department makes agreements with the government which operate on the premise that all aspects of law enforcement are interrelated. Repressive measures alone are not effective. Prevention remains an important element in the politics of fighting crime. This is certainly true in the field of environmental enforcement. For these reasons, agreements are made about the intensity and the quality of supervision. If repressive measures do follow, they are imposed in such a way as to generate a preventive effect. The approach taken is a responsible one in accordance with the standards laid down by criminal law and the constitution, but it must also be effective. Financial sanctions and prison sentences alone are not enough. There are also possibilities for the government in this respect. Agreements can be established in this area and priorities can also be set with regard to the entire process. The primary concern of the government is environmental relevance. The setting of standards is only a means to an end and need not be strictly adhered to at all costs. For the government, ecological considerations are not always top priority. Sometimes political, economic or social considerations have the upper hand. Within this context, the Public Prosecutions Department mainly guards against the slipping of standards and seeks to protect consistency and equality before the law, with an eye to its position as magistrate. The public prosecutor must have no qualms about presenting the results of enforcement to the judge. The fact that the Public Prosecutions Department forms part of the judiciary therefore places constraints on its cooperation with the government.

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## ENVIRONMENTAL CRIMES AND CRIMINAL ENFORCEMENT

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### 1 INTRODUCTION

Environmental Management in Western countries, and particularly in those of Europe from which developing countries inherited their legal culture, is generally governed by both public and private law. Public law regulations include both constitutional and administrative laws. Both public and private law generally includes elements of both criminal and civil law.

Because criminal law is much better elaborated, some specialists tend to claim that offenses related to environmental management are punished by criminal law only. On the contrary, criminal, civil and administrative laws are concurrently implemented in several countries, in terms of the civil liabilities of individuals and moral bodies having violated the norms of environmental management.

In fact, the concept of Environmental conservation dates back to the years 1920-1940, when the first treaties in this domain were concluded at both bilateral and multilateral levels. The concept has been enriched with the sustainable development aspect introduced after the summits of Stockholm and Rio in 1972 and 1992 respectively.

Before these meetings, Western countries, along with those of the developing world, had signed a number of treaties relating to the environment. These translated into national laws and regulations to determine environmental management rules and regulations, as well as sanctions provided in the case of violations, rules of implementation of these sanctions and identification of administrative and legal officials, and other security services involved.

### 2 CONVERGENT MODELS

Most countries of the Southern Hemisphere generally and sub-Saharan Africa in particular have had to adopt a range of national sanctions applicable to environmental management, depending on the cultures, traditions and history of each country. These laws reflect the weight of the inheritance from Europe for these countries, which depending on the case, would be French, British or Spanish dominated.

Each of these countries in this Southern region of the world, claims to strive to get closer to the growing body of laws and institutions that provide for constitutional guarantees, legal status, public freedom, and independence of the judge. We could in this respect talk of convergent models. Yet this similarity should not shade the large diversity of situations created by the gap between legal instruments and actual practice. Actual practice depends on political forces and the stakes of social groups, as well as on the local situations created by the ideological, political, economical and social perspectives.

The executive power which is predominant, has some influence in the process of elaboration of instruments that define the various offenses, their classification, as well as applicable sanctions. The restricted nature of the role played by parliamentary process that was given to these countries leads to poor initiatives and provides for adoption of weak instruments.

These developing countries, Colombia excepted, have adopted a dual jurisdiction system, a model that combines dualistic law and jurisdiction under the executive through administrative law and through parliament.

Most sub-Saharan African French-speaking countries (i.e., Morocco, Mauritania, Niger, Gabon, Togo, Cameroon, Mali, Senegal, The Central Africa Republic, Etc.) have progressively elaborated some administrative law, implemented by a common law judge.

### **3 VARIED REALITIES**

The relative power of different organizations and the elaboration of instruments in most developing countries distort these adopted models and result in a heterogeneous situation that reflects the political situation in which these countries find themselves.

Many countries are under emergency regimes, characterized by suspensions of fundamental laws, which in turn are replaced by a state of emergency legislation, by ruling orders and government Decrees (e.g. Burundi, Guinea). Others find themselves under social constitutional regimes (Morocco).

Also, there is a diversity of party systems (Senegal, Togo, and Cameroon), where the observance of regulations varies according to the country. The major diversity lies in the process of elaboration of instrument, notably in the more or less rapid handling of the process, depending on the existence or lack of political will.

As concerns administrative litigation and jurisdictional organization, as well as the settlement of common law offenses, for various reasons it is difficult to carry out any judgement on the systems that are actually in force in the different countries.

Even if the instruments are easily perceived in the field, the reality and impact is not often known or felt by the local citizens themselves.

Some interesting indicators would help us appreciate the current system including:

- The number of courts within the territory.
- The number of jurisdictional decisions taken every year.<sup>1</sup>

On the whole, the efficiency and effectiveness of the elaboration and implementation process of the rules and regulations relating to environmental management, and particularly to the sanctioning of their violations depends on the level of the socio-economic and cultural development of the country under consideration

The intent of this paper consists in striving to present the case of Cameroon in this context.

### **4 THE CASE OF CAMEROON**

Offenses, sanctions and procedural regulations related to implementation of environmental management requirements in Cameroon result from the following processes.

#### **4.1 International Conventions**

Cameroon is a party to over thirty conventions on the Environment. It has, like other countries of the globe and of the developing world, translated these into national laws and regulations.

#### 4.2 Framework law

Among these instruments is the fundamental law which deal with the necessity to protect the environment and which provides for the management of national resources within the framework of the 1996 law.

The framework law relating to environmental management, the 1996 law on forestry, wildlife and fishery resources, and related implementation instruments provide for important regulations as regards responsibilities, offenses and their observations. Engineers and forestry technicians who concurrently play the role of police officers with specific competence are responsible for acknowledging the offenses together with the ordinary police officers and for putting such cases before:

- The administrative officials and sworn officers of the administration in charge of forestry, wildlife and fisheries with the view to arrive at administrative sanctions.
- The competent legal authority (Administrative) or criminal judge as the case may be.

#### 4.3 Law suits

It occurs in practice when the offenses are established and presented before the judge, three types of lawsuits may be envisaged, namely:

- a. Simple lawsuits whereby the acknowledged offense are sanctioned by the judge in compliance with the laws and regulations on environmental management and in full observance of all criminal civil or administrative procedures.
- b. Complex lawsuit procedures whereby the citizen accused by the forestry and wildlife administration proceeds to question the laws and regulations relating to the Environment and all other legal procedures; to sue the administration's official or clerk to the court on the grounds of the deeds for which he is being accused. This could result in consequences such that a judge with no mastery of the above mentioned laws and regulations and consequently non-vigilant to this effect could settle the litigation in favor of the offender. Hence the need for the judge to be enlightened by state officials on the legitimacy implement the laws in force so that the offender be appropriately sanctioned..
- c. As concerns International cooperation, the punishment of environmental protection-related offenses is subjected to the implementation of agreements signed in this respect.

All the situations portrayed in 1 and 2 above stem from the judges' insufficient acquaintance with environmental law which is still new in Cameroon as well as in the rest of the developing world, and henceforth calls for training in this domain. Indeed, there exist at least one lawsuit on environmental issues in the 40 Divisional jurisdictions, 10 Courts of Appealed the Supreme Court throughout the country.

It is in this light that within the framework of the CITES convention for example, the laws and regulations of the country of origin are enforced when the products seized at the moment of exportation are still within the territory of the said exporting country. On the

contrary, when the latter products are already within the territory of the importing country then the laws and regulation of the said country are enforced. In both cases the prescribed CITES quota must be respected.

As regards INTERPOL agreements, Member countries set to implement legal provisions agreed upon within the framework of conventions signed with the view to enhance cooperation on security matters and the existing and compatible laws and regulations in this domain. It is in compliance with this that our Forestry and security officials are usually on duty in all airports.

## **5 PROGRESS MADE - ELEMENTS OF ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT IN CAMEROON**

Legal and constitutional aspects relating to the environment in Cameroon have been the subjects of a study carried out within the framework of the National Environmental Management Plan. The study culminated in a report entitled "Analysis of Conflicts and of the Legal and Institutional Framework Relating to the Environment in Cameroon" - Ministry of Environment and Forestry, October 1995. 190 existing rules and regulations were identified and the report emphasized problems relating to the drawing up of new legal instruments appropriate for better environmental management in Cameroon. It contained a recommendation to undertake a codification exercise to lead to the drawing up of a Global or Framework law on the Environment that contained:

- Umbrella provisions relating to each sector of environmental protection.
- Definitions of major concepts such as "sustainable development" or "sustainable use".
- Fundamental principles like "the right of every citizen benefit from the environment and his duty to protect it"
- Nature and biodiversity conservation.
- Laws on nuisances, i.e., a set of provisions spread out within sectoral regulations which all alone, constitute the substance of a distinct code dealing with noise, pollution, wastes, etc. and which correlate to regulations relating to Town Planning, Industrial production, mines and quarries, and water.

This step has led to the passing and promulgation of a Law to lay down a Framework Law on Environmental Management (Law #96/12 of August 5, 1996).

### **5.1 Sectoral level**

At the sectoral level, the task consists of carrying out an exhaustive inventory of all the legal and regulatory instruments (Decrees, Orders and even circular letters) and organizing them in a way that will constitute an obvious indicator to all users of the complementary nature between the provisions there in and the norms hierarchy.

This exercise will be a long-term duty owing to the fact that it must cover all the sectors and will require both time and resources. Yet it remains an indispensable and beneficial task. Through this, the administration will achieve complete legal corpuses that will be easy to handle. Most of all, it will constitute a roundup of all applicable instruments, the knowledge of which shall thus be considerable improved and their enforcement made much easier.

## 5.2 Environmental Code

The Government of Cameroon has launched a project entitled "Drawing up of the Environmental Code of Cameroon". It falls within the context of the International and National legal record peculiar to participatory conservation of natural resources and within the framework of a government program for the Revision and Codification of the Legal and Regulatory Instruments.

For forty years, the Cameroon Administration has edited a number of legal instruments of legislative and regulatory nature relating to various domains. Other instruments have been added to existing old provisions dating back to the colonial period but still in force. Due to the multiple changes having occurred within the socio-political environment of the country, many of these instruments are inappropriate and non-applicable. This is due to, among other things:

- lack of texts of application;
- modifications and partial or total repeals of the initial norms;
- lack of appropriate codification.

As a result, environment-related international conventions ratified by Cameroon remain unintegrated.

The domestic object consists of carrying out an inventory and an analysis of all the instruments gathered so far, so as to distinguish those instruments to be codified immediately after modification, and new instruments to be elaborated before codification (100 without draft rules and regulations).

Following its submission to Donors of Cameroon, which include UNEP, UNDP and The Netherlands, this project led to the drawing up of an Inter-Ministerial Report on the enforcement of priority conventions and concrete activities relating to their implementation. (This was in compliance with the questions and answers on Page 3 of INECE's Country Progress Report and Self-Assessment for Environmental Compliance and Enforcement Programs - "Status of creating enforceable requirements." )

## 5.3 The courts

Disputes resulting from the implementation of the set of instruments described above are settled by courts that face a number of difficulties. In 1991, the Government, in this context, committed itself to thoroughly assessing its legal system and methods of management of legal information. This was done within the framework of a large governmental program known as "The Legal and Regulatory Instruments Revision and Codification Program."

Difficulties include areas governed by either promulgated framework laws that are still to be enforced because texts of application have not yet been elaborated and published, or laws implemented by virtue of Decrees orders, decisions, circular letter and other such attendant measures.

It is within these different contexts that law suits exist - complex or not - in the course of which the various stakeholder (Magistrates, lawyers, state attorneys and legal officer of the Ministry of the Environment and Forestry) deal with controversies based on the level of enforcement of instruments. Additionally they deal with controversies that relate to the setting up of institutions where international conventions are involved.

#### 5.4 Institutional developments

On the institutional level, Decree 96/224 October 1, 1996 (which organized the Ministry of Environment and Forestry) upgraded the Department of Environment within the Ministry of Environment and Forest to the level of a Permanent Secretariat of Environment. The Secretariat is to serve the Inter-Ministerial Commission on Environment and Sustainable Development. Although an organizational plan has been developed for the Permanent Secretariat, no staff have actually been assigned to the new posts.

Other anticipated institutional changes include: the creation of certain committees for the ICCED; designation of environmental focal points in each line ministry; and strengthening of provincial environmental authorities. Draft legislative texts have been prepared for implementation of Decree 9/244/PM which establishes the ICCESC, but those texts have not yet been formally enacted.

In August 1998, the Ministry of Public Investments and UNDP signed the convention of phase II of the PNGE. This contains a legal element directed at implementation of the framework law *inter alia* through the formulation of sector legislation, development of an environmental code, and strengthening of Cameroon's capacity in environmental law.

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## **LOCAL ENFORCEMENT: A FUNDAMENTAL COMPONENT OF ENVIRONMENTAL COMPLIANCE**

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### **SUMMARY**

As this Fifth International Conference on Environmental Compliance and Enforcement commences, one might ask what a local government official could possibly contribute. After all, national governments set standards for environmental protection and for the health and safety of their citizenry. They pass laws and regulations in accordance with those standards, and design mechanisms to enforce their laws. And remarkably, they join together in this decade to develop international policies and programs which will protect the global community in the next millennium.

As articulated by the Executive Planning Committee, "this Fifth Conference focuses on action: making enforcement and compliance happen." On that particular topic, local regulatory agencies, local law enforcement officers, and local prosecutors have much to contribute.

This paper is about criminal enforcement. It describes the experience and evolution of one local prosecutor's office in prosecuting environmental crime. A companion paper, by Steven C. Drielak, draws on his fifteen years of conducting criminal environmental investigations in that office. Excerpted from his recently published textbook, it describes the role of the environmental investigator and some of the methods used to identify and prove environmental crimes. A second companion paper, by James H. Pim, explains how a local government succeeded in creating and implementing one of the first, and most comprehensive environmental programs in the United States.

Together, these papers deliver one clear message: Local government can make enforcement and environmental compliance a reality.

### **1 LEVELS OF CRIMINAL ENFORCEMENT IN THE UNITED STATES**

The United States Department of Justice has the responsibility for prosecuting criminal violations of federal environmental laws. Those federal crimes are generally investigated by the Criminal Investigation Division of the United States Environmental Protection Agency.

Most of the fifty states have criminal penalty provisions in their state environmental laws. Most individual States Attorneys General, in addition to civil enforcement power, have statewide jurisdiction to prosecute criminal violations of those laws.

Each state is politically subdivided into counties. Each county falls within the jurisdiction of a local prosecutor, generally known as a District Attorney or State's Attorney. The local prosecutor has primary responsibility for prosecuting crimes committed within the jurisdiction. Local prosecutors are charged with prosecuting crimes ranging from murder, robbery and rape to drug trafficking, shoplifting and drunk driving.

As locally elected or appointed officials, these District Attorneys are the prosecutors who are most in touch with the communities in which they work and reside. They have the discretion to direct their investigative and prosecutorial resources to prevent and punish targeted types of criminal conduct. Responding to citizens' concern about environmental quality, increasing numbers of local prosecutors have redirected their limited resources to prosecuting criminal violations of state and local environmental laws.

In many situations where an environmental crime has been committed, federal, state and local prosecutors may all have concurrent jurisdiction to prosecute. For practical and legal reasons, a prosecution by more than one level of government for the same act is very unusual.

## **2        SUFFOLK COUNTY, NEW YORK**

Suffolk County, one of 62 counties in New York State, is located 50 miles from New York City, comprising the eastern two thirds of Long Island. With a thousand miles of coastline, it is known for its beaches, rural farmlands, commercial fisheries and in recent years, wineries. Large segments of the county are heavily industrialized, and its population of 1.3 million live mostly in middle income suburban communities.

The county sits atop an aquifer which supplies all of its drinking water. Most of the county has no municipal sewage treatment system. Residential and commercial waste is flushed into individual leaching pools which potentially threaten the water supply.

## **3        SUFFOLK COUNTY DISTRICT ATTORNEY'S OFFICE**

In the early to mid 1970s, environmental awareness was being raised in Suffolk County as it was across the nation. The County Legislature experimented with some local laws to protect the environment, including a ban on washing machine detergents in the county. The Suffolk County District Attorney's Office shared the concern of county residents about protecting its drinking water supply and the overall environmental quality. In a series of criminal cases, the office commenced prosecutions under then weak state laws. An air pollution prosecution against the local power company ended direct criminal enforcement by the office. In 1976, the appellate courts ruled that only the state Attorney General had the jurisdiction to enforce state environmental laws.

While prohibited from directly enforcing environmental laws, the District Attorney's Office on occasion prosecuted environmental offenders for violating traditional criminal laws in the course of harming the environment. Those traditional crimes typically included falsification of documents and other acts of deceit in dealing with regulatory agencies.

In 1980, the New York State legislature amended the state environmental law to give District Attorneys specific jurisdiction to prosecute environmental crimes. Over the next several years, it systematically added felony provisions to the law. The Suffolk County District Attorney's Office was back in the environmental enforcement field.

As criminal complaints increased, the need for a staff dedicated to environmental crime became apparent. In 1984, then District Attorney Patrick Henry appointed an assistant district attorney and a detective investigator to work full time on environmental cases. A year later, the Suffolk County Police Department added a second full time police officer to the team.

Using their knowledge of criminal investigative techniques and traditional prosecutorial powers, the team identified key people who could help them. The county health department, with its five years of enforcement history, proved the biggest permanent asset. State environmental investigators worked jointly on the earlier cases. By 1989, Suffolk County was responsible for a full third of all criminal hazardous waste prosecutions being brought in the entire state of New York.

In 1990, newly elected District Attorney James M. Catterson, Jr., took the steps that brought Suffolk County to the attention of the rest of the country. He established the Environmental Crime Unit as an independent bureau in his office, and appointed a bureau chief with extensive experience in complex investigations and undercover operations. He issued a mandate to engage in proactive, aggressive prosecutions and backed it up with the resources necessary to do so. He challenged his staff to become involved with environmental enforcement and professional training on a national level, bringing what they learned back home and applying it in Suffolk County.

#### **4 TYPICAL ENVIRONMENTAL CRIME PROSECUTIONS IN SUFFOLK COUNTY**

##### **4.1 "Midnight Dumping" Cases**

Plating operations, circuit board manufacturers, printers, automotive repair shops, and other generators of hazardous waste may avoid the cost of lawful disposal by illegally dumping 55 gallon drums of toxins in wooded areas and quiet roads. Because such incidents usually occur at night to avoid detection, they are referred to as "midnight dumping." It was a common occurrence in the 1980s.

Using traditional criminal investigative techniques, investigators learned to trace those drums back to the source the same way a homicide investigator uses forensic evidence from the body of a murder victim and the surrounding crime scene to find the killer.

Fingerprints from drums and discarded debris, tire castings, footprints, partial labels, coded identifiers on the drums, document analysis to "raise" faded writing on shipping labels, and other clues found at the scenes are the necessary first step in any "midnight dumping" investigation. There is only one difference between how the homicide crime scene and the environmental crime scene are handled in Suffolk County. The environmental investigators, with their entire forensic team, perform evidence gathering tasks encumbered by personal protective equipment, including air tanks and masks, to protect them from the unknown, potentially lethal contents of the drums. Scores of defendants have been convicted of dumping hazardous waste in Suffolk County, many of them jailed.



**Figure 1** Health Department members of the Hazardous Material Response Team draw samples of the contents of these 55 gallon drums, which were abandoned near a commuter railroad station

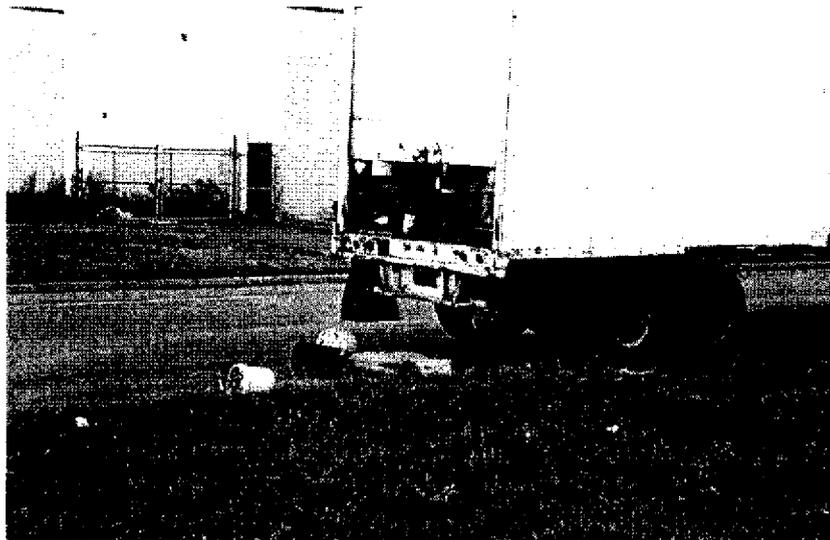
Legitimate businesses are not the only ones that dump illegally. One series of dumping incidents along the Long Island Expressway, a major east-west thoroughfare, led to an unexpected source. A partial fingerprint in discarded debris identified a suspected drug dealer from Columbia. The drums, which contained a variety of solvents, were tested and found to contain cocaine. The resulting multi-agency investigation, utilizing high tech surveillance and court authorized telephone wire taps, led to an illicit cocaine manufacturing operation in a secluded home located within an exclusive Suffolk County community. Without the methodical environmental crime scene work, the narcotics investigation would never have commenced, and the drug manufacturers would not be in prison.

The "midnight dumping" trend in the second half of this decade involves the use of stolen forty-foot truck trailers. Filled with drums of hazardous waste, trailers are abandoned in industrial parks or warehouse centers where they may go unnoticed for long periods of time. With proper crime scene work and tenacious police investigations, the dumpers are invariably caught—even when efforts have been made to scrape identifying labels off the drums and Vehicle Identification Numbers off the trailers.

In late 1995, 120 drums of hazardous waste were discovered by a Suffolk County company when it recovered a trailer which had been stolen from its facility. The waste was traced to a factory in Detroit, Michigan, a thousand miles away. Two of the people involved served time in the Suffolk County jail. They received reduced sentences for cooperating in the prosecution of the people who had hired them to illegally remove the waste and transport it across state lines. As the investigation unfolded, it was learned that the company which

generated the waste had gone out of business. The bankruptcy court held all of the company's assets. The owners of the building told the court that hazardous waste had been left there, and received \$50,000.00 from the bankruptcy court to properly dispose of it. They made a handsome profit by instead paying \$10,000.00 in cash to get rid of the waste illegally.

In another case, an abandoned trailer containing over 200 drums and containers of hazardous materials posed an extraordinary challenge to investigators. The perpetrators had obliterated virtually all of the labels and other identifiers from the containers and the trailer itself. Painstaking forensic work and tireless investigative efforts ultimately led to the source of the waste product, a company doing business in the adjoining county. A full year into the investigation, a worker was located who had helped scrape the labels and load the trailer. He dropped a bombshell: a second stolen trailer, filled with similar materials, had been dumped in an adjoining state. That case had never been solved by the investigating agency in that jurisdiction.



**Figure 2** When this stolen truck trailer was opened by commercial tenants in an industrial park, some of the containers fell to the ground. More than 200 drums and containers were found inside with most of their labels scraped off.

As the investigation continued—now, a multi-jurisdictional effort—the reason the second case had not been solved became immediately apparent to the Suffolk county team. While sampling and analysis had been performed on the contents of the containers in the second trailer, the trailer had not been treated as a “crime scene.” The handling of the trailer and its contents was geared toward identifying and properly disposing of the waste. The cost borne by government to lawfully accomplish that goal was several hundred thousand dollars.

A criminal investigation had been commenced by appropriate law enforcement agencies to apprehend the responsible parties, but in terms of any physical clues, it started too late. Neither law enforcement officers nor criminal forensic teams had examined the trailer.

The type of evidence which would have been sought had the trailer contained stolen property or dead bodies never played a part in the investigation. As a result, the investigation into the second trailer had ground to a halt.

The evidence from the Suffolk County trailer, and the investigation developed from it, changed that. The cooperative investigative effort led to convictions on both cases. Hundreds of thousands of dollars were paid in fines and restitution for the cleanups. And every corporate officer was sentenced to jail and/or federal home detention.

The absence of "crime scene" work on the second trailer is typical throughout most of the country. It is even typical among law enforcement agencies which specialize in environmental crime. Handling of hazardous material without proper training and equipment is more than unsafe. It is illegal.

The most important lesson that local law enforcement can contribute to environmental investigations is this: To solve a dumping crime, the investigating police personnel must enter the crime scene, and do the things that police are trained to do. They must look for clues. That means that they must be trained in a whole new field. They must become trained and equipped to handle hazardous materials.

Many believe that trained regulatory personnel can do what is necessary for a criminal case. But it is much easier to train a police officer to handle hazardous materials, than to train a hazardous material handler to do police work. The companion paper of Det./Lt. Steven C. Driepak, Commanding Officer of the Suffolk County Environmental Crime Unit, addresses this issue.

#### 4.2 "On-site" Dumping Cases

Developing environmental regulations, educating the regulated community, and bringing companies into compliance is a long process. Criminal prosecution only makes sense when laws are in place, when people know they exist and have been given an opportunity to obey those laws.

In Suffolk County, a comprehensive law governing handling and storage of hazardous and toxic materials has been in place since 1979. The issue of pollution was at the forefront of public concern in the county since the early 1970s. James H. Pim, Chief of the Suffolk County Health Departments Office of Water Resources, was a moving force behind the County law. His companion paper, "An Enforcement Program That Works—Toxic and Hazardous Materials Management in Suffolk County," describes the enactment and implementation of that law.

Felony sanctions for illegal storage, transportation and disposal of hazardous waste were introduced under the New York State Environment Conservation Law in the early 1980s. Suffolk County's own education, compliance and enforcement program made criminal enforcement under state law possible from the outset. Companies caught illegally disposing of hazardous waste "on-site" in Suffolk County could not claim ignorance. Releasing any hazardous materials into the environment, whether or not it was hazardous waste, had long been prohibited. In virtually every instance, prosecutors had a "paper trail" to prove that a criminal defendant knew that on-site disposal of hazardous waste was illegal.

In the mid 1980's, most "on-site" dumping cases were direct referrals from the Health Department. Second or third time offenders in the regulatory arena became first time offenders in criminal court. The shock of a criminal prosecution in a single case was believed by regulators to have a deterrent effect on other companies. Publicity was seen as very important; in some cases, criminal defendants paid for advertisements in newspapers as part of their sentences.

**POLLUTERS  
GO TO JAIL**

**DO NOT DUMP CHEMICAL  
POLLUTANTS IN SUFFOLK COUNTY**

MY BUSINESS DISCHARGED CHEMICAL POLLUTANTS TO THE ENVIRONMENT IN SUFFOLK COUNTY IN VIOLATION OF NEW YORK STATE AND SUFFOLK COUNTY ENVIRONMENTAL LAWS.

NOW I HAVE BEEN PROSECUTED FOR THESE OFFENSES BY THE SUFFOLK COUNTY DISTRICT ATTORNEY'S OFFICE AND THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES, OFFICE OF ENVIRONMENTAL POLLUTION CONTROL.

MY CORPORATION HAS BEEN CONVICTED OF A FELONY CRIME, FOR POLLUTING THE ENVIRONMENT, AND FINED \$50,000. MY VICE PRESIDENT AND I HAVE BEEN SENTENCED TO JAIL.

MY PURPOSE IN PLACING THIS AD IS TO ADVISE OTHER BUSINESSES NOT TO POLLUTE THE ENVIRONMENT.

IF YOU KNOW OF INCIDENTS OF ILLEGAL DUMPING OF HAZARDOUS MATERIALS IN SUFFOLK COUNTY, YOU SHOULD REPORT THIS INFORMATION TO:

**THE SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES, OFFICE OF ENVIRONMENTAL POLLUTION CONTROL, (516) 431-4633.**  
OR  
**THE SUFFOLK COUNTY DISTRICT ATTORNEY'S OFFICE, ENVIRONMENTAL CRIME UNIT, (516) 360-5232.**

*Wallace Fellows*  
President, Chemical Processing Corp.

**Figure 4** Criminal defendants sometimes pay to place an advertisement in a local newspaper. Messages like this one help to deter other businesses from committing similar crimes. There is usually an increase in citizen complaints as a result

As the public became more sensitive to environmental problems, a slightly different type of "on-site" dumping case grew more common. The Health Department referrals had always involved companies which had been "caught" by the system. The new cases were ones in which companies had avoided detection, and serious illegal activity had not been noted during routine Health Department inspections. Those cases were developed using a traditional law enforcement tool—informants.

Factory employees, contractors, sales people who witness violations, and even relatives have reported business operators that illegally dump waste. On-site dumping cases commonly involve hidden piping systems which discharge into unauthorized leaching pools

or storm drains. When necessary, investigators bring in county excavation equipment to unearth evidence during a criminal search warrant. The Department of Public Works has a list of its heavy equipment operators who happen to be hazardous material trained. In keeping with safety requirements, those are the only workers who can assist with excavation at an environmental crime search warrant.



**Figure 3** In connection with a regulatory enforcement action, this facility had been forced to cap a pipe that was used to discharge hazardous waste into a leaching pool. When a criminal search warrant was executed years later, investigators saw that the interior discharge pipe was still being used. The parking lot was excavated. Investigators discovered that a new pipe had been added, diverting the hazardous waste to a new, illegal leaching pool

In one early case, company owners had dug up the concrete floor of their factory and installed a bottomless holding tank. The floor was replaced, leaving a four inch access hole. The hole was plugged with concrete. During the week, when the full complement of employees was working, hazardous waste was held in storage containers. Those storage containers complied with county laws, and raised no suspicion with Health Department inspectors.

On weekends, the concrete plug was removed, and the hazardous waste was pumped into the underground tank. A bag of ready-mix concrete was produced; the drain was plugged again; a utility cart was slid over the top of it. When the employees returned to work on Monday, the hazardous waste had been "picked up." It was business as usual as the waste slowly leached into the ground and the sole source aquifer below it. Criminal investigators executing a search warrant caught the owners in the act of dumping the waste.

Another common type of on-site case involves abandonment of a facility by the owners. Certain types of facilities can pose grave threats to the community. Electroplating, for example, may generate acutely hazardous cyanide waste. When the economy is bad, government sees increasing numbers of abandoned factories.



**Figure 4** With the decline of the defense contracting industry on Long Island, many subcontractors simply closed their doors. Some left factories filled with hazardous materials. Environmental Investigators searching this facility came upon live military explosives. The bomb squad removed some and had to detonate others on site.

#### 4.3 Undercover Investigations

In law enforcement, police often use undercover operations to apprehend criminals who might not otherwise be caught. Police may pose as drug dealers to interdict major suppliers. They may set up a fake "fencing" operation to buy stolen vehicles or proceeds from burglaries. They may pose as street criminals to purchase illegal handguns.

By 1990 it was general knowledge among law enforcement that some businesses hire unlicensed waste transporters to illegally dispose of their hazardous waste. Savvy businesses mix their disposal practices. They pay for lawful disposal of some portion of their waste stream, maintaining a paper trail which can be shown to government officials. The rest of the waste is disposed of illegally, at greatly reduced rates.

From a traditional law enforcement perspective, it would make sense to have police officers pose as unlicensed waste transporters and catch defendants in the act of violating hazardous waste laws. Concerns about safety, transportation, disposal and liability in the handling of hazardous waste had always kept law enforcement from engaging in undercover operations in this field.

In 1991, the Environmental Crime Unit was put in contact with an individual who worked in the environmental services industry. Having been convicted of an environmental crime himself, he was willing to work with law enforcement on investigations in return for a reduced sentence. The informant identified a list of specific companies within the county that routinely disposed of hazardous waste through illegal sources. He was willing to approach those companies to take over their illegal waste disposal, introducing an undercover police officer as a "partner."

The resulting operation was labor intensive for investigators, forensic teams and prosecutors. The fictional "partner" was really an experienced detective who routinely worked undercover to buy weapons or stolen property. The "laborers" who loaded 55 gallon drums of hazardous waste onto trucks for removal were really Environmental Crime detectives, trained in the handling of hazardous materials. Transactions were recorded on hidden video cameras. It would be months before the unwitting defendants learned that they had paid money to police officers.

When the "laborers" left the site of generation, they brought the drums to a secure facility. There, they were treated as criminal evidence. Working under tight security, the investigative team photographed and dusted the drums for fingerprints. The drums were sampled by the county sampling team and then safely stored until laboratory analysis was complete.

Criminal law usually requires the preservation of evidence for a defendant's inspection. This requirement posed a significant legal problem, which had been evaluated before the operation even began. Police and prosecutors knew that if any defendants were arrested, the undercover operation would be revealed. No further cases would be developed. The accumulating waste from difference sources could not be safely stored until the end of the investigation unless a licensed storage facility was utilized. That would have compromised the integrity of the investigation.

When laboratory analysis on each case was complete, prosecutors obtained a secret court order to authorize lawful disposal of the waste. Environmental crime investigators loaded the drums onto trucks, and the District Attorney's Office paid a licensed facility to dispose of them. That significant expense was recouped from the defendants as part of their criminal sentences.

The operation concluded with arrests and criminal charges against about ten defendants. It was widely reported in the media as the first successful hazardous waste sting operation in the country. Agencies from around the country have studied the Suffolk County operation. Written operations plans have been duplicated and investigators and prosecutors have readily shared the lessons learned in the operation. County and state prosecutors and investigators throughout New York State have since conducted hugely successful operations, targeting a variety of industries. Scores of business operators who illegally dispose of hazardous waste have been prosecuted as a result.

This type of operation can bring favorable publicity to an agency and have strong deterrent effect on industry. Legitimate businesses, bearing the costs of lawful waste disposal, generally support these efforts. When their competitors use cheaper, illegal disposal methods, they have an unfair competitive advantage.

Any discussion of undercover hazardous waste cases must come with a strong warning. No such activity should be undertaken without review by police and prosecutors experienced in undercover work. Aside from physical safety issues, the legal issues are so complex that poor planning can lead to dismal failure. Targeting of legitimate businesses, with unsuccessful legal results, can cause political reactions which might impede all future enforcement activity.

More recently, Suffolk has been utilizing undercover techniques to catch illegal dumpers, instead of business operators. Informants introduce suspected dumpers to undercover police officers who say they are looking to illegally dispose of their waste. Fifty-five gallon drums containing innocuous liquids are labeled with poison stickers and hazardous waste labels which identify the contents as acutely hazardous cyanide waste. In recorded conversations, investigators make it clear to targets that the waste is hazardous. To make sure that targets are not unwittingly involved in illegal activity, the undercover officers express concern about being arrested if they are caught by police.

In two recent cases, the defendants who were paid to remove waste dumped the drums in secluded areas within an hour of taking them away. One defendant kept his 15 year old grandson home from school and paid him fifty dollars to help remove the drums and dump them off the truck in a residential community.

#### 4.4 Environmental Fraud

The creation of environmental programs has given rise to a burgeoning environmental services industry. Environmental consultants, transportation, storage and disposal facilities and laboratories provide the services necessary for the regulated community to comply with laws. Virtually every business uses subcontractors to perform some portion of the work.

The experience of law enforcement tells us that where there is money to be made, unscrupulous individuals will be drawn into the market. As legitimate businesses complain about increasing costs of environmental compliance, law enforcement recognizes that some portion of the increase is due to fraud.

Fraud in the environmental industry takes many forms. Victims and perpetrators alike are found in every sector: manufacturers, waste generators, transportation/storage/disposal facilities, government, parties to real estate or business transactions, lenders, environmental consultants, and the general public.

In Suffolk County, the Environmental Crime Unit prosecutes all business fraud or "white collar crime" cases which impact the integrity of the regulatory system. Investigators and prosecutors who specialize in environmental crime are much more likely to spot irregularities which may indicate the presence of fraud.

## 5 COUNTY RESOURCES

Suffolk County's Hazardous Material Response Team is comprised of four groups, each of which performs a specific function. The entire team is on 24 hour call, and works together at all environmental search warrants or crimes scenes where a "midnight dumping" as occurred.

### 5.1 Environmental Crime Unit Investigators

Environmental Crime Unit investigators are police officers who work full time in the unit. They are trained and certified in the handling of hazardous materials, and are provided with personal protective equipment necessary to enter hazardous waste sites. As members of the Response Team, they are in complete charge of any crime scene. They direct the work of other members of the team, applying criminal evidence gathering standards to assure that evidence will be sufficient to support a criminal prosecution.

### 5.2 Suffolk County Police Department Emergency Services

Police Officers assigned to the Emergency Services Section of the Suffolk County Police Department are the "safety officers" at any environmental crime scene. Hazardous material experts, they are also certified to handle confined space entry, rescue, decontamination and medical emergencies. They make the final determination about required levels of personal protective equipment to be used for particular tasks, monitor health of the Team, and stand as a backup team should members suffer an exposure to hazardous materials.

### 5.3 Suffolk County Health Department Sanitarians

Suffolk County Health Department Industrial Sanitarians inspect local businesses for compliance with the County's environmental laws. They sometimes refer repeat offenders to the District Attorney for criminal investigation where the regulatory system has failed. As members of the Hazardous Material Response Team, they are trained and equipped to handle hazardous materials, and are certified by EPA as environmental samplers. At an environmental crime scene or search warrant, the sanitarians perform sampling operations under the direction of the detective assigned to the case.

### 5.4 Suffolk County Public & Environmental Health Laboratory

The Suffolk County Public & Environmental Health Laboratory is one of the largest, most comprehensive county operated facilities in the country. Fully certified to perform analysis on almost all types of environmental samples, it also performs routine water quality and air quality analysis to support regulatory programs. Forensic scientists from the laboratory, trained and equipped to handle hazardous materials, are members of the Hazardous Material Response Team. They are the "science officers" at all environmental crime scenes and search warrants. In addition to expert advice, they provide all necessary sterilized and prepared sample bottles. They assure that methods utilized at the scenes comply with EPA standards and that there is no cross-contamination of samples. They preserve and take physical custody of samples at the scene, and transport them to the lab where they are analyzed.

## 6 ADDITIONAL RESOURCES

In addition to prosecuting cases investigated by its own detectives, the Environmental Crime Unit works with criminal investigators from the New York State Department of Environmental Conservation. Cases investigated by the New York State Department of Environmental Conservation may be similar to those handled by the District Attorney's Office, or may arise out of wholly different regulatory programs, such as commercial fisheries or wildlife

protection laws. The Department has its own technical team, though the investigators may utilize the County's Hazardous Material Response Team in cases where the resources are necessary. Investigators also provide backup to Environmental Crime Unit investigators on labor intensive cases, or work jointly on investigations.

The New York State Attorney General has jurisdiction concurrent with the 62 District Attorneys to prosecute environmental crime. As a practical matter, criminal investigators in that agency direct most of their resources to counties which do not have active environmental crime units. Where appropriate, cases are investigated or prosecuted jointly. Cases are referred between the agencies where one or another office is better suited to handle them. Lines of communication are kept open to avoid duplication of effort and waste of resources among the offices.

The Criminal Investigation Division of the United States Environmental Protection Agency has Special Agents assigned to cover the region in which Suffolk County is located. The two agencies conduct joint investigations where appropriate, and readily provide investigative assistance or backup on their respective cases.

A wide variety of other federal, state and local law enforcement agencies refer cases or work jointly on investigations from time to time.

## **7 COUNTY-WIDE COMMITMENT AND KEYS TO SUCCESS**

The success of the Suffolk County District Attorney's Environmental Crime Unit is built on a wide variety of factors. A key factor is that the working teams, now written into County law, were built from the bottom up. The commitment of county workers from various agencies was a personal one. The county did not formalize protocols until long after they had been informally established.

The individual initiative of Steven C. Drielak in developing criminal investigative protocols for hazardous waste cases set the standard for all future work. The increasing leadership of experienced prosecutors, rather than civil environmental lawyers, assured that cases were developed utilizing the full power of the criminal justice system. It also assured that cases would be presented in court as serious crimes, not technical civil cases.

The County Health Department's comprehensive environmental program became a firm foundation for criminal enforcement in the county. Its conception and development must be credited to a handful of Health Department employees, among whom James H. Pim was a key participant. Its implementation was, and is, a credit to all the employees in the Department.

The County's Environmental Laboratory gives the Environmental Crime Unit an edge over other prosecutor's offices. The participation of forensic scientists during crime scene work assures that evidence gathering work of the Hazardous Material Response Team is of the highest caliber. Other law enforcement agencies may have to limit sampling work, because their scientific analysis is performed by contract laboratories which are paid from a limited budget. Suffolk County does not face that problem. The laboratory director, Kenneth C. Hill, is sought for expert advice by prosecutors nationwide. Within the County, his professional input is part of the routine.

The rules and procedures of the Suffolk County Police Department require that an officer responding to a call regarding hazardous materials take actions to protect the public. They also require that any site at which suspected hazardous materials have been abandoned be preserved as a crime scene. The officer must prevent anyone from walking through

potential footprints, tire tracks, removing or leaving physical evidence, or smearing fingerprints. That procedure, and the notion that hazardous waste dumping is a crime which can be solved, is a key element in solving such crimes.

The County's Hazardous Material Response Plan, adopted in accordance with federal law, is unusual in one respect. It incorporates within it a provision for a criminal investigation when the hazardous material incident is non-accidental. It provides for notification of Environmental Crime Unit investigators. It requires that control of the scene be turned over to them once any health threatening conditions or active discharges have been contained. By including that provision, the County made the apprehension of intentional polluters an official goal of county government.

## **8 THE ROLE OF THE COMMUNITY**

The final observation regarding Suffolk County's success relates to its citizens. From the early 1970s, they pushed their local government to protect them, to protect their environment, and to protect their water supply. The programs which grew in the county, on both a regulatory and law enforcement level, arose from the vocal concerns of the community.

It is probably fair to say that the residents of Suffolk County take local environmental enforcement for granted. They should. Nothing about our programs is viewed as unique, and our criminal cases are accepted as routine.

Because local government can respond quickly to its community, in this case it did. Without models from other jurisdictions, the individuals employed within various agencies simply did their best. They sought input from others. They applied their own knowledge, with a strong dose of common sense. And they maintained their flexibility to respond to changing conditions.

Returning to the articulated theme of this Fifth Conference, the lesson learned in Suffolk County has broad application. Individuals in local agencies can take action. In their own jurisdiction, a few good people truly can make enforcement and compliance happen.

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## IMPROVING THE QUALITY OF THE ENVIRONMENTAL TASK OF THE POLICE IN THE NETHERLANDS: A PERMANENT PROCESS

SPEL, A.

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### SUMMARY

To support the process of implementation of the environmental task of the Dutch police, in 1995 the Board of Chiefs of Police published a national environmental policy program. The main objective was the full integration of this task, which was quite young those days. Although this policy program was intended for the years up to and including 1998, the Board's Advisory Committee on Environment performed an interim review. This was primarily prompted by the results of the first implementation of the Monitor on the Environmental task of the Police of the Ministry of the Interior. Each regional force was requested to use this instrument to give both a quantitative and qualitative description of the current status. Besides quantitative data about for example enforcement activities, qualitative information was gained by means of a self-assessment per regional force, based on the Dutch version of the quality model of the European Foundation on Quality Management (EFQM). These self assessments showed that especially the following themes deserved further attention: structural question, commitment of management, providing information, cooperation and area-oriented approach. Discussing these themes, the Advisory Committee on Environment formulated 15 recommendations for improvement of the environmental task of the police. One of these comprises the 'rebirth' of specialists on environment.

### 1 FOREWORD

Dutch environmental policy distinguishes three types of environmental offences. Typical of *offences related to institutions* is that they are often committed in the context of normal business operations. *Offences in open spaces* are committed outside institutions. These involve not only offences literally committed in open spaces, but also violations of the environmental regulations for materials, products and waste substances and rules governing protected animals, plants and areas. *Serious crimes against the environment* concern exceptional, severe types of offences belonging to the first two categories. The distinction is thus not entirely clear-cut; however, it is functional because each type of environmental offence demands a specific enforcement strategy and specific means of enforcement.

Supervision of the compliance of institutions with environmental prescriptions is primarily the responsibility of the administration. If necessary, the police can provide assistance; it also steps in when the administrative enforcement measures are deficient and a criminal proceeding is in place. The investigation of offences in open spaces is preeminently a task for the police and is generally carried out in the context of regular surveillance. As is the case in other frequently committed offences, the police function here is that of ears, nose and eyes. Serious crimes against the environment generally take place as organized crime or organizational crime.<sup>2</sup> Criminal prosecution is indicated, which is why there are particular tasks for the police and the Public Prosecutions Department.<sup>3</sup>

## 2 INTRODUCTION

So in the Netherlands, as well as the administration and the Public Prosecutions Department, the police is involved in enforcing environmental legislation. The environmental task of the police however is relatively new: it was introduced at the end of 1991. But even before this new police task had the chance to mature, it was faced with far-reaching reorganization in 1994.<sup>4</sup> Which is why the environmental task of the police is said to have made a new start in 1995. To support this process, the Board of Chiefs of Police then published a national environmental policy program.<sup>5</sup> The main objective was the full integration of the environmental task of the police.

Although this policy program was intended for the years up to and including 1998, we performed an interim review. In consultation with the regional coordinators of the environmental task of the police and under my chairmanship, the Advisory Committee on Environment of the Board of Chiefs of Police examined the way the police fulfills its environmental task. The conclusion was quite positive. At the same time, because of the great efforts of a large number of police officers, a wealth of experience was gained that afforded greater and deeper insights. This helped to specify or revise certain intentions of the Board of Chiefs of Police environmental policy program.<sup>6</sup>

The interim review was primarily prompted by the results of the first implementation of the Monitor on the Environmental task of the Police of the Ministry of the Interior. Each regional force was requested to use this instrument to give both a quantitative and qualitative description of the current status.<sup>7</sup> The results were published mid 1997 and, when totalled, outline the following national picture.<sup>8</sup>

## 3 INPUT

In 1995, around NLG 100 million was available for the environmental task. With this, roughly 2.6% of the total police budget was allocated to environmental tasks, which helped finance upward of 700 full-time equivalents. 17% was intended for managers and specialists who spent at least half of their working hours on the environmental task. The more than 580 other positions were distributed over a much greater number of personnel belonging to the Basic Police Care section.<sup>9</sup> Because of the general nature of their work, the environmental task is one of their (many) sub-tasks.

Of the latter group, the vast majority (some 20,000) has since followed a training course on environment. In addition, the environmental task is an integral part of training for basic police care personnel and managers these days. At the same time, the package of accredited courses on environment is updated and expanded continuously. Modules were recently added in the field of sample-taking and the enforcement of 'green' laws.<sup>10</sup> These steps have resulted in by far the majority of Basic Police Care personnel being equipped to tackle relatively simple environmental offences.

Preconditions have also been created in the field of providing (computerized) information. In this context, a data dictionary for the environmental task of the police is set for completion in the near future. The development of two operating systems dedicated to environmental information is also in its last phase as is a project in which supra-regional exchange of data is possible. Furthermore, in 1997 the national Information and Expertise Centre was founded. Its primary task is the encouragement of the further professionalization of the environmental task in the forces and the support of the exchange of information and communication between them.

#### 4 ENFORCEMENT ACTIVITIES

According to the Monitor on the Environmental task of the Police, in 1995 roughly 135,000 calls were registered in the field of the environment.<sup>11</sup> Half of the specified environmental calls concerned noise nuisance; at the same time relatively few written reports were drawn up. This is because of the transitory nature of the offence that moreover entails one written report being drawn up based on numerous calls. Noise nuisance, just as for example air pollution, often rather requires a warning. Moreover, 'waste' and 'fireworks' also rated high with regard to both the number of calls and the number of written reports. But controlling and enforcing environmental legislation by the police is not simply directed at drawing up written reports. Nature conservation offences are often more conveniently dealt with by police transactions which is also reflected in the statistics. On the grounds of the Monitor on the Environmental task of the Police, the environmental task of the police is thus primarily focused on enforcing offences in open spaces.

Measured against the number of written reports, this is also confirmed in the following statistics of the Public Prosecutions Department. In 1995, the number of written reports drawn up by the joint investigation services increased with 13%. The increase in police efforts was proportionately higher, 21%. In addition, its share in the total number of environmental written reports increased from 61% in 1994 to 65% in 1995. This rise not only involves offences in open spaces but also serious crime against the environment: the categories in which the police has an independent task. Enforcing offences related to institutions, in which the police is dependent on the administration, lagged behind.

In 1996, the number of environmental written reports issued by the police seemed to stabilize, while its share in the total amount increased to 67%. At the same time, according to the statistics of the regional forces, the number of other environmental products such as police transactions rose, partly as a result of present day extended 'tit-for-tat' possibilities.<sup>12</sup>

#### 5 SELF-ASSESSMENT

Besides this quantitative data, the Monitor on the Environmental task of the Police also produced qualitative information. This was gained by means of a self-assessment per regional force, based on the Dutch version of the quality model of the European Foundation on Quality Management (EFQM).<sup>13</sup>

The EFQM model consists of nine correlating areas of attention: five focusing on organization (Leadership, Policy & Strategy, People Management, Means and Processes or Managing the Profession) and four directed at results (see Appendix 1). This concerns for example Customer Satisfaction and Impact on Society; matters of great importance for a service organization like the police. In addition the EFQM model distinguishes five levels of development that stand for a growth process: from focussing on isolated activities to total quality care.

With its use of the EFQM model, the Monitor on the Environmental task of the Police was in advance of a system of integral quality care for the entire Dutch police force that started in 1996. The system is characterized by a statutorily established approach in three steps. First, self-assessments are held in all regional forces, using the EFQM model. Because these self-assessments are implemented at the level of both subdivision and regional force, areas possibly in need of improvement become clear. This is followed by an external audit requested by the force management which comprises a critical consideration by colleagues from another region of the force's description of its own organization. The EFQM model also plays a central role here. This second phase is rounded off with a report which outlines both the strong points

and those aspects requiring improvement. After the audit, the force is given one year in which to implement the improvements, after which it is visited by a visitation committee that sets out the issues that have been concretely addressed and improved.<sup>14</sup>

The implementation of the system of quality care is managed by an organization specially set up for the purpose: the Quality Bureau for the Police. The aim is that all 26 forces will have completed the described process of self-assessment - audit - visitation by the year 2000. In the meantime a comparable process has been initiated for the 19 districts of the Public Prosecutions Department, while recently the umbrella organization of the Netherlands municipalities also decided to introduce the EFQM model.

The self-assessments of the regional forces in the context of the Monitor on the Environmental task of the Police have also shown that a number of - correlating - themes deserve further attention.

## 6 STRUCTURAL QUESTION

Enforcing environmental legislation is part of the general package of tasks of almost all regional forces, but the organization is divergent. Where in one region the environmental task is primarily housed in a separate office with (material) experts, in the other region, it is almost entirely dealt with by the Basic Police Care section, which is supported by only a few specialists. The environmental task of the police is, however, so complex that tasks that go further than recognition, registration and referral can only be efficiently carried out by specialists. In this context, Basic Police Care personnel seldom seem to draw up an environmental written report during their surveillance activities. They also often give a warning when a written report should be issued and the environmental written report they draw up mostly involve offences in open spaces. Moreover, police supervision of institutions is only of an incidental nature.

Against this background, in the context of the interim review of the environmental policy program of the Board of Chiefs of Police, the Advisory Committee on Environment concluded that the main objective of full integration of the environmental task has not been adequately achieved. Although it is true that integration is beginning to emerge in tackling offences in open spaces. But when there are no or too few specialists on environment involved, the approach of institution-related environmental offences hardly gets off the ground. A certain degree of specialism thus appears essential, and the Advisory Committee on Environment also argues for a 'rebirth of the environmental specialist'.<sup>15</sup> In the opinion of the Advisory Committee on Environment, (regional) coordinators and specialists on environment have a two-fold task. On the one hand, supporting the warning function of the Basic Police Care section and consequently coordination as well. On the other hand, implementation when the nature of the investigation requires.

This has consequences for the training programs. For an optimal result, it is essential to adapt these to the distinction between the tasks of specialist and generalist. But just as important are possibilities of putting knowledge gained on training courses on environment into practice. Which is why the Advisory Committee on Environment argues for forces being able to select their courses to match the target groups, thus investing less in the 'breadth' and more in the 'depth'.

## 7 COMMITMENT OF MANAGEMENT

Environmental offences have an unequal 'competitive position' because they differ from the other problems with which the police is faced. After all, the environment cannot defend itself or call on police assistance. Environmental problems also demand a long-term approach

- more so than other crime sectors - which makes environmental matters less dominant and concrete. Moreover (middle) management also has little affinity with the environmental task of the police, which entails capacity often being channelled into other priorities and success being largely dependent on the personal efforts of individuals.

For these reasons, the Advisory Committee on Environment finds that extra attention is required for prioritizing. If environmental problems need to compete with other investigation priorities, agreements must be made per region on the efforts to be made, synchronized with regional environmental issues and the results of earlier efforts. The Advisory Committee on Environment also gives importance to management support for the environmental task of the police and, on the basis of sufficient expertise, includes 'the environment' in daily prioritizing. For this reason, it argues that management staff should update their expertise on environment by following courses. At the same time, the Advisory Committee on Environment calls on the environmental task force of the police to invest more in their chiefs and, certainly when these don't respond, continually emphasize the reasons for their ambitions. In addition, the Advisory Committee on Environment would like each regional force to appoint a holder of the Environment portfolio at the level of chief of a district or division as an advocate in 'the line'. In the daily listing of priorities in the regional and district policy programs, he can request attention for the environment with a degree of authority.

## **8 PROVIDING INFORMATION**

Management and policy information based on facts is an important precondition for improving the quality of the environmental task force. This assumes insight into and of operations and task implementation. This requires good registration of data in the chain policy - implementation - evaluation. However, the Monitor on the Environmental task of the Police shows that the regional forces often have not established their operating processes dedicated to the environmental task and do not always list the means used, how much the activities cost and their results. This hampers the underpinning and evaluation of environmental plans. The environmental policy is thus not always integrated in the policy cycle of the police; too much still takes place coincidentally. Moreover, different registration systems are used which hampers both the ability to make good comparisons and drawing up a nationwide picture.

Against this background, the Advisory Committee on Environment argues for the general introduction of an information model developed in order of the Public Prosecutions Department (1996): 'Public Prosecutions Department, Police and the Environment'. This model affords the opportunity of steering on the basis of systematic registration: one of the preconditions for the organizational anchoring of the environmental task of the police. Partly because implementation is still not uniform, the Advisory Committee on Environment requests the Environment Platform, comprising the holders of the Environment portfolio of the three police boards<sup>16</sup>, to phase in the 'Public Prosecutions Department, Police and the Environment' model as soon as possible. Phasing in this model would include eradicating the great disadvantage that this system revolves primarily around hours assigned. The products mentioned by themes and target groups are only put into operation quantitatively which threatens to give too little attention to the qualitative aspect of the role and action of the police.

## **9 COOPERATION**

Many bodies have a place in the chain of Dutch environmental law enforcement, which involves a great degree of cooperation. The Monitor on the Environmental task of the Police shows that the police has acquired a strong position in regional networks on environment. At the same time, there is insufficient insight into tasks, policy and the ambition of partners even

though the partnership with the Public Prosecutions Department and municipalities is better developed than that with other partners. Consequently, cooperation is often still incidental and, above all, (too) little directed at actual enforcement. But all partners are satisfied with the cooperation with the police when it comes to concrete actions. Because this is still (too) little the case, the police is often blamed for not always being reliable. The question is how, given the heavy workload, they can utilize the capacity available to guarantee input for the environmental task when requested by the partners.

The Advisory Committee on Environment sees part of the solution in working more in accordance to a plan, for which a joint list of environmental problems is essential. On the basis of this and the formal task package of each enforcement partner, the police should also be able to make agreements on its specific contribution. In the view of the Advisory Committee on Environment the contribution should reflect support from the force management, the regional triangle<sup>17</sup> and the regional board.<sup>18</sup> Ultimately, these bodies should also establish the extent to which the environmental problems have been resolved. Then, policy intentions can be adapted and new agreements made. Each year, capacity might be allocated to a predetermined number of investigations into institution-related environmental offences.

## **10 AREA-ORIENTED APPROACH**

In the context of area-oriented environmental enforcement, the Dutch police force experiments with the simultaneous enforcement of the Town and Country Planning Act and the acts in the field of environmental protection and nature conservation. In cooperation with the enforcement partners, agreements are set down in an area covenant about the harmonization of rules and standards with the specific aspects of the area concerned. Such an approach involves more stakeholders than tackling the three areas of attention individually. In this way, area-centered environmental law enforcement yields more than the sum of the parts.

In the Netherlands, the police also works towards 'bringing blue closer to citizens'.<sup>19</sup> In this regard, the Basic Police Care is increasingly carried out in a limited, specific area. In the context of this area-accountable police care, also promising environmental projects are set up. By way of illustration, Basic Police Care personnel maintain structural contacts with companies through which they are better able to tackle simple institution-related offences, with specialist support if need be. But specialists also benefit from area-accountable police care. In tackling the complicated institution-related offences, they can make use of information known to the Basic Police Care personnel on the companies concerned. The area-centered approach to environmental problems thus takes numerous forms, depending on the goal. Because both working methods described provide good results, the Advisory Committee on Environment requests special attention for both.

## **11 POINTS FOR IMPROVEMENT**

Prompted by the self-assessment based on the EFQM model in the context of the Monitor on the Environmental task of the Police, each region has formulated points for improvement. Analogue to this, the recommendations of the Advisory Committee on Environment largely based on the collected self-assessments can be seen as national points for improvement. In summary, this concerns recommendations such as those in the diagram below, placed against the background of their origin, the EFQM model. In the successor to the Board of Chiefs of Police environmental plan, set to be published in 1999, the Advisory Committee on Environment hopes to be able to sketch an outline for the implementation of these national recommendations.

Also by 1999, the system for integral quality care will have been more or less generally implemented. New objectives for environmental legislation enforcement by the police will be formulated on the basis of the EFQM model. The mid-term review of the Advisory Committee on Environment, the main points of which are presented here, already dovetails with the same system. With this, improving the quality of the environmental task of the police is at the forefront, which could give it extra impetus. I look forward to keeping you informed of developments at a later date.

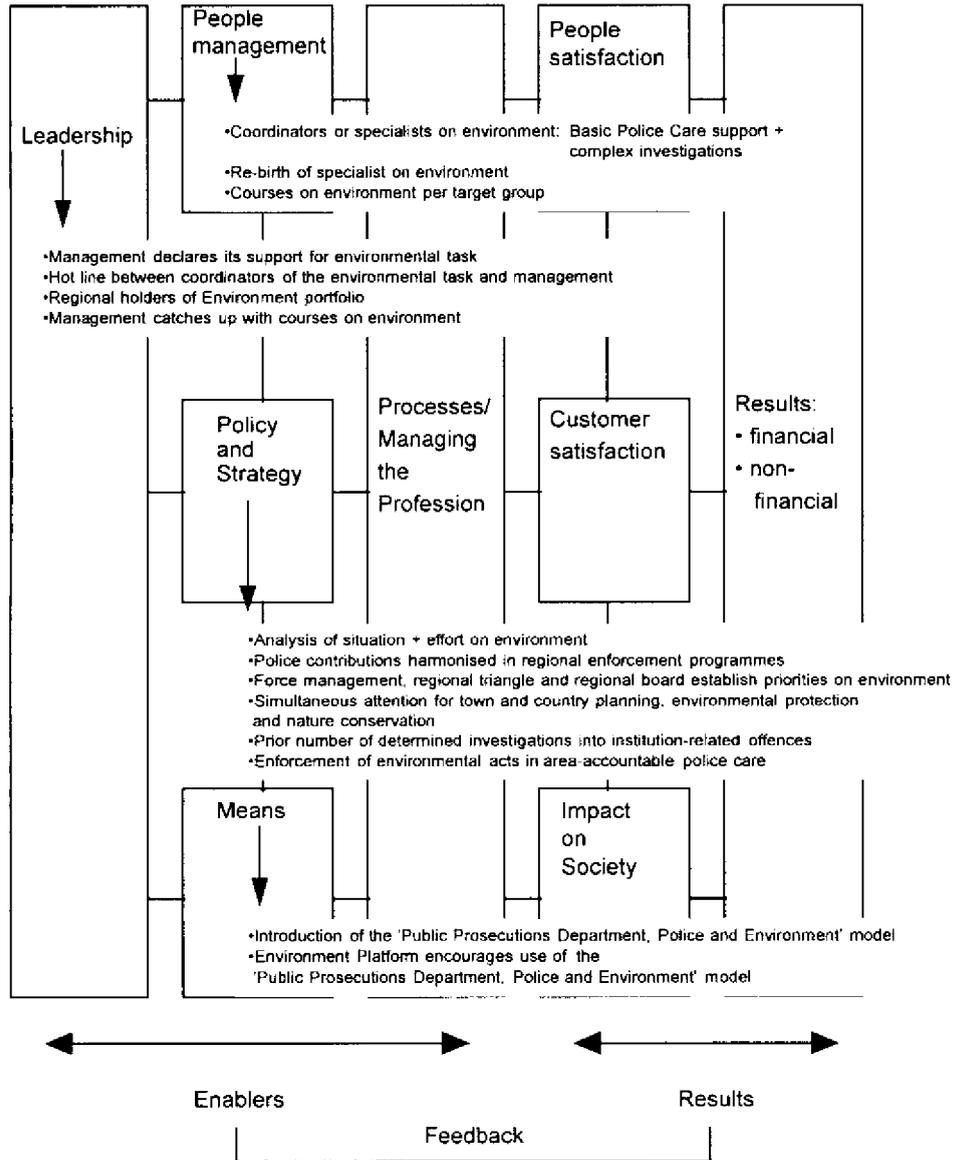
## ENDNOTES

1. One of the tasks of this Board is, for example, to supervise the processes of development and change within the (26) Dutch police forces.
2. Where the former concerns the systematic perpetration of crime, organizational crime is motivated by improving the trading results.
3. In the Netherlands, both police officers (general investigation service) and officials of certain control services (special investigation services) appointed by the administration have investigative powers on certain environmental offences.
4. On this occasion, not only the management and supervisory structure were amended; 148 individual municipal forces and 17 district forces of the national police were also combined into 25 regional forces and 1 national police service agency. This involves a total of 40,000 men and women.
5. Because the 25 regional forces are autonomous and environmental problems can best be tackled on the basis of a regional/local analysis, this policy program intends to offer the main points of a national context.
6. See the report entitled 'Tussenbalans' (meaning: interim review; March 1998) that sets down these points, and which served as the basis for this paper.
7. With respect to quantitative aspects (finance, organization and results), the report concerns 1995: the qualitative information concerns the situation in the second half of 1996.
8. At the time of the first implementation of the Monitor on the Environmental task of the Police, in many regional forces the information registration system was not operating efficiently. This had consequences for the mutual comparability and reliability of data. For this reason, comments are made on a relatively high level of abstraction.
9. Basic Police Care is understood to mean: all first line police activities (such as surveillance, traffic control, dealing with accidents, assistance and investigating punishable offences) which require no exceptional specialisms or specialist services.
10. These are laws concerning the nature conservation such as the Flora and Fauna Act and the Forestry Act.
11. Because this concerns the first implementation of the Monitor on the Environmental task of the Police, no comparative information is available, which is why no developments can be sketched and a value judgement is impossible.

12. The 'tit-for-tat' method enables same-day settlement through an abridged written report of environmental offences where the proof is simple and the perpetrator caught in the act.
13. The EFQM model was developed under the auspices of fourteen captains of industry. For the Netherlands and other countries, a national version of the model exists. The headquarters of the foundation in question are in Brussels.
14. This committee always comprises a Force Manager, a Public Prosecutor and a Chief of Police, thereby representing the managerial and command hierarchy within the Dutch police.
15. With the reorganization of 1994 mentioned above, the specialist units that existed for juvenile crime, vice and the environmental task were disbanded in favor of the Basic Police Care section: hence talk of a 'rebirth'.
16. Not only the Chiefs of Police, but also the Force Managers and the Public Prosecutors have united in boards. In addition to their usual main tasks, the holders of the Environment portfolio are involved with (national developments in the area of) environmental law enforcement in particular and on behalf of their boards.
17. This comprises the Force Manager, the Public Prosecutor and the Police Chief Commissioner of the region concerned.
18. In addition to the Force Manager, this comprises all other lord mayors of the municipalities in the region concerned. The meetings of the regional college are attended by the Public Prosecutor and the Police Chief Commissioner.
19. Blue is the color of the Dutch police uniform.

**APPENDIX 1**  
**DIAGRAM: EFQM MODEL INCLUDING THE 15 RECOMMENDATIONS**

EFQM-model





## WORKSHOP 3C CITIZEN ENFORCEMENT

Discussions will build on papers published in prior proceedings of the International Conferences. In addition, discussions will benefit from a new capacity building support document on the subject of "Citizen Enforcement" which has been commissioned for the Fifth Conference and which will attempt to pull together all the materials developed to date on the issue. This workshop will seek to build upon the list of recommendations for public role in environmental enforcement developed by participants at the Fourth International Conference focusing in this workshop on the citizen as "enforcer" as distinguished from workshop 2B which examines the public role in promoting and monitoring compliance.

Papers and workshop discussions will address the following issues:

- Mechanisms used to empower citizen enforcement: what authorities exist in different countries and how this authority has been exercised to provide for a citizen role as private enforcer of environmental law, including
  - Citizen ability to bring enforcement cases (standing and other issues);
  - Citizen ability to ask for review of government decisions; and
  - Remedies available to citizen enforcers.
- How are these provisions are working and what impediments exist to realizing their potential; how such provisions can be supported and encouraged in countries without this citizen authority.
- Relationships that might be established between governmental agencies mandated to enforce requirements and citizens empowered to enforce the law and what are the advantages and disadvantages of different relationships.
- Citizen role as support to government enforcement efforts, including:
  - Government cooperation with citizens during enforcement proceedings;
  - Citizen ability to join government enforcement efforts; and
  - Citizen review of government and violator settlements before they are finalized.
- How these kinds of opportunities for cooperation and support are working; what impediments exist to realizing their potential.
- "Meaningful access to information" and how important a role it plays as a prerequisite to effective citizen enforcement, including:
  - Access to monitoring information as discussed at earlier workshops;
  - Access to other relevant government-held information;
  - Access to information concerning government enforcement efforts; and
  - Access to privately-held information.

- What would be needed to move countries in the direction of the set of citizen participation opportunities identified at the Fourth International Conference.

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1.	Citizen Environmental Enforcement in Russia: The First Successful Nation-Wide Case, <i>Mischenko, Vera and Rosenthal, Erika</i> .....	419
2.	Environmental Compliance and Enforcement Through Public Litigation in the Godavari Area in Nepal, <i>Belbase, Narayab</i> .....	423
3.	Civil Enforcement of Environmental laws in Australia, <i>Johnson, James</i> .....	435
4.	Public Interest Environmental Litigation: A Tool to Ensure Compliance and Enforcement, <i>Habib, Ehsanul</i> .....	445
5.	Synopsis of Tools for Citizen Enforcement of Environmental Law .....	453

*See also Workshop 2B: Encouraging Public Role in Compliance Monitoring and Impact of Public Access to Environmental Information/Community Right to Know Laws on Compliance and Enforcement Programs*

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See related papers from other International Workshop and Conference Proceedings:

1. The Role of Citizens in Environmental Enforcement, *Bowman, M., Dobbins, J., Roberts, E.*, Volume 1, Budapest, Hungary, 1992, Pages 531 - 559
2. Citizens Role in Enforcement: a Spur, a Supplement, and a Substitute, *Hallo, R.* Volume 1, Budapest, Hungary, 1992, Pages 561-572
3. Citizen Participation in U.S. Environmental Enforcement, *Breggin, L., van Heuvelen, R.*, Volume 1, Budapest, Hungary, 1992, Pages 573 - 587
4. Enforcement of EEC Environment Legislation: the Role of Citizens and Citizens' Groups, *Klatte, E.*, Volume 2, Budapest, Hungary, 1992, Pages 169 - 195
5. The Role of the Russian Public in Environmental Enforcement *Brinchuk, M.M.*, Volume 2, Budapest, Hungary, 1992, Pages 197 - 198
6. Public Disclosure and Citizens' Role in Enforcement, Summary of Theme #7 Discussion, *DeLong, A., Reporter*, Volume 2, Budapest, Hungary, 1992, Pages 231 - 234
7. Popular Actions and the Defense of the Environment in Columbia, *Sarmiento, G.*, Volume 1, Oaxaca, Mexico, 1994, Pages 261 - 264
8. Country Experiences in Designing Elements of an Environmental Enforcement Program — Case of El Salvador, *Navarrete Lopez, G.*, Volume 2, Oaxaca, Mexico, 1994, Pages 97 - 105
9. The Evolving Role of Citizens in Environmental Enforcement, *Austin, J., Bass, S., Casey-Lefkowitz, S., Futrell, W.J.*, Volume 1, Chiang Mai, Thailand, 1996, Pages 221 - 235

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## **CITIZEN ENVIRONMENTAL ENFORCEMENT IN RUSSIA: THE FIRST SUCCESSFUL NATION-WIDE CASE**

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### **SUMMARY**

On February 16, 1998 the first hearings began on a suit initiated by the Ecojuris Institute to challenge illegal Russian government decrees withdrawing environmental safeguards from over 36,000 hectares of strictly protected "First Group" forest land.

The suit contested decrees signed by then Prime Minister Chernomyrdin converting large swaths of First Group forests into "non-forest" land, thereby allowing these forest parcels to be clear-cut and used for commercial or industrial development. The decrees were issued without the legally mandated Russian governmental Environmental Impact Review, or "Expertiza." The forests at risk were located across Russia, from the Moscow oblast in the west to the Khabarovsk in the Far East. Forests with important watershed protection value, riverbanks, greenbelts and endangered species habitat are classified as "First Group" forests and are strictly protected under Russian law.

### **1 THE COMPLAINT FILING**

The complaint was brought on behalf more than 100 plaintiffs from across the country, many of whom packed the courthouse on the first day of hearings. Plaintiffs included Russia's largest national environmental NGOs, the Socio-Ecological Union and the All Russian Natural Protection Society, regional groups such as the Union of Ecologists of Bashkortostan and the Tomsk Environmental Law Center, several Directors of Leskhoszy (local departments of the Federal Forestry Service), and the Chair of the Environment Committee of the Russian Parliament, Tamara Zlotnikova, among others.

When the Ecojuris Institute initially filed the complaint in April 1997, the Supreme Court refused to hear the case claiming that the decrees were "normative," or standard-setting acts that citizens had no right to challenge. Ecojuris Institute appealed to the Presidium of the Supreme Court (an appellate panel) arguing that by refusing to hear the case the Court was effectively denying Russian citizens access to justice, and that the decrees were not normative, but in fact had particular, one-time real world consequences — stripping protections from distinct critical forest habitats.

The Presidium agreed, abolishing the first decision of the Supreme Court and obliging the Supreme Court to hear the case as the Court of first instance.

### **2 THE HEARING**

During the first hearing Ecojuris lawyers offered a long series of expert testimony from across Russia documenting the unique biodiversity value of these forests, as well as the environmental damage that had already occurred — including clear cutting and even the

construction of a chemical plant on former First Group forest land in the Ural mountains. Neither the original government decrees, nor any of the subsequent commercial and industrial development, had an environmental impact review, as legally required.

The Russian Government was represented in the case by the Federal Forestry Service, the agency that had prepared all the substantiating documentation for the Chernomyrdin decrees. The Forestry Service refused to make these documents, which specify plans for the reclassified forestlands, available to Ecojuris and its clients, and the judge refused to issue an order compelling provision of documents by the Service. Moreover, both the Federal Forestry Service and the State Committee on Environment (formerly the Ministry of Environment) claimed that the issuance of the decrees, in and of themselves, caused no environmental damage and therefore did not require an environmental impact review. Yet, when questioned in court, the Federal Forestry Service itself had to admit that over 80% of the reclassified forest land in Chelyabinsk province in the Urals, for example, had already been developed!

The Ecojuris Institute was supported in the case by many local departments of the State Committee on Environment (Goskompriordas) and regional Water Protection Agencies, as well as by the Moscow Sanitary-Epidemiological Service and the Institute of State and Law (the legal branch of the Russian Academy of Sciences). Critical support also came from the Prosecutor General of the Russian Federation, whose representative testified that a federal Environmental Impact Review was obligatory, and that clearly environmental harm could result from the issuance of these government decrees.

Although the case had the support of many government agencies and respected scientists and jurists, the prognosis looked bleak until the last moment. During the hearing the Supreme Court repeatedly — and illegally — refused many of Ecojuris' motions, including a motion to add new plaintiffs from Karelia in the North to Sakhalin Island in the Russian Far East. Additionally, the Court arbitrarily refused to allow many of the plaintiffs' expert witnesses to take the stand. Ecojuris petitioned to have the recalcitrant Justice removed, but that motion was denied as well.

Thinking the case was lost, and looking ahead to appeal, Ecojuris decided to risk a bold protest move in closing arguments. Russian civil procedure allows representative plaintiffs and key witnesses, in addition to the lawyers for the plaintiffs and defendants, to make a closing statement at the end of a hearing. So Ecojuris lawyers, the lead plaintiffs and the expert witnesses all stood up at the closing of the hearing to condemn the Justice's illegal actions. Both Ecojuris Institute and the Russian Prosecutor General's office stated that they, along with the many citizen and NGO plaintiffs in the case, had done their best to protect Russia's forests and unique biodiversity, as well as citizens' constitutional right to a healthy environment. Now it was the Supreme Court's responsibility. They reminded the Justices that citizens and press from across Russia and around the world were watching.

### **3 THE DECISION**

The Justices recessed for almost two hours to deliberate their historic decision.

And so it came to pass that after three tense days of hearings, the Russian Supreme Court ruled in favor of Ecojuris Institute, declaring illegal 12 government decrees withdrawing protections from over 18,000 hectares of strictly protected "First Group" forest land. (These decrees had been issued under the old Fundamentals of the Forest Legislation, prior to the adoption of the new Forest Code in 1996. The Court decided to consider the complaint against the later decrees, issued under the new Code, in a separate case.)

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#### 4 THE FUTURE

This case marked the first time in Russian history that a complaint against the government, brought by citizens and NGOs from across Russia, was heard and decided by the Supreme Court. Moreover the case sets important legal precedent marking the first time that a government act was declared illegal and invalidated by the Supreme Court based on failure to comply with the 1995 Law on Environmental Expertiza. The environmental expertiza is a cornerstone of Russian Environmental Law, and a critical tool both for building participatory democracy, and for addressing the potential environmental, social and economic consequences of government decisions and commercial development alike.

The Court's decision paved the way for Ecojuris and the coalition of plaintiffs to file a similar complaint to invalidate additional government decrees that would strip protection from thousands more hectares of First Group forest. This second forest protection case is currently pending. Many additional plaintiffs have joined the suit. To test new provisions of the Russian procedural law, Ecojuris filed the case on behalf of all current and future generation of Russian citizens, as authorized under the 1995 Civil Code. Having heard of the suit via the mass media, citizens from all quarters of the country have been sending telegrams and faxes authorizing Ecojuris to represent them and their progeny.

The "First Group Forest" cases, along with Ecojuris ongoing challenge to the construction of a high-speed rail link bisecting a national park and nine protected areas between Moscow and St. Petersburg, are helping to steer a new course for environmental enforcement in Russia. These cases mark a critical test both of the Russian government's commitment to environmental protection, and of the ability of the highest Russian courts to uphold the Rule of Law when the interests of critical forest habitats, endangered species, and Russian citizens are at odds with government acts and billion dollar development projects.



## ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT THROUGH PUBLIC LITIGATION IN THE GODAVARI AREA IN NEPAL

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### 1 BACKGROUND

The main village of Godavari is situated at the base of Phulchowki mountain, approximately 16 kilometers from central Kathmandu. Phulchowki mountain is the highest peak in the Kathmandu valley, ranging from 1525 to 2765 meters, covering an area of approximately 50 square kilometers. "Godavari" may refer generally to the entire area surrounding the Phulchowki mountain, but more specifically it refers to the villages within the boundaries of the Godavari Village Development committee. Godavari is also the home of the Royal Botanical Gardens, the National Herbarium and the National Fisheries.

#### 1.1 Environmental Background

One of the most impressive features of Godavari is its wealth in terms of biodiversity. Godavari is one of the last remaining mid-hill forest regions in Nepal. Experts have concluded that Phulchowki hill is the only subtropical, broad-leaved forest in the country which is still worthy of protection.<sup>1</sup> The precious ecosystem of the Phulchowki mountain forest harbors an abundance of flora and fauna. As reported by the International Council for Bird Preservation, "*Phulchowki's forest is remarkable for its floral diversity with 571 angiosperms, two gymnosperms, and 80 species of ferns and fern allies recorded.*"<sup>2</sup>

There are 256 different species of birds in Godavari, 17 of which are endangered in Nepal, and 6 of which are considered threatened species worldwide. To put these figures into perspective, it should be noted that in all of North America there are 665 species of birds. Nepal, the size of one state in the United States of America, has over 800 species. Kathmandu valley has over 400 of Nepal's bird species, and over half of these are found in Godavari. In this light, Godavari is truly a bird sanctuary unlike any other in the world.

The Phulchowki hill forests also provide habitats for a number of rare butterfly species, such as the Sikkim Hairshreak, the Pale Hockeystick Sailor, the Blue Duchess, and the Naga Hedge Blue. In terms of larger mammals, Godavari boasts of leopard, Himalayan black bears, barking deer, Jungle cats, martens and mongoose. Additionally, in recent years, spiders and insects with important scientific value have been found in Godavari which were previously unknown to mankind.<sup>3</sup> The Godavari of years past was renowned for its plentiful water source. Deforestation, erosion and industrial activity have greatly diminished the water carrying capacity, and have severely degraded the quality of the available water which remains. Local people rely on the river fed by Phulchowki mountain for their domestic and agricultural water requirements.

#### 1.2 Cultural Heritage Background

Godavari hosts a number of significant cultural and religious sites. One such site is "Naudhara", the nine natural water taps at which people have historically gathered to collect water and to bathe. The Bhagwati temple is of extreme importance to the Hindu religion. Every

twelve years, Hindus from around the world make a pilgrimage to this special temple, and the people of the Godavari villages hold it in very high regard. There is also another temple, devoted to Shiva, as well as a pond with cultural legendary significance.

Aside from the temples and religious value of the area, the pristine natural beauty of the Phulchowki mountain and lush greenery of Godavari forests provide further cultural importance. The Royal Botanical Gardens of Nepal are located in the center of Godavari, as well as a tree-planting site for foreign dignitaries. Thus, the area is of great appeal to tourists as well as being a place of national pride. The National Fisheries, National Herbarium, and Royal Botanical Gardens also serve as research and educational centers for scientists, botanists, biologists, and students from the Kathmandu valley and elsewhere in Nepal.

## **2 ENVIRONMENTAL IMPACTS OF INDUSTRIAL ACTIVITIES**

### **2.1 Deforestation**

The rate of extraordinary rapid environmental degradation and resource depletion in the Godavari area is greatly attributed to the industrial operations of the Godavari Marble Factory and the Himalayan Brewery. The marble factory has been in operation for over sixty years, but until the mid-1970's, only small scale mining and extraction was performed. In the past two decades, the marble factory has drastically increased its production, especially by expanding its extraction of boulders and aggregates to meet growing construction demands of the Kathmandu valley. Perhaps the most visibly striking impact of the quarry is the enormous scar on the face of the Phulchowki mountain. Amidst the beautiful green hills, in the center of Godavari, there now stands an offensive red gash in the mountain. What once provided an exceptional view of lush forest, is now a shamefully disgraceful view from all points of interest in Godavari.

The marble quarry has severely damaged the lower slopes of the Phulchowki mountain. The quarry has caused severe deforestation of the surrounding hills, which has in turn deprived the villagers of their fuelwood supply, and contributed to soil erosion and runoff problems which are particularly threatening during the monsoon season. Another consequence of the deforestation is the threat it poses to biodiversity. The endangered species of birds, butterflies, plants, and other flora and fauna found in the Godavari forests are being pushed further toward the brink of extinction as the deforestation continues.

### **2.2 Water Supply and Quality**

The water supply in Godavari has been steadily decreasing, directly corresponding to the increasing industrial activities of the marble factory. The factory consumes a great amount of the local water supply for the operation, cooling, and cleaning of its equipment. The deforestation and erosion of the hills that has been caused by the quarry decreases the carrying capacity of the watershed, and increases the red-soil runoff which contaminates the river and adversely affects the irrigation of the local villagers' crops.

The depletion of the water resource in Godavari is most clearly evidenced by the fact that of the nine taps at Naudhara, only four remain flowing, and even this is only a mere trickle compared to the water flow ten years ago. The blasting and mining is directly disrupting the natural faults which lead to the water source.

The Himalayan Brewery is also consuming vast amounts of water. The studies which have been undertaken to date have contradictory findings with regard to the comparative consumption of water between the brewery and the marble factory. In any case, however, the marble factory presents a direct threat to the source itself. The main threats of the brewery are consumption and contamination by the discharge of effluents. The latter may be controlled and monitored, whereas irreparable harm will be suffered if the source itself is damaged. Further research should be undertaken to ascertain the true relationship between these two industries and the depletion of the water resources of Godavari.

In addition to water supply, the marble factory and the brewery are degrading the water quality. As mentioned above, rain washes red-soil runoff and limestone dust from the quarry and factory premises directly into the river, seriously contaminating the source of water used by the majority of the local people for irrigation, drinking, cooking and cleaning. The stream waters used for the irrigation of approximately 3000 hectares of local crops are of such high silt content that the soil fertility and productivity have drastically declined<sup>4</sup> and the crops are often plastered over, destroying entire harvests. The factory constructed settlement ponds on the premises when pressured to control the harmful effects of the calcium-carbonate sludge that the factory was discharging into the river. However, the ponds did not function properly, and the factory has not been forced to employ effective treatment methods or technologies. Contributing even further to the degradation of the water quality is the lack of sanitation facilities for the 300-400 laborers employed at the factory, who live near the quarry premises, and urinate, defecate, and dispose of garbage in the river upstream of all the local villages. The effluents discharged by the brewery also present a critical threat to the local villagers. To date, the brewery has not installed any form of treatment plant and is discharging its effluents directly into the river.

### 2.3 Noise Pollution and Blasting Dangers

One of the most directly intrusive impacts of the marble factory is the noise that emanates from the drilling, crushing, and blasting activities. The drilling is usually constant throughout the day, and frequently throughout the night as well. It is undeniably heard throughout St. Xavier's boarding school, which is situated directly at the base of the hill on which the quarry is located. The drilling also resounds throughout the nearby villages of Kitini and Manidanda, as well as the small village surrounding the Godavari pond. Local villagers cite the noise from the quarry as one of their foremost complaints.

Blasting occurs periodically throughout the day, but has been observed to occur as frequently as 22 times in a period of three minutes. The blasting not only exacerbates the noise pollution, but also sends boulder fragments flying into the school grounds at St. Xavier's and nearby villages. School officials from St. Xavier's have reported that soccer ball sized rocks weighing up to twenty kilograms have been found on school premises, and often the rocks are projected with such force that they actually pierce the roof of the school buildings.

### 2.4 Air Pollution

A related impact of the drilling, blasting, stone-crushing, and truck transport to and from the marble factory is the increase in air pollution. Clouds of dust can be seen throughout the day as the drilling proceeds, and particularly when blasting occurs. The dust and air pollution are also among the most frequently cited complaints of the local people.

The foregoing presents a brief overview of the extreme importance of Godavari in terms of environmental issues. Continued deforestation of the Godavari mid-hill range will threaten biodiversity and the survival of a significant number of threatened species of birds,

butterflies, insects and wildlife. It will also deplete the water resources of the area. This poses a critical threat to the populations of the local villages that depend on the water supply to irrigate their crops and which often it constitutes their entire means of survival. Industrial consumption and contamination of the water in Godavari is a blatant case of environmental injustice for the impoverished village communities. Furthermore, without being given a meaningful voice, the local people will inevitably be forced to live with the noise, dust, unsanitary conditions, and blasting dangers which have invaded their lives since industry has arrived in the community. Finally, the cultural and religious value of Godavari's Royal Botanical Gardens, Naudhara, and the Bhagwati temple (site of the twelve year mela), will similarly suffer from the depletion of water, the loss of biodiversity, and the severe degradation of the natural aesthetic beauty of the Phulchowki mountain and surrounding hills.

### **3 PUBLIC OPPOSITION AND GOVERNMENTAL ACTION**

A number of non-governmental organizations and advocates from Kathmandu, as well as several local clubs in Godavari, have launched efforts in the past to restrict the industrial development in Godavari and protect the environment. Despite the fact that these efforts have been ongoing for many years, none of these efforts, have resulted in any significant change in the industrial activities. The environment is still being exploited and degraded at an exponential rate. One of the aims of this case study is to identify the reasons why such efforts have not been effective.

#### **3.1 Public Opposition**

At various times in the past decade, different groups have spoken out against the industrial operations of the marble factory.<sup>5</sup> Street rallies and processions were organized by non-governmental organizations and advocates. Over 20,000 signatures were gathered for a petition ultimately delivered to the Prime Minister demanding closure of the quarry. A large number of organizations in the Kathmandu valley joined together to form the short-lived "Save Godavari Coalition," which discussed issues and strategies related to opposing the marble factory.

#### **3.2 Governmental Action**

The government did respond to the pressure it received to act in Godavari. Altogether, the government set up three Task Forces. The first Task Force was set up in 1989 by the Ministry of Forests and Soil Conservation. The second one was set up in 1990, again by the Ministry of Forests and Soil Conservation. The last and most recent one was set up in June 1993 by the Council for Conservation of Natural and Cultural Resources. Each of these Task Forces has recommended that the marble factory be closed. The 1993 Task Force study and report is the most comprehensive, and its recommendations are also very practical. The majority of the Task Force members recommended that the operation of the marble factory should be stopped by the fiscal year 2050-51, (1994-1995) and the Himalayan Brewery should build and install a waste water treatment facility within six months of submission of the Task Force report to the government. However, even five years after the recommendation of the Task Force the Marble Factory has not yet been closed and the Brewery has not yet installed a waste water treatment plant.

### 3.3 Writ Application

LEADERS Nepal, a non-governmental organization, filed a writ in the Supreme Court of Nepal against the Godavari Marble Industry, the Ministry of Industry and Cabinet Secretariat and others, seeking closure of the marble factory in May 1989. The Court handed down the verdict on 31 October 1995. In its decision the Court did recognize that effective mitigation and corrective measures had not been taken for environmental conservation. However, the Court did not order closure of the marble factory. Rather, it issued an advisory directives to the Ministry of Industry, Cabinet Secretariat and others to enforce the Mines and Minerals Act, 1986, enact legislation for the conservation of air, water, and the environment, and take appropriate measures for the conservation of the environment of Godavari area. The Supreme Court observed:

"That there is no doubt that the petitioner has a concern for environment. As environmental conservation is a matter of public concern and interest, it does fall under public interest. Therefore, the petitioner undoubtedly has a meaningful relationship with the issue. As the present constitution under its Article 88 (2)<sup>6</sup> has established public interest as a fundamental right, whether the petition has locus standing is no more an issue.

Right to life includes right to clean and healthy environment. In order to conserve the environment, it is essential to enact a special legislation and implement it effectively. No human activity can be properly managed or regulated if the legislation is lacking. Legislation is also indispensable to define environmental offense and crime and make provision for punishment. The court cannot penalize, or pass an order for the closure of an industry in the absence of relevant legislation. As the existing legislation are scattered, inadequate and ineffective, a legislation which covers every component of environment needs to be enacted.

When the Executive does not enforce the legislation enacted by the Legislature, it cannot be said that the Executive has been willing to work as per the intent of Legislature. Although the government has considered trivial matters, it has not taken into account the Directive Principles of the constitution and national and international public opinion. It is therefore imperative to enact an environment protection legislation, as soon as possible, in order to put the anomaly concerning this issue to an end and to give practical shape to national and international obligation related to environment.

There is no doubt that industry is the foundation stone of national development. The nation and society both need development, but it is essential to maintain environmental balance and operate industries. It is necessary to strike a balance between priority to environmental conservation and providing continuity to development activities.

Initially, curative and regulatory measures need to be adopted for the mitigation of negative environmental consequences. If goals of conservation are not achieved by such measures only then polluting activities should be brought to a halt. Development is for the benefit and prosperity of human beings. Therefore, human life is an end, development being the means to live happily. Human beings cannot lead a decent and healthy life in a polluted environment. This fact should be kept in mind while adopting measures to prevent environmental degradation."

It was observed that the the Department of industry had provided the land to the industry by a lease agreement between the two parties. The lawyer of the petitioner also raised the issue that the government can terminate the agreement if it feels that it is necessary in the public interest. His plea was that the Court should issue a mandamus directing the government to revoke the license given to the industry on broad public interest. However, the power given to the government to revoke the license is discretionary. Thus, the Court cannot compel the government to exercise its discretionary authority. Mandamus is issued to fulfill legal duty. As

the applicant is not able to show which Section of which Legislation provides for such a duty of the government, writ of mandamus cannot be issued. But, as no effective and satisfactory curative measures have been taken for the conservation of such a sensitive and humane matter of national and international significance as the environment of the Godavari area, the Court issues this directive to the respondents to enforce the Mines and Minerals Act 1985, enact necessary legislation for the protection of air, water, and environment, and undertake appropriate measures for the conservation of Godavari area.

However, even after almost three years since handing down of the verdict, the government has not enforced the Mines and Minerals Act 1986 yet.

#### **4 INTERNATIONAL ENVIRONMENTAL COMMITMENTS**

Nepal is party to about 20 international environmental treaties. The most relevant and important among these treaties for Nepal are the:

- 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat.
- 1972 Convention Concerning the Protection of World Cultural and Natural Heritage.
- 1973 Convention Concerning the International Trade in Endangered Species of Wild Fauna and Flora (CITES).
- 1985 Vienna Convention on the Protection of the Ozone Layer.
- 1989 Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.
- 1992 Convention on Biological Diversity.
- 1992 Convention on Climate Change.
- 1994 Convention to Combat Desertification.

The membership of these treaties carries certain obligations that exert some influence over environmental policy. A strong national commitment and complementary legislation are needed to make such international environmental instruments truly effective. The implementation of these treaties at the national level is very weak, mainly because no specific policy has been formulated and no domestic legislation has been enacted to do so. The government seems to ignore international environmental treaty obligations by not formulating necessary policy and legislation for the implementation of international treaties. Very superficial policy and legislation do exist for the implementation of some of the above mentioned conventions. The Nepal Treaties Act 1991 categorically requires the government to enact legislation, if so required, for national implementation of the convention to which Nepal is party. Despite such a clear legal requirement, specific legislation for the implementation of conventions such as CITES lacks mechanisms for ensuring compliance and enforcement of international environmental obligations.

## 5 COMPLIANCE<sup>7</sup> AND ENFORCEMENT

This case study illustrates the degree of environmental enforcement in Nepal. It is not that there was or are no environmental requirements. Industrial facilities and their activities are regulated by the Industrial Enterprises Act, 1992. In 1989, when the writ was filed in the Supreme Court, the Industrial Enterprises Act 1982 was in force. Under Section 15(d) and (e) of that Act, the government was empowered to issue directives to industries in relation to environmental pollution and protection of the public interest respectively. Any directives issued by the government were binding. In case of noncompliance of any directives, the government was even empowered to close down such industry.

One of the basic conditions in almost all of the licenses issued since the mid 1980's is to control pollution. This is a broad responsibility imposed on any industrial facility by the license. Owing to various reasons, monitoring of pollution caused by various industries is very weak. Had the government monitored the marble factory's failure to control pollution and exercised powers under section 15 of the Industrial Enterprises Act 1982, industries such as the Godavari marble factory would have either been forced to control the pollution they caused or been closed down long ago.

Various questions arise from the state of the environment in the Godavari area, and the movement's and the judiciary's effort to resolve the issue. In spite of establishing the three Task Forces in a span of four years, why did the government not issue an order to close of the Godavari factory? Why did the government not issue any directives under Section 15 of the previous Industrial Enterprises Act 1982 ? Despite its finding that the Godavari Marble Factory is polluting the Godavari area, why did the Supreme Court not order closure of the factory or impose stringent environmental impact mitigation requirements? Why have water quality standards not been developed under the Water Resources Act 1993 for sensitive areas like Godavari? Why has any action not been taken against the marble factory and Himalayan Brewery by the Department of Industry after promulgation of new Industrial Enterprises Act (IEA), 1992 ?

Pollution control provisions and economic incentives are within the scope of the Industrial Enterprises Act. These provisions have not yet been exercised in cases of existing facilities, however. Although the Industrial Enterprises Act provides tax incentives, rarely has any industrial facility availed itself of the tax incentives which can be obtained for the money spent on pollution control processes or equipment. It is surprising and disappointing that neither the Department of Industry nor any other government agency has taken any measures to enforce compliance with environmental requirements and improve the quality of the Godavari area's environment. It is said that the Marble Factory has reduced extraction and sale of boulder for the last couple of months and therefore there is less environmental degradation in the area. However, the factory has not taken steps to clean up the past pollution it has caused, and the Brewery has not taken any pollution prevention and environmental mitigation measures.

### 5.1 The Environment Protection Act 1996

The government enacted the Environment Protection Act in 1996 and promulgated the Environment Protection Regulations in 1997.<sup>8</sup>

The main reason given by the government for tabling action while the Environment Protection Bill was in the parliament was the directives of the Supreme Court. The potential scope of the Act is broad. It is apparent from the definition of the key terms such as "environment", "environmental impact assessment", "pollution prevention and control" and "biodiversity".

Provisions relating to the prevention and control of pollution, for the first time in the Nepalese legal regime, make causing pollution or allowing such pollution to be caused a punishable act. Under section 7(1) of the Act, proponents are required not to cause pollution or to allow pollution to be caused in a manner which is likely to have significant adverse impacts on the environment or to harm human life or public health, and not to emit or discharge sound or radiation from any machine, industrial enterprise or from any other place above the prescribed standard. However, there is no time limit for the government to set environmental quality standards and to enforce them.<sup>9</sup> Other government agencies are also empowered by this Act to impose appropriate conditions or to prohibit any activity that has caused significant adverse effects on the environment or which is likely to cause significant adverse impacts on the environment.<sup>10</sup> If these provisions coupled with others relating to concessions and incentives<sup>11</sup> are enforced properly, existing industrial facilities will be more willing to comply with the requirements of the Act and there will be little danger of them losing their comparative advantage and competitiveness.

Ironically, the Act contains only one section dealing with pollution and this sole section aims to prevent and control pollution of air, water, land and noise pollution. It would not be incorrect to say that the new regime reflects a blatant breach of a commitment to sustainable development and a disregard of environment conservation and the precautionary principle. Ensuring compliance and enforcement of such a legal provision which is all encompassing and at the same time very limited will be an uphill task.

Although waste is defined in the Act to include liquids, solids, gases, sludge, smoke, dust radiation or similar other substances or materials disposed of in a manner which is likely to degrade the environment, it is not clear whether any operation for its disposal, recovery or treatment will require a license from MOPE or any other ministry. It is unlikely that the production, treatment and disposal of waste will be more highly regulated than at any time in the past. This obviously will not have any severe cost implications for industry or the individual waste producer. This is contrary to the Act's apparent aim to enforce the "polluter pays" principle so as to encourage the minimization of waste and the prevention of pollution.

Ironically the legislation does not include any measure for voluntary compliance programs. In only one place an environmental management system has been mentioned in the Environment Protection Regulations 1997. Voluntary environmental management systems are one of the mechanisms for compliance promotion, which the law has failed to ensure. However, Wasserman maintains that:

*"Experience has shown that promotion alone is often ineffective. Enforcement is important to create a climate in which members of the regulated community have clear incentives to make use of the opportunities and resources provided by promotion. However, experience in several countries has also shown that enforcement alone is not as effective as enforcement combined with promotion."*

*Promotion is an important element of most enforcement programs. Compliance promotion includes: providing education and technical assistance to the regulated community; building public support; publicizing success stories; providing creative financing arrangements; providing economic incentives; and building environmental management capability within the regulated community.<sup>12</sup>*

Taking into account the costs and resources imposed by regulation and the rate at which the processes and procedures are increasing, the Act empowers the government to provide additional incentives to any industry, occupation, technology or process which has positive impacts on environment conservation. It is likely to lessen the burden of various industries which have to adopt pollution control measures and comply with environmental quality standards to be determined under the Act. This will certainly further a new relationship with industry involving cooperation in initiatives to improve environmental performance and therefore the quality of the environment. This is obviously good news and will be an incentive for those companies that do take their environmental performance seriously.

Any person who contravenes any of the provisions of the Act, or the regulations or guidelines issued under the proposed Act, shall be punishable with a fine of up to Rs. 50,000 (US \$ 750). If a proposal is implemented without the approval of MOPE or the relevant government agency, or the person implementing the proposal is not complying with the conditions of the approval or license, the authorized officer is empowered to close down that activity and may impose a fine of up to Rs. 100,000 (US\$ 1,500) on such person or organization. The penalties are too meager to create any deterrence effect. However, giving any person power to close down development activity or industrial facilities without resorting to other penalties first is not a fair practice and is likely to be abused in the Nepalese context. At the same time, contrary to the practice in many countries, a penalty on a daily basis has not been introduced. To aggravate the situation, the Act does not contain any specific provisions whereby directors, secretaries and officers of companies could be held personally responsible for environmental offenses committed by their company.

Wasserman notes that:

*Deterrence is a principle that is fundamental to all enforcement programs. "Deterrence" is the creation of an atmosphere in which many choose to comply rather than violate the law. Four interrelated elements are needed to create deterrence:*

- *A credible likelihood that a violation will be detected.*
- *A swift and certain response by government or others*
- *Appropriate consequences in the form of sanction or penalty*
- *The perception that the above conditions exist.<sup>13</sup>*

Unfortunately, the above mentioned elements do not exist in Nepal and the Nepalese legal system.

It is apparent that there is a wide gap between the existing regulatory framework mechanisms and their enforcement. If certain mechanisms are not developed at this stage, it is very likely that all efforts - be they governmental or non-governmental - will be futile. It is the most appropriate time to come up with various mechanisms for environmental compliance and enforcement, as Nepal is currently in the stage of developing environment protection legal regime. Nepalese lawmakers, policy makers, administrators and members of academia need to realize the importance of the principles of environmental compliance and give them due recognition in the Nepalese environmental legal regime.

## 6 LOOKING TOWARDS THE FUTURE

It is not too late to take actions to promote environmental compliance and enforcement. In addition, it is a crucial time to equip environmental legislation with various environmental compliance and enforcement mechanisms that will facilitate implementation and enforcement of environmental requirements. The following is a list of approaches which need to be adopted in Nepal's existing legal provisions related to environment conservation, and environmental conservation legislation to be enacted in future to enable and ensure effective environmental compliance and enforcement:

- Creating environmental requirements that are clear, precise, without ambiguity and enforceable --
  - General requirements applicable to all regulated industries;
  - Industry-specific requirements; and
  - Stringency and Feasibility.
- Stating clearly who is subject to the requirements and clearly stating roles and responsibilities --
  - Which government entity or entities will be involved?
  - To what extent should a program make use of citizen and other non-government recourses?
- Promoting compliance in the regulated community.
- Involving the the public in environmental decision-making from an early stage.
- Monitoring compliance.
- Responding to violations including the tools to remedy past and prevent future environmental problems.
- Providing sanctions sufficient to deter future violations and providing an appropriate penalty for the past noncompliance.
- Devising suitable economic incentives --
  - Fees;
  - Tax Incentives; and
  - Pollution Taxes.
- Setting an institutional framework for effective implementation of environmental requirements.
- Creating an appropriate institution for redressing of grievances.

In addition to aforementioned approaches, the public can play an important role in promoting compliance. Public support helps in creating a social ethic of compliance. The public should serve as watchdogs who alert officials to noncompliance. In addition to providing the government with the tools it needs to enforce the law, it is important to also empower citizens to enforce the law as well.

If the Nepalese government is sincere about effective implementation of environment conservation and pollution prevention and control related provisions scattered in about 30 pieces of legislation and the Environment Protection Act 1996 and the Environment Protection Regulations 1997, it should go forth with review of its legislation in light of principles of compliance and enforcement and include the various mechanisms through amendment to

those pieces of legislation. Equal emphasis needs to be given to training and developing expertise of environmental inspectors, customs officer and other government administrators. Unless the above mentioned approaches are incorporated in environmental policies and legislation and effectively implemented, the conservation community will have to resort to the courts for ensuring environmental compliance and enforcement again and again.

## REFERENCES

- 1 International Council for Bird Preservation (1991), Conservation Project for Phulchowki Mountain, Nepal.
- 2 Carol Inskipp (1989), Nepal's Forest Birds: Their Status and Conservation, International Council for Bird Preservation, 73.
- 3 HMG, Council for Conservation of Natural and Cultural Resources (1993). State of Godavari Area Environment: Investigation Report, 27-28.
- 4 The declining fertility and productivity results primarily from the calcium-carbonate content of the water discharged by the factory. Growth is prohibited because the calcium-carbonate blocks sunlight, and prevents .. aeration and respiration of the soil and crops. Simple pH testing can be performed to monitor the levels of calcium-carbonate in the water downstream from the factory. Between 6 and 8 pH is considered a reasonably safe level, but over 10 pH is not safe.
- 5 It should be noted that few groups have opposed the brewery, although it has always presented a serious threat to the water resource, and thus has been a primary concern of the local people. The concentration of opposition efforts against the marble factory, rather the brewery, can be attributed to the extensive deforestation, noise pollution, dust and air pollution, blasting dangers, and visible hillside degradation that are caused by the factory.
- 6 Article 88(2): The Supreme Court shall, for the enforcement of the fundamental rights conferred by this Constitution, for the enforcement of any other legal rights for which no other remedy has been provided or for which the remedy even though provided appears to be inadequate or ineffective or for the settlement of any constitutional or legal question involved in any dispute of public interest or concern, have the extraordinary power to issue necessary and appropriate orders to enforce such rights or settle the dispute. For these purposes, the Supreme Court may, with a view to imparting full justice and providing the appropriate remedy, issue appropriate orders and writs including the writs of Habeas Corpus, Mandamus, Certiorari, Prohibition and Quo Warranto.
- 7 "Compliance is a state in which environmental requirements are met and maintained". Cheryl E. Wasserman (1996) "Building International Networks, Cooperation, and Capacity for Environmental Compliance and Enforcement : A Progress Report", in Proceedings of the Fourth International Conference on Environmental Compliance and Enforcement, Vol. I, April 22-26, Chiang Mai, Thailand, 114.

- 8 The Environment Protection Act and The Environment Protection Regulations came into effect on 24 and 26 June 1997 respectively.
- 9 Up till April 1998 MOPE had not taken any initiative to develop any environmental quality standards. As long as environmental quality standards are not developed and enforced, provisions relating to pollution prevention and control will remain dormant. The Ministry of Industry and the business community would like to see that the environmental quality standards are not developed and notified in the gazette in the near future.
- 10 Environment Protection Act 1996 s. 7(2) (Nepal).
- 11 See discussion on incentives and penalties, *infra*.
- 12 Wasserman, above, note 7, 120-121.
- 13 Wasserman, above, note 7, 116.

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## **CIVIL ENFORCEMENT OF ENVIRONMENTAL LAWS IN AUSTRALIA**

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### **SUMMARY**

Public interest litigants in Australia who seek to enforce environmental laws face many procedural and cost barriers. However, there have been some positive developments in the law recently. This paper looks at some cases conducted by the Environmental Defender's Office ("EDO") over the past few years. These cases illustrate the ways in which barriers can be overcome and enforcement proceedings can be used by the community to help protect the environment.

The paper will first provide a brief description of the Environmental Defender's Office, then an outline of the facts of the cases. Finally, it will discuss the issues that the cases raise for civil enforcement of environmental obligations. These cases were hard fought. This brief and simplified summary does not do justice to the blood and sweat that went into the cases!

### **1 THE ENVIRONMENTAL DEFENDER'S OFFICE**

The Environmental Defender's Office in Sydney, Australia, is a community legal centre which specializes in environmental law. It has six lawyers, two education staff, administrative staff and volunteers. It provides free legal advice to people concerned with protecting the environment. In a small number of cases, it represents clients in public interest cases in court. There are smaller Environmental Defender's Offices, with one lawyer each, in each State of Australia.

By responding to thousands of requests for assistance, the Office can identify systemic problems with administration and enforcement of environmental laws. The Office carries out law reform and policy work to address these problems. Finally, education projects such as conferences, workshops and plain language publications explain the law and the legal system. We help people participate in environmental decisions.

### **2 THE CASES**

#### **2.1 Tasmanian Conservation Trust**

One of the greatest causes of environmental damage in Australia is woodchipping of virgin native forest. Over five million tons of woodchips are exported each year from Australia. The volume of chips exported has remained reasonably constant, despite the lifting of export limits. This is due in part to cheaper products from plantations in other nations such as Brazil.

In 1994 the Commonwealth Minister for Resources gave approval for a new licence to export woodchips from Tasmania. The Environmental Defender's Office acted for the Tasmanian Conservation Trust (TCT), the peak group conservation organization in Tasmania, to challenge the approval. Commonwealth environmental assessment laws in Australia are

next to worthless. The only obligation on the Resources Minister was to refer the matter to the Department of Environment, which would then decide whether an environmental assessment was required. Even if assessment takes place, no environmental approval is required. This case was part of a campaign to institute change in these laws.

The Commonwealth had conducted a general environmental assessment of woodchipping in the State of Tasmania in 1985. This encompassed the activities of three woodchipping companies but not the new exporter. The Resources Minister considered that the export of woodchips was a matter which had already been assessed as part of this 1985 assessment. He considered that he was therefore under no obligation to refer the matter to the Minister for Environment. This was despite three letters of advice from the Department of Environment that the activity ought to be referred to it for assessment.

The Court held that the Minister had made a legal error. He had applied the wrong legal test and taken into account an irrelevant consideration. The judgment received broad media coverage. It brought home to Commonwealth Ministers and bureaucrats the nature of their obligation to refer matters to the Department of Environment. The budget and staffing levels of the Department were increased to cope with its increasing workload. This work encompassed the provision of preliminary advice on environmental impacts of a range of developments, as well as determining whether developments need formal assessment.

However by the time judgement had been delivered the licence under challenge had expired. The Minister had issued a fresh export licence. The Environmental Defender's Office promptly commenced fresh proceedings against this new licence. The company and the Minister "did a deal" on the first day of the hearing of this challenge. The licence under challenge was forfeited and yet another licence was issued.

## 2.2 North Coast Environment Council

The North Coast Environment Council ("NCEC") is a regional conservation organization. It is involved in environmental issues generally, and forestry issues in particular. The Council had made submissions to government, conducted research with grants from the government, produced publications and participated in government processes over a number of years. It had an extended track record of activity on woodchipping and logging in the locality.

This case sought to compel the Minister for Resources to give his reasons for issuing a licence for woodchip exports from the North Coast of NSW. The issue in the court proceedings was whether the North Coast Environment Council had standing to compel the Minister to give reasons. The outcome is discussed in Chapter 3 of this paper.

## 2.3 Mushroom Composters

The Environmental Defender's Office acted for Mr Peter Foster, who represented the Ebenezer concerned Residents Committee. An unincorporated group can not bring enforcement proceedings. Proceedings were brought to stop odors coming from a facility which composts poultry manure, straw and other ingredients by letting them rot. The compost is then used for growing mushrooms. The odors were so bad that children at the local school were sometimes ill. People had to live with their doors and windows closed even in mid summer.

The proceedings were successful. In 1993 an injunction was granted, although it was suspended for 12 months to enable the company to relocate its operations. Two years later, the company was still operating in breach of the court order. Foster brought proceedings for contempt of court.

Foster led evidence from 35 local residents that the odors continued and that the company made \$230,000 profit while operating in contempt. The Court found that the company:

*"...took decisions largely for commercial reasons, which involved a wilful or deliberate breach of (the Court's) order".*

The Court imposed a fine of \$80,000, together with \$8,000 per week for each week the company remained in contempt. While not as much as the profit made by the company, this was by far the largest fine imposed by the Court.

A second set of contempt proceedings brought by Foster was settled on the basis that the company stop its operations immediately and pay our client's legal costs.

#### 2.4 Irongates

The Environmental Defender's Office acted for Mr Al Oshlack, an activist on the north coast of New South Wales, to stop a residential development in 1996. The site is one of great environmental sensitivity. It contains a listed wetland, a rare coastal rainforest, a resident koala colony and numerous other endangered species. It is bounded on three sides by National Parks.

The Local Council granted a development consent for the construction of 110 lots of a proposed 700 lot residential subdivision on the site. The development was supposed to minimize the impact on the adjacent wetlands and the stand of remnant rainforest. It was also to retain wildlife corridors to allow wildlife to move between the national parks to the north and south of the site. In short, this was not to be a traditionally engineered subdivision, rather a 'green' one.

Ameliorative measures to reduce the impact on threatened species included preserving the remnant rainforest with a buffer against any further disturbance and maximum retention of trees. A wildlife corridor was to be kept between the littoral rainforest and the National Park.

In early July 1996, Iron Gates Pty Ltd began to clear vegetation for its subdivision. On 9 July 1996 the Environmental Defender's Office commenced Court proceedings, seeking an urgent interlocutory injunction to restrain the clearing of the land pending the final hearing of the matter. However, the Court refused to grant the injunction.

Oshlack pressed on with the case and received a judgement in his favor. In carrying out the development, the Court found that the Developer cleared all of the vegetation on the proposed lots and cut a swathe through the designated wildlife corridor. The developer had also cleared the vegetation buffer and installed a massive drain in its place, 300 meters long x 6 meters wide x 4 meters deep, and constructed a second drain adjacent to the wetland.

The Court found that the extensive clearing of native vegetation was not permitted by the Company's development consent, which required "maximum tree retention". It also found that there had been serious breaches of environment laws by the destruction of the habitat of threatened species, including the Koala and the Queensland Blossom Bat.

In March 1997, there was a 5 day hearing on remediation. Evidence was led as to the continuing environmental impact of the illegal drains. The drain adjacent to the wetland was likely to result in the draining of that wetland, and the other drain would result in the die-back of the rainforest species.

On 4 July 1997, the Chief Judge ordered Iron Gates Pty Ltd to demolish its residential subdivision and to restore the Iron Gates site to its pre-development state. The Order included establishing a plant nursery with seed to be collected from surrounding vegetation and replanting the entire site with native vegetation. The company also had to rip up all of the roads,

backfill all of the drains and undo the extensive earthworks. The Department of Land and Water Conservation has been appointed by the Court to oversee the implementation of the remediation plan.

The National Parks and Wildlife Service is responsible for enforcing the laws protecting threatened species in NSW. Despite urgent requests for action to stop the clearing, it did nothing. The local council, Richmond River Shire Council, not only failed to act, but supported the Company's case in Court.

## 2.5 Friends of Hinchinbrook

If you haven't been to the Hinchinbrook Channel, then I suggest you go there quickly. Otherwise, read a copy of Margaret Thorsborne's book "Hinchinbrook Island - The Land that Time Forgot". As the Regional Director of the Queensland Department of Environment wrote in the 1994 Draft Management Plan for the area:

*"The scenery of the Hinchinbrook Channel is nothing short of awe inspiring..."*

In addition to the spectacular scenery, the area is crucial for the protection of the endangered species, Dugong. The Dugong depends on the seagrasses of the channel and is especially vulnerable to being struck by boats and to loss of its seagrass feeding grounds.

This place is special. It is one of the eleven World Heritage sites in Australia.

In May 1993, Cardwell Properties Pty Ltd purchased land on Hinchinbrook Channel to develop a resort and marina complex. The land is adjacent to the Great Barrier Reef World Heritage area. In September 1994 a deed setting out the terms of the development was executed by Cardwell Properties with the State and Local governments. In October 1994 Cardwell Properties began clearing mangroves on the site.

The Commonwealth government has power to stop actions which threaten world heritage areas. A proclamation under the World Heritage Properties Conservation Act 1983 was gazetted on the afternoon of 15 November 1994, covering areas of the Channel adjacent to the development.

On 15 November 1994 the Minister for Environment telephoned the company's managing director to request that mangrove clearing cease. The rest is, as they say, history. The director not only refused to cease clearing, but set up lights and worked with bulldozers until the early hours of the following morning. Clearing stopped when the incoming tide bogged the vehicles.

In February 1995 Cardwell Properties made application to the Commonwealth government for consent to carry out several activities which now clearly required consent under the World Heritage Act. These included construction of breakwaters and an artificial beach, dredging of the marina access channel and implementation of a foreshore management plan. The Department of Environment commissioned a report to consider the impact of the proposed activities on the proclaimed area. In September 1995 the Minister for Environment granted consents to removal of fallen mangroves and the trimming of mangroves in certain areas. He refused consent to all other activities.

This wasn't good enough for Cardwell Properties. The company stands to make \$20 million from the sale of waterfront blocks. As the company stated to the Minister:

*"Having visited the site, I am sure that you would be able to tell the difference in value between:*

- a. A waterfront block looking out over the sea to the magnificent spectacle of Hinchinbrook Island, and*

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*b. A waterfront block looking into a 15 meter high forest of old and gnarled mangroves which completely block out all views of Hinchinbrook Island..."*

In March 1996 there was a change of Federal government. On 12 April 1996 Cardwell Properties made a fresh application for the Minister's consent. Consent was subsequently granted by the Minister for the Environment. The Environmental Defender's Office then acted for a local group, Friends of Hinchinbrook Society (FOH), to challenge the Minister's decision. The result of this case is discussed in Chapter 3 of this paper below.

### **3 DISCUSSION**

With these cases as background, we can now examine some of the key issues for civil enforcement of environmental laws.

#### **3.1 Standing**

One of the first hurdles to confront public interest litigants is standing, or the right to take a case to Court. Different jurisdictions frame the hurdle in different ways. At the State level in NSW, the standing barrier has been largely removed. (It is much more difficult in other States). Environmental laws in New South Wales provide that any person has the right to seek orders to remedy or restrain a breach of those laws. Indeed, any person can seek an order to restrain a breach of any act which is likely to cause harm to the environment. You only have to satisfy the Court as to some formal requirements. At the Commonwealth level, to have standing you must have a special interest in the subject matter of the litigation. This has been codified for the review of Commonwealth government decisions. You must be a "person aggrieved" by the decision to have standing in these cases.

The Environmental Defender's Office has conducted two cases for environment groups in the Federal Court which clarified and extended the law of standing in Australia at the national level.

In the North Coast Environment Council case, the Court reviewed existing Australian authorities on standing. In summary a "mere intellectual or emotional concern" is not sufficient. In 1990 Australia's then largest environment organization had been denied standing by the High Court. The council needed to show that its circumstances were different from that case to succeed.

The Court considered four main factors and decided that the group had a "special interest" as a person aggrieved. Firstly, the North Coast Environment Council is the peak organization for the north coast region of New South Wales. Its activities relate directly to the area to be woodchipped. Next, it has been recognized as a significant and responsible environmental organization by government. Governments gave grants and allowed nominees of the Council to participate on a Forest Policy Advisory Committee. Next, the Council conducted or coordinated projects and conferences on matters of environmental concern. Finally, it had made submissions and funded studies on forestry management issues.

We were concerned that the Court might regard national or "peak" organizations as more appropriate, denying standing to local groups. However, the Court noted that "a regional organization may well be able to demonstrate a closer concern with a particular decision affecting or potentially affecting the environment than a national organization".

In the Tasmanian Conservation Trust case, in essence the same considerations applied and there was a similar outcome. What these cases did is push the envelope of standing for environment groups further than had been established before. Government and industry are on notice that environment groups can gain access to the Courts to enforce laws if they have been broken.

### 3.2 Interlocutory Relief and Commercial Damages

Environmental damage is often serious and irreversible. Once you are in Court, the next hurdle is to stop the very essence of your case disappearing before the proceedings can be heard. Traditionally, courts have insisted on an undertaking being given by the person seeking the injunction to pay any damage suffered by the other party if the case is unsuccessful.

In the Court of Appeal, Street CJ in F. Hannon Pty Ltd v. Electricity Commission (New South Wales) (No. 3) discussed the pivotal role that open standing provisions play in the State planning laws:

*"Section 123 grants virtually unlimited status to any person to bring proceedings in the Court for an order to restrain or remedy a breach of the Act... This provision read in the context of the objects of the Act as set out in s.5 makes it apparent that the task of the Court is to administer social justice in the enforcement of the legislative scheme of the Act. It is a task that travels far beyond administering justice (between the parties). Section 123 totally removes the conventional requirement that relief is normally only granted at the wish of a person having sufficient interest in the matters sought to be litigated.... The precise manner in which the Court will frame its orders in the context of particular disputes is ultimately the discretionary province of the Court to determine in the light of all the factors falling in the purview of the dispute."*

This duty to take into account the broader public interest is reflected in the Court's approach to requests for undertakings to pay damages. In Ross v. State Rail Authority (New South Wales) Cripps J. recognized that the failure to give the usual undertaking to pay damages should be but one factor to be taken into account when considering the balance of convenience. The Court has followed this reasoning in many public interest cases subsequently.

As noted above, in the Iron Gates case the Court refused to grant an interlocutory injunction. The site was devastated by the time the matter came up for trial. This was primarily because

Oshlack was unable to give an undertaking to pay damages, estimated at about \$100,000 if the development had been delayed and he lost the case.

The National Parks and Wildlife Service had seen the clearing and had raised no concerns.

Because the government agency charged with protecting wildlife had no concerns, the judge would not grant an injunction unless our client undertook to pay damages. Our client had no money and could not give the undertaking. The injunction was refused. As it turns out, the judge's faith in our government watchdog was seriously misplaced.

### 3.3 Security for Payment of Legal Costs

In Australia, the usual rule is that the loser pays the costs of the other parties in litigation. Where the party bringing the proceedings (the applicant) has few assets, other parties frequently seek an order that the applicant lodge funds with the Court to pay for any future costs

order. This order for a security to be lodged is generally only made in special circumstances. An example might be where the proceedings are being brought for the benefit of someone else, such as a company director. The theory is that even if you are poor, you can have your day in Court!

In the Iron Gates case, the issue did not arise because our client received legal aid. The Legal Aid Commission indemnified our client for any costs he might have to pay. When the developer subsequently appealed, our client was able to insist that the development company lodge a guarantee for \$42,000 with the Court as security for costs. This was because we had evidence that the company had no assets and was being funded by its director through a private trust. The developer lost the appeal. Mr Oshlack called on the guarantee to pay for his legal costs.

In the case for Friends of Hinchinbrook, the developer's solicitors put on evidence of the costs to be incurred by their client up to the date of the hearing. The estimate was approximately \$115,000.

After reviewing the authorities, Her Honor held that

*"an order for security for costs in anything like the sum sought by the second respondent would prevent the applicant from being able to litigate".*

Her Honor noted that the World Heritage Properties Conservation Act gives standing to an interested person.

*"The above provisions, in my view, whilst concerned principally with the issue of standing, disclose an intention that legitimate organizations and associations concerned with World Heritage Properties should be able to agitate before the Court issues arising under sections 9 and 10 of the Conservation Act. Organizations and associations of this kind will not infrequently have limited financial means. On considering an application for security for costs in a proceeding involving the Conservation Act, it is legitimate, in my view, for the Court to have regard for the apparent intention of Parliament that such organizations and associations should be able to initiate such litigation".*

The application for security for costs was dismissed. Friends of Hinchinbrook fought on, but were ultimately unsuccessful.

### 3.4 Restoration

In the Iron Gates case, the damage had been done while the court proceedings were grinding on. Ultimately, the Court ordered Iron Gates to demolish its residential subdivision and to restore the site at Evans Head to its pre-development state. The judgment represents the most extensive and comprehensive restoration order made by the Land and Environment Court to date.

In determining whether it was "practicable" to order remediation, the Court weighed up the environmental harm of leaving the structures in place as compared to the harm which might be caused by removing them. The Court held that:

*"...the correct approach is (that) the Court should make orders designed to bring about reinstatement, so far as is practicable, of the site to its condition before the breach was committed. That approach requires the Court to assess the possible environmental consequences of requiring the drains and internal roads to be removed as against the environmental consequences of allowing them to remain in place."*

A detailed remediation plan proposed by Oshlack on advice from experts was adopted by the Court. It required the developer to rip up approximately 2kms of sealed roads, backfill the extensive drains, undo the earthworks over approximately 20 ha, and replant the site (approximately 30 ha) with local native plants. The plants are to be grown by the developer in a nursery established for that specific purpose. Her Honor found that,

*"(The developer's) evidence demonstrated that it would be financially difficult for the developer to carry out remediation..., but there was no conclusive evidence that the developer would be unable to meet the cost. Funding may need to be obtained from borrowings or rearrangement of assets within the group of companies, but there was no evidence which would warrant refusing to make the remediation orders".*

The company has recently gone into liquidation. No remediation has yet taken place, but our client is pursuing the finance company which has security over the land. Those proceedings may result in a whole new interesting story.

### 3.5 Contempt

Nothing is more frustrating for a public interest litigant than succeeding in a court case, then having the other party ignore the Court's orders and continue causing environmental harm. Unfortunately, it is up to the litigant to put in more time, money and effort to bring contempt proceedings to ensure the Court's orders are followed.

In the mushroom composting case, the company made more money from being in contempt than it paid by way of fine. Our client even had to prepare a second set of contempt proceedings before it could force compliance. Fortunately, we recovered costs from the company on behalf of our client.

### 3.6 Costs

As mentioned above, the usual rule in litigation in Australia is that the losing party pays the costs of the winners. This is a great disincentive to public interest litigation. It is unfair because public interest litigants do not stand to gain financially from the litigation. It is unfair because respondents who are businesses can claim a tax deduction for their costs. It is also unfair because there will usually be several respondents, and therefore several sets of legal costs to be paid if the public interest litigant loses. On the other hand, if the public interest litigant wins, its legal costs are divided among the losers.

At the NSW level, the Court has developed a line of authority that the fact that proceedings have been brought "in the public interest" is a relevant factor to consider when making an order for costs. In several cases where the public interest litigant has lost, the Court has required each party to pay their own costs. This approach was confirmed recently in the High Court.

In the Friends of Hinchinbrook case, the group now faces orders for costs for three sets of proceedings, with three respondents in each case. If the respondents pursue their costs, the group will be wound up. However, the individual members of the group are not liable for these costs.

## 4 CONCLUSION

The Environmental Defender's Office will continue to push for greater access to courts and judicial processes for the community. Our adversaries will continue to push for barriers to be maintained. We are coming from behind because our legal system developed to protect

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private property rights. It is still not well adapted to deal with public rights of environmental protection in the public interest. This needs to change. As Justice Wilcox of Australia's Federal Court noted in *Ogle v. Strickland*, another Australian case on standing:

*"..to assume that competitive instincts are aroused only by concern for material wealth would be to ignore history. Much of the progress of mankind has been achieved by people who have sacrificed their own material interests in order to champion ideals against fierce resistance".*



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## **PUBLIC INTEREST ENVIRONMENTAL LITIGATION: A TOOL TO ENSURE COMPLIANCE AND ENFORCEMENT**

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### **SUMMARY**

The Introduction to this paper describes the evolution of environmental management together with the development of uncoordinated sector-wise governance mandated by sectoral laws. Institutional arrangements are described, including the development of authorities responsible for the management of natural resources. Along with major environmental issues facing Bangladesh and the status of laws regulating these issues, the paper deals with the right to a healthy environment which has been recognized through case laws as one of the fundamental rights, the enjoyment of which is being guaranteed by the Constitution of Bangladesh. Finally, the paper describes the emergence of Public Interest Environmental Litigation (PIEL) and the experience yielded during this short span of time about its role in ensuring compliance and enforcement in the backdrop of continuing non enforcement, lack of coordination and non compliance of laws for sound management of the environmental resource base.

### **1 INTRODUCTION**

Bangladesh is a country of 143,999 km<sup>2</sup> with a population of 120 million people. The country is mostly flat land with some hills in the northern and eastern areas. It has a large area of mangrove forest along the coast of the Bay of Bengal, known as the land of rivers. Bangladesh is particularly vulnerable to natural disasters such as floods and cyclones and it was in the wake of two consecutive floods in 1987 and 1988 that environmental issues assumed importance.

Traditionally, the people of Bangladesh, being the inhabitants of the flood plains of the huge deltaic ecosystem, lived in harmony with the nature as a result of which the values, life cycle, customs, usage, proverb and idioms resound the tone of the chord of bond with the ecology. Bangladesh inherited a legal system introduced in the 19th and 20th centuries by the British. The basic structure of the system is built upon common law principles that promoted a feudal ownership concept and allocation with an absolute rent fixing and receiving authority. Even huge resource bases like forests and fisheries were settled under the permanent settlement regulations in 1793 and possessed by the feudal lords. After the adoption of the State Acquisition and Tenancy Act in 1950 in the then East Pakistan, the feudal system was abolished and the estates were acquired by the State. The holders of various titles to resources become tenants of the State. The rent receiving interests vested in the State. However, the concept of different titles especially of "ownership" remained almost unfettered, and the management system continued to employ use-oriented approaches to harness optimal economic benefit. Public agencies became "feudal" over the management of public resources devoid of public input or accountability.

The advent of the modern State with a system of statutes witnessed a blend of "revenue" and "resource" oriented regimes with some significant prohibitions of acts dangerous to human environment, health and the ecology. The regulatory regime now has provisions for actions having direct, indirect and casual link with environment and ecology in the forms of policies, legislation, institutions and traditions. Nonetheless, many of the available laws and mechanisms remaine unutilized, unexplored and barely expounded. The regulatory regime is "sectoralized" under various "Ministries", and managed and governed in the same style. This sector-based compartmentalization of environmental regulation developed into an uncoordinated, competing and often adversarial approach unfriendly to sustainable management of resources and ecological governance.

Perhaps the study of environmental regulatory regime and the role of law in that process have received late recognition in many jurisdictions including Bangladesh for various inadvertent reasons. It stayed almost as a custom to talk about it and do nothing or live in wards than practice, which is the most neglected aspect of over administration.

## **2 INSTITUTIONAL SETUP**

- a. Resource management laws are provided in the sectoral laws of various ministries and public agencies.
- b. Most of the civic and anti-nuisance rather environment related provisions are provided in the powers and functions of various statutory local government bodies. Tortious liability is perhaps included in these laws. Besides there is the Department of Public Health under the Ministry of Local Government, Rural Development and Cooperatives.
- c. A water pollution control project turned into Department of Environment Pollution Control following an Ordinance of 1977 on Environment Pollution Control and the said department was under the Department of Public Health in Ministry of Local Government Rural Development and Cooperatives (MLGRDC).
- d. In 1989, a separate Ministry of Environment and Forest was created bringing under it the Department of Environment Pollution Control from the MLGRDC renaming the same as Department of Environment, and the Forestry Division of the Ministry of Agriculture as Forest Department.
- e. Ministry of Planning also has an Environment section that checks the environment aspects of Government projects.
- f. The environmental issues relating water resources is looked after by the Water Resources Planning Organization by an act of 1992, the Bangladesh Atomic Energy Commission is entrusted to regulate radio activity under the Nuclear Safety and Radiation Control Act, 1993. There are other agencies too who are vested with the duty to protect specific aspects of environment.

## **3 MAJOR ENVIRONMENTAL ISSUES FACING BANGLADESH**

### **3.1 Regional / Global**

- Ecological changes due to shared water disputes
- Maritime boundary dispute and a weaker regime on marine resources

- Green house effect and its consequence on Bangladesh
- Refugees and migration
- Ecological effect caused by transfrontier activities

### 3.2 National

- Population and poverty
- Degradation of resources (anti-people and uncoordinated)
- Conflict of development with environment illiteracy Vs ignorance
- Pollution: water, air, soil
- Destruction of mangrove, tree cover and firewood
- Loss of fisheries
- Unplanned human settlement
- Unplanned urbanization and industrialization
- Loss of wildlife
- Natural hazards

## 4 STATUS OF LAWS

About 182 laws (excluding rules and by-laws) have so far been identified by BELA. The existence of all these laws and a number of public agencies, however, failed to deliver to the nation what the legislation envisaged. The number of sector- and/or issue- based laws in Bangladesh are as follows:

<u>SECTOR OR ISSUE</u>	<u>NUMBER OF LAWS</u>
i. Pollution and Conservation	2
ii. Health	30
iii. Food and Consumer Protection	13
iv. Occupational Rights and Safety	11
v. Public Safety and Dangerous Substances	6
vi. Displacement, Relief and Rehabilitation	3
vii. Land Use and Administration	12
viii. Agriculture and Agro-chemicals	16
ix. Water Resources	6
x. Fisheries	6
xi. Forestry	4
xii. Wildlife and Domestic Animals	11
xiii. Energy and Mineral Resources	8
xiv. Local Government	9
xv. Rural and Urban Protection	16
xvi. Transportation and Safety	16
xvii. Cultural and Natural Heritage	2
xviii. Protection of Vulnerable Groups	7
xix. Miscellaneous	2

Note: Many of the laws are also cross cutting and multiple sectoral application and ramification.

## 5 RIGHT TO HEALTHY ENVIRONMENT

The Constitution of Bangladesh, 1972 does not explicitly provide for the right to healthy environment as a fundamental right. Article 31 states that every citizen has the right to protection from "action detrimental to the life, liberty, body, reputation or property", unless these are taken in accordance with law. Article 32 states that "No person shall be deprived of life or personal liberty save in accordance with law". These two Articles together incorporate the fundamental "right to life". The next question that peeps into mind is whether the "right to life" includes the right to an environment capable of supporting the growth of meaningful "existence of life" and includes the right to a healthy environment?

In two recent cases the Appellate Division (AD) and the High Court Division (HCD) have dealt with the question in a positive fashion. The Appellate Division, in the case of *Dr. Mohiuddin Farooque vs Bangladesh and others* (BLD, 1997, p.1) has been expounded that "articles 31 and 32 of our Constitution protect right to life as fundamental right. It encompasses within its ambit, the protection and preservation of environment, ecological balance free from pollution of air and water, sanitation without which life can hardly be enjoyed. Any act or omission contrary thereto will be violative of the said right to life." (Choudhury, J, para. 101).

The High Court Division, in the case of *Dr. Mohiuddin Farooque vs. Bangladesh and others* (48 DLR, 1996, p. 438), stated that right to life includes right to fresh air and water and a situation beyond animal existence in which one can expect normal longevity of life.

Hence, it appears that right to healthy environment has now become a fundamental right as per the case laws, which puts additional responsibility upon the judiciary to ensure that rule of law is guaranteed in cases where the sustainability of a proposed or undertaken development project is questionable and those victim of breach of public law and the judicial precedent is appropriately collated by the judiciary.

## 6 PUBLIC INTEREST ENVIRONMENTAL LITIGATION:

The system of governance in Bangladesh is quite chaotic in terms of its legal regime and all institutions involved are responsible. There is hardly any consistency between policy, law and the institutional framework. The lack of synchrony itself has created the regulatory anarchy. The law enforcers are often the violators. Public accountability is almost non-existent and hence there is the free hand. The so-called public activities are matters of the domain of public agencies, and the general public have no effective role or voice. The complex and conservative legal system has seemingly weakened people's trust and confidence in it. In the back drop of such scenario, the arrogance of the defiant law enforcers can be effectively questioned, *inter alia*, by the people through the court as judicial scrutiny which is quite popularly known in most legal systems as public interest litigation initiated by concerned peoples or citizens groups and non government bodies.

Until 1994, Bangladesh had no reported cases decided by the Supreme Court on environmental issues. The first such case was filed in January 1994 by the Bangladesh Environmental Lawyers Association (BELA). Since then this group has undertaken a large number of cases which have contributed to the development of public interest litigation. Various environmental problems were the cause of action in these suits in which relief was sought against anti-civic activities, industrial pollution, vehicular pollution, unlawful construction, illegal felling of public forests, razing of hills, land use and unlawful development schemes among others. Offenses against human health and dignity were also challenged in court.

On two occasions the question of "standing" of Bangladesh Environmental Lawyers Association (BELA) was kept open, i.e., *Dr. Mohiuddin Farooque vs. The Election Commission & Others* (47 DLR, p. 235) and *Dr. Mohiuddin Farooque vs. Bangladesh & Others* (Writ Petition No. 891 of 1994). The second case relates to 903 polluting industries and factories where the High Court Division of the Supreme Court has issued Rule Nisi in the nature of mandamus.

However, in *Dr. Mohiuddin Farooque vs. Bangladesh & Others* (Writ Petition No. 998 of 1994) in which the legality of an experimental structural project of the huge Flood Action Plan of Bangladesh was challenged, the High Court Division initially rejected the Petition on the ground that the Petitioner (representing BELA) had no "standing". The Petitioner has preferred an appeal to Appellate Division where the Court granted leave to decide the locus standi in PIL. In July, 1996 the Appellate Division has given its decision in which Mustafa Kamal, J. said, "In so far as it concerns public wrong or public injury or invasion of fundamental rights of an indeterminate number of people, any member of the public, being a citizen, suffering the common injury or common invasion in common with others or any citizen or an indigenous association, as distinguished from a local component of a foreign organization, espousing that particular cause is a person aggrieved and has the right to invoke the jurisdiction under Article 102".

## **7 ROLE OF PUBLIC INTEREST ENVIRONMENTAL LITIGATION (PIEL) IN COMPLIANCE AND ENFORCEMENT**

Public Interest Environmental Litigation generates awareness, educates the actors and creates values in the society even if the case is lost in a court of law on technical grounds. Such efforts also bring changes in the behaviour, however limited, which may become significant and unavoidable norm eventually. It is further an attempt to resolve the intra and inter sectoral conflicts of law on mandatory delimitation. Legal mechanism and the role of judiciary have proved to be very effective process in any advocacy or activism. It has been quite successfully used in many countries like India (Sangal, 1992). Although in most cases on environment the judiciary may not respond the way an activists would like (due to its own limitation), such attempts create awareness that marks the making or remolding of values in the society.

The impact of Public Interest Environmental Litigation may not always be visible but may also be the initiation of a process which in the long run would provide tangible dividends. One such example can be cited in this regard as observed from the writ petition no. 186/94 (*BELA vs. The Election Commissioners and Others*). In this case the failure of the Election Commission and other law enforcing agencies in preventing the candidates from violating laws in the name of election campaign for the post of Mayor and Commissioners of the Dhaka City Corporation (capital city of Bangladesh) was raised in January 1994. All the campaigners of the candidates defaced peoples property, encroached on public streets and pavements and used too many loud speakers disturbing peace for the people and creating pollution. The High Court Division directed the respondents to show cause as to why the election shall not be postponed since it was not being conducted in accordance with the law. All the respondents appeared and the major political parties joined as respondent to make commitment that all illegal acts would be stopped and removed. The Attorney General ensured that funds would be placed to repaint peoples property. The impact of this case can be partly evaluated now as follows: the law enforcing agencies assessed their extent of statutory sanction; political parties nay the nation came to know that what they had been doing and witnessing for more than half a century as "election culture" was not lawful and people could challenge such acts

and failures. During the recent June 1996 parliamentary election there was hardly any wall writing or electioneering boxes on public properties or rampant use of loud speakers. The credit for such situation, inter alia, should also go to the litigation of BELA for the case which was well publicized.

Development programmes are undertaken administrative sector-wise by sectorally compartmentalized public agencies, activities on any of the key sectors create major impact on the other because the institutional linkages or the coordination mechanism do not exist or operate (Government of Bangladesh, 1991). Therefore most of the laws which have bearing on environment and ecology are sectoral enactment either as substantive legislation and/or, as statute on institutional framework explaining powers and functions. The agencies are protected by their empowering laws against legal action and citizens are generally barred from having recourse to the provisions of these laws. Most of these laws are either not enforced or applied in a manner incompatible to their conservation and sustainability spirit. The utilization of constitutional remedy through the initiation of Public Interest Environmental Litigation showing violation of fundamental rights has been found to be effective in activating the provisions of such laws in public interest. In one case against indiscriminate, unlawful and unauthorized cutting or razing of hills the court ordered the Department of Environment to submit a status report taking necessary assistance from other concerned agencies. The petition filed by BELA for minimization of vehicular pollution would require close coordination among the activities of different organs having chain reaction of the issue.

Neither legal rights nor interests can be extinguished without appropriate compensation. Many of the adverse local social and environmental impacts induced by development projects could be avoided or minimized if the procedures of law were followed. In the context of payment of compensation for undertaking development programmes it has been in practice to award the same only to persons affected by the acquisition of land. But some laws contain provisions for claiming compensation by the affected people for damage of rights of fishery, drainage, use of water or other right of property. The jurisdiction of the High Court Division has been invoked by BELA claiming implementation of a project in consonance with legal requirements for payment of compensation to the affected people for all sorts of losses which are legally recoverable. On hearing the parties, the High Court Division observed that "in implementing the project the respondents cannot with impunity violate the provisions of law ... We are of the view that the Flood Action Plan-20 Project work should be executed in complying with the requirements of law". After pronouncement of the judgment BELA assisted the affected local people in submitting claims for compensation to the appropriate authority. In the meanwhile the concerned authority for implementation of project has initiated steps for setting out parameters basing on which the compensation for all other sorts of damages to be assessed and paid.

The land use pattern in the country has been the prime cause for current trend of rapid degradation of environment. Unplanned and unregulated utilization of lands either owned by public or private entities have further been aggravating the situation. However, inconsiderate and indiscriminate authorization for use of land in a manner incompatible with traditional land use pattern leading to disputes between traditional and alternated land users. The authorization and utilization of lands for various purposes without paying necessary heed to environmental consequences have been creating a chaotic situation leading to mis-management having negative impact upon overall administration of the country's land resource. Particularly, the management of public land is the worst hit sector which requires some modification and accountability for sustainable resource exploitation. Some of the cases filed by BELA regarding the use of public land is aimed at strict compliance of legal norms for land management. In such

cases the High Court Division stayed the effectiveness of such unlawful attempts and we hope that the verdict announced on full length hearing of those petitions would act as a barrier in exercising the land management practice.

The number of appeals that have entertained so far start from grievances of the civil servants down to the poor landless to protect their statutory and traditional rights and professions. The process of empowering the large section of the downtrodden populace has been the central objective of the activity of BELA which has been to some extent materialized through the initiation of Public Interest Environmental Litigation to prevent the abuse under various disguise. It has responded to every call whether directed to it or from the news received from the media to stand for the people of different parts of the country within the limited resources.

Public Interest Environmental Litigation can effectively be initiated in respect of disaster happened due to any development work where EIA and access to its review procedure is mandatory. Since disaster or environmental management measures are described and proposed in EIA, it would be easier to challenge in times of disaster whether those commitments have been fulfilled. In a recent gas explosion incident in Bangladesh occurring from a drilling-well, the EIA has been the crucial issues for litigation.

Public Interest Environmental Litigation has contributed in strengthening the capacity of the concerned institution in implementing duties and responsibilities as enumerated in the sectoral laws aiming to maintain environmental standard. The notion of law enforcement has taken such a shape where it can be said that non enforcement makes laws non existent. Such non enforcement of laws may also be attributed to a number of other reasons hindering the sustainable development. Through Public Interest Environmental Litigation the concerned authority is directed to carry out the duties stated in the respective statute which gradually making the development environment friendly through compliance of legal principles.

## 8 CONCLUSION

The method of Public Interest Environmental Litigation (PIEL) has opened up a new horizon. It is not alone a mode of fostering the enforcement of environmental or other regulations through judicial process, but a potential way in creating awareness amongst the members of a society about their rights and duties. This species of litigation can be an unique vehicle of rendering service to those who can not speak for themselves. It can clarify and promote judicial remedies making the judiciary progressive and the ramification of which gives the people a fair idea about the interface between the issues and the regulatory regime. It elaborates the functional interpretation of law with precision thereby removing ambiguity lessening the scope of exploitation with accountability. PIEL fills in the gaps in law, the inconsistency in the regulatory regime between law, policies and institutional framework and enjoins law with morality.

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## **SYNOPSIS OF TOOLS FOR CITIZEN ENFORCEMENT OF ENVIRONMENTAL LAW**

Capacity Building Support Document for Environmental Compliance and Enforcement Programs

### **PURPOSE**

Consistent with the goals of the Fifth International Conference on Environmental Compliance and Enforcement, its international sponsors, and the Executive Planning Committee, this document addresses key aspects of how citizen enforcement may be incorporated as a component of environmental compliance and enforcement policy and the types of tools typically available to citizen environmental enforcers.

### **SCOPE**

The document gives an overview of typical citizen enforcement tools as they are used in the environmental protection process and tried to address the use of these tools both from the citizen and from the government perspectives. The document addresses tools found both in domestic environmental compliance and enforcement situations, as well as in international and transboundary environmental compliance and enforcement situations.

### **SUBJECT AREAS**

The document centers these tools in certain institutional and procedural prerequisites, such as recognition of environmental rights, clear environmental standards, access to environmental information, citizen standing to enforce environmental laws, and an independent judiciary.

At the domestic level, specific tools include citizen participation in monitoring and inspections, citizen interactions with industry, citizen enforcement lawsuits, and citizen participation in enforcement settlements. A separate section will address available international mechanisms for citizen participation in enforcement, such as the Commission on Environmental Cooperation citizen complaint mechanism and the World Bank Inspection Panel. Information on how these tools have been used in practice throughout the world will illustrate the tools described in the document.

In addition, the tool kit will contain appendices such as provisions authorizing citizen enforcement in national law, international mechanisms establishing citizen enforcement mechanisms, and a bibliography of documents concerning citizen enforcement mechanisms.



## WORKSHOP 3D STRUCTURING FINANCIAL CONSEQUENCES IN ENFORCEMENT: PENALTY POLICIES, RECOVERY OF DAMAGES, RECOVERY OF ECONOMIC BENEFIT OF NON- COMPLIANCE

As fundamental as the "polluter pays principle" is to environmental policy generally, economics is also a powerful incentive for compliance behavior. Many if not most environmental compliance and enforcement programs make use of economic sanctions, incentives and/or disincentives to motivate compliance. To be effective, however, the use of monetary fines or recovery of damages must be well grounded in practical realities of actual costs of control or prevention of pollution and also in theoretical underpinnings which can garner support and acceptance by the public and those potentially affected.

Papers and workshop discussion will address the following issues:

- Factors countries have used to construct penalty policies or practice in assessment of penalties for violations of environmental law.
- Approaches which have been most successful or have posed problems and why.
- The role participants see for the "recovery of economic benefit of non-compliance" or other relevant theories in country enforcement response and penalty approaches. (Including a demonstration of models used to support such calculations).
- Approaches used to assess damages to human health or the environment and/or to recover costs of clean up or control. Level of difficulty, cost, credibility of these approaches and how that affects the ability of governmental officials or affected parties to recover costs and deter future action which caused damages.
- Principles and approaches for structuring penalty policies and recovering damages.
- The implications for enforcement economics of "Take back laws" and related market approaches to make generators of pollution accountable for their pollution contributions.

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1.	Penalty Cap Programs, <i>Schaeffer, Eric</i> .....	459
2.	Making the Polluter Pay: EPA's Experience in Recapturing a Violator's Economic Benefit from Noncompliance, <i>Libber, Jonathan</i> .....	465

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See related papers from other International Workshop and Conference Proceedings:

1. The Range of Legal Enforcement Tools in Lithuania and Problems, *Lygis, D.*, Volume 2, Chiang Mai, Thailand, 1996, Page 102 - 102

2. El Salvador's Experience in the Design of Environmental Programs, *Navarrete Lopez, G.*, Volume 2, Chiang Mai, Thailand, 1996, Page 997 - 100
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## **PENALTY CAP PROGRAMS**

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### **SUMMARY**

What motivates companies to comply with environmental laws? No doubt there are many reasons, but clearly one of the most important is the desire to avoid costly sanctions for illegal conduct. Civil enforcement in the United States is built on the assumption that penalizing violators not only hastens their return to compliance, but helps deter noncompliance by others by establishing that it does not pay to pollute.

While fundamentally sound as theory, deterrence-based enforcement does face practical limits. It depends on frequent and effective compliance monitoring, which may in fact be limited by scarce resources and the inherent difficulty of detecting certain types of violations. While most enforcement actions in the United States are ultimately settled out of court, the negotiations that precede such agreements can be protracted and costly. The regulated industry often claims

-- rightly or wrongly -- that it did not understand the requirement in question. Deterrence obviously cannot work so long as companies assume they are exempt from the law. Finally, exclusive reliance on enforcement probably does not provide sufficient incentive for the regulated industry to cooperate in identifying and correcting problems.

### **1 PENALTY CAP PROGRAMS - POWER LIABILITY FOR SELF-CORRECTION WITH DEADLINES**

The United States Environmental Protection Agency has attempted some useful experiments to overcome these barriers by inviting targeted companies to disclose and correct violations, while increasing the risk of enforcement for those not taking advantage of this opportunity. These "penalty cap" programs share several common features:

- a. The Agency notifies a group of regulated industry that they are, or may be, subject to specific environmental requirements. Usually this notice is personal, directed to the senior corporate manager with responsibility for compliance. It may also be accompanied by a concerted effort to help the companies targeted to understand the requirements, and advertise pollution prevention and other cost-effective options for compliance.
- b. Companies are given a time limited opportunity to disclose and correct violations, subject to a widely publicized and meaningful deadline.
- c. Participants that disclose violations within the deadline and commit to return to compliance receive a greatly reduced penalty. The penalty limits are advertised in advance, either through a fixed amount by reference to a known formula for recovering any economic benefit the violator may have gained from its noncompliance.

- d. Companies that do not take advantage of this time limited offer face a greater risk of future inspection and enforcement.

It may be useful to review EPA's practical experience with these experiments, before considering their broader applicability to enforcement.

## 2 CHEMICAL HAZARD REPORTING

Section 8 of the Toxic Substance Control Act (TSCA) requires companies that manufacture, process or distribute chemicals to inform EPA of any information that reasonably supports the conclusion that a mixture or substance presents a "substantial risk of injury to health or the environment." With over 1000 new chemical compounds introduced into American commerce every year, these requirements help inform the government about potential hazards of certain chemical products. The Agency uses information submitted under this law to regulate or limit the manufacture or use of a chemical, or require appropriate warning labels.

Almost 10 years ago, through the Toxic Substance Control Act Section 8(e) enforcement actions, the Agency discovered that these requirements were either misunderstood or ignored, or many companies were not submitting information on chemical risk as required. The apparent confusion and widespread noncompliance among the regulated community suggested that enforcement would be a time-consuming, expensive process. To encourage prompt reporting, the Agency decided instead to establish a limit on penalties for companies that agreed to conduct an audit and disclose any tests, studies or other data regarding chemical risks required to be reported under the Act. The program was announced through a federal register notice in February of 1991, and companies had 5 months to register for participation, and were required to report any data no later than February of 1992.

Penalties were "capped" (limited) at \$15,000 for any test or study about human health effects, and \$6,000 for animal studies (it is sometimes less clear that human health risks can be extrapolated from animal tests). Most importantly, the total liability for participating companies was limited to \$1 million, regardless of the number of reports ultimately submitted. Under federal law, companies could have been liable for \$25,000 for *each day each report* was submitted beyond the original deadline, with potential penalties reaching the tens of millions of dollars for large companies with multiple studies to report. The Agency chose to forego these high penalties in the interest of expediting compliance and obtaining this health data more quickly.

This incentive structure was clearly attractive to industry. One hundred and twenty-three companies registered to participate, and 90 companies located and submitted an astounding total of over 11,000 reports regarding potential chemical risk, and paid total penalties exceeding \$22 million. By contrast, the Agency had received an average of about 100 reports per year prior to the Toxic Substance Control Act "CAP" program. Most of the information received has been reviewed by the Agency, and much of it is now available to the general public.

## 3 MULTI-MEDIA COMPLIANCE AT "MINI-MILLS."

Mini-mills, generally defined as electric furnaces with associated rolling mills, are the fastest growing segment of steel production in the United States. Their operations are subject to multiple environmental requirements under the a number of Acts: CWA (discharges and spill

prevention), EPCRA (reporting), CERCLA (reporting), RCRA (hazardous waste management and recordkeeping), TSCA (labeling and reporting) and CAA (emissions). In January of 1996, EPA offered a new policy to substantially reduce penalties for any company willing to audit, disclose and correct violations but by the end of 1996, no mini-mills had taken advantage of this offer.

Given the environmental impact of that steel making process, EPA's Region 5 office (which covers the industrial Midwest) decided to target the industry with a combined program of compliance assistance, incentives and enforcement. All 25 mini-mills were contacted with letters which included attached materials outlining applicable requirements, and inviting companies to take advantage of the opportunity to audit and correct violations in exchange for reduced penalties. Significantly, these letters informed companies that EPA would conduct inspections in late 1997, and EPA later provided copies of its multimedia investigation manual and pollution prevention self-assessments to guide the industry's own audits. These efforts were supplemented with other forms of assistance to mini-mills, such as a workshop and publication of specific answers to questions about the applicability of specific environmental laws to steel making operations.

Of the 25 companies contacted, 12 companies identified violations including inadequate storm water prevention, improper storage of hazardous waste, failure to test for opacity limits, and violations of wastewater permits. In addition, of the 12 companies that self-disclosed violations, 10 voluntarily conducted and submitted environmental audits. Most of these violations were corrected by June of 1998, and the Agency was able to waive penalties altogether under its audit policy. In late 1997, EPA began the promised inspections of facilities that chose not to participate in the program, and has identified significant violations that are expected to lead to enforcement actions at several facilities.

#### **4 ROCK CRUSHING OPERATIONS**

Rock Crushing operations are subject to New Source Performance Standards under the Clean Air Act that limit emissions of particulate matter. EPA's Region 7 office found that most of these operations in the state of Missouri (where EPA itself administered the program, rather than the state) had not performed necessary tests to ensure that their emissions were in compliance with the Act. Many of these facilities were small, closely-held companies without environmental compliance staffs. The Region, in conjunction with the Missouri Limestone Producers Association, announced that for a limited three-month period, any company in violation of the requirements could voluntarily come forward under the program, come into compliance with the testing and reporting regulations, and pay a stipulated penalty substantially lower than would normally be assessed for such violations. Forty five companies participated in the program, reporting violations at 70 plants across the state of Missouri, and paying an average penalty of approximately \$20,000. All of the companies participating in the program have completed the necessary testing and reporting requirements. Region 8 and the Missouri Department of Natural Resources worked together to determine whether companies that failed to come forward under the program were subject to the requirements. For those companies that were subject and did not come forward, Region 2 pursued traditional enforcement actions, having recently settled the last of those actions for a penalty of approximately \$400,000. The Region 7 initiative is a good example of EPA, the state, and a trade association working together to bring an industry, heavily populated with small businesses, into compliance with environmental requirements.

## **5 DO PENALTY CAPS WORK?**

What lessons might be drawn from EPA's experience with these limited amnesty programs? At a minimum, they should eliminate any doubt about the powerful effect that even the threat of enforcement has in motivating companies to comply. When mini-mills were told they were being targeted for increased inspections but given a chance to disclose and correct first, at least half did so. Surprisingly, participation rates were even higher among family owned gravel-crushing operations. By way of comparison, no mini-mills had stepped forward to voluntarily disclose and correct under EPA's audit policy prior to being notified that they were possible targets for inspection. Even where a broader audience is targeted -- such as the tens of thousands of companies responsible for reporting chemical hazard assessments -- the response is striking. The 11,000 tests submitted under that initiative were greater than in the entire history of the program. The high level of participation in these efforts suggests that companies will respond rationally when given specific notice of requirements, a tangible limit on liability, and the pressure of a deadline for disclosure and correction.

These CAP initiatives reduce some of the practical impediments to deterrence-based enforcement. Businesses given specific notice of requirements are less able to argue that, "they just didn't understand." Companies that choose not to take advantage of a clear opportunity to self-correct are clearly in a less sympathetic position should their violations later be discovered through an enforcement action. The government obtains information about compliance at a much faster rate than could be obtained by relying on enforcement alone.

The benefits, of course, are not limited to the enforcement program, but extend to the regulated industry as well. Offering a limited opportunity to correct may provide a little breathing space for both government and regulated industries to better understand how a particular set of requirements applies to a specific sector. Companies that came forward under the mini-mill initiative were able to clarify that certain operations were not subject to potential "new source" permit standards, thereby avoiding wasting resources on unnecessary controls. And most significantly, companies can volunteer to comply without suffering the stigma of a hostile enforcement action.

## **6 SHOULD PENALTY CAP PROGRAMS BE EXPANDED?**

The EPA faces new challenges as it considers expanding this approach. To be credible, the Agency must make good on its threat of follow up inspections and enforcement. The actions taken against gravel crushing operations helped illustrate the cost of recalcitrance, and agencies must anticipate the time and resources needed for such efforts. Interestingly, industries that do participate in voluntary initiatives often demand that action be taken against recalcitrant parties to ensure that the latter do not win an economic advantage by avoiding compliance costs.

EPA's initiative thus far have generally targeted requirements that do not require significant capital expenditures for compliance such as chemical use reporting. Whether the same level of response can be obtained for more expensive violations remains to be seen. The high cost of compliance with these programs might encourage some companies to resist making the necessary investments, forcing the Agency to litigate each case to conclusion. On the other hand, under EPA's penalty policies, the higher the cost to comply the higher the sanctions for avoiding these costs. CAP programs that make it more difficult to plead ignorance of the law and which include a credible threat of follow-up enforcement could make delay strategies much riskier.

Enforcement actions deter violations by increasing anxiety alone about the potential high cost of noncompliance. Incentive programs make constructive use of that concern by providing the opportunity to self-correct violations at a lower cost. Penalty cap programs that maintain a creative tension between anxiety and opportunity seem to have struck a responsive chord in the business community, and may offer the most realistic incentives to comply. If so, these programs may offer the greatest hope for compliance with the laws that protect our environment.



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## **MAKING THE POLLUTER PAY: EPA'S EXPERIENCE IN RECAPTURING A VIOLATOR'S ECONOMIC BENEFIT FROM NONCOMPLIANCE<sup>1</sup>**

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### **SUMMARY**

Civil penalties are an integral part of the Environmental Protection Agency's (EPA) enforcement program. While obtaining prompt compliance is the primary goal in all enforcement actions, the government must impose appropriate civil penalties if it wants to deter regulatees from violating the law. If all the Agency did was bring the polluter into compliance in each enforcement action, the regulatees would only rarely comply voluntarily. They would just wait until they were caught violating the law; only then would they comply. The cornerstone of EPA's civil penalty program is to recapture any economic benefit a violator obtains from violating the law. In each enforcement action, the Agency first determines what a violator's economic benefit is from violating the law.<sup>2</sup> Then the Agency adds to this figure an amount reflecting the seriousness of the violation. The resulting figure becomes the EPA's bottom line civil penalty that it will accept in settlement. This benefit recapture approach has had a major impact on EPA's civil penalty program, helping to make the "polluter pays" principle a reality rather than just a concept.

### **1 GENESIS OF THE BENEFIT RECAPTURE PROGRAM**

In the late 1970's, the United States Congress gave EPA the authority to impose substantial civil penalties in what was then its four major statutory programs: Clean Water Act (also referred to as the Federal Water Pollution Control Act), Clean Air Act, Toxic Substances Control Act (TSCA), and the Resource Conservation and Recovery Act (RCRA). The Agency realized that the water and air cases<sup>3</sup> would be generating large civil penalties, and the EPA sought to make the assessment of civil penalties a rational process. On April 11, 1978, the Agency issued a penalty policy<sup>4</sup> addressing the major air and water violations. That policy directed litigation teams to calculate the violator's economic benefit from violating the law as part of the penalty assessment process.

#### **1.1 How Violators Obtain an Economic Benefit from Violating the Law**

Violators obtain an economic benefit from violating the law by delaying compliance, avoiding compliance or achieving an illegal competitive advantage. In delaying compliance, the violators eventually comply, but they have the use of the money that should have been spent on compliance. The polluters then use that money for profit making investments. In a very simple sense, the violators "gain" the interest on the amount of money that should have been invested in pollution control equipment. A typical example is where a factory delays installation of a required waste water treatment facility. If the facility costs \$1,000,000 to install, and the violator waits until it gets caught three years later before it complies, the violator

probably saved about \$280,000 by delaying compliance. This initial economic benefit will continue to grow until the economic benefit is "disgorged" from the violator in the form of a penalty.

When a violator avoids compliance, it essentially will never incur those costs that would have been necessary to come into compliance. In a very simple sense, when a violator avoids a pollution control expenditure, it has the use of that money (i.e. the interest) and it gets to keep the principal (i.e. the actual cost of the avoided expenditure). The violator then uses both the principal and the interest for profit making investments. A typical example would be where a factory avoids the operation and maintenance costs for the above mentioned waste water treatment plant for the three years the polluter was out of compliance. If the facility's annual operation and maintenance costs are \$100,000, then the violator probably saved about \$200,000 by avoiding the operation and maintenance costs.<sup>5</sup>

The third type of economic benefit is derived from an illegal competitive advantage. There are four main varieties of this benefit type: 1) operating a plant at a higher capacity than the pollution control system would allow; 2) using economic savings to under-price competing goods and capture more market share, 3) selling banned products and 4) moving into a market earlier than a firm legally could. In the first variety, the violator is operating a plant beyond the capacity of its pollution control system, and the violator makes an illegal profit from the "extra" output. In the second variety, the violator uses its lower production costs to keep its prices below its complying competitors. In doing so, it can capture more of the market share for its products. In the third type, the polluter is selling banned products (e.g. a banned pesticide). Here any money made from the sale of those products would be illegal. The fourth variety is called an "early mover" illegal competitive advantage. Here the violator derives the benefit from entering the market earlier than it should have. For example, under section 5 of TSCA, a firm must allow EPA to review any new chemical before that firm can begin making it. EPA can take up to 180 days to review it, and impose any restrictions on the production and use of that substance it feels appropriate. If a chemical company wants to get into the market quickly with the new substance, it might start producing the chemical before submitting the chemical to EPA for review, thus undermining the whole regulatory scheme. Any sales of that chemical before EPA finished its review would be illegal. Consequently, any income generated from the sale of that substance prior to completion of the review would be an "early mover" competitive advantage.<sup>6</sup>

Interestingly, if one analyzes any of these illegal competitive advantage cases from a delayed or avoided cost perspective, the benefits are often negligible. In the golf course example, the economic benefits from delaying a wetlands filling permit application for six months are probably negligible. But because the illegal competitive advantage is usually very difficult to determine, the Agency in the last twenty years has focused almost exclusively on the benefits derived from delayed and avoided costs. This is changing as the EPA is planning to move into this area strongly in the next few years. The Agency plans to issue guidance on this subject by December of 1998.

## 1.2 Change in EPA Policy Makes Recapture of Benefit the Cornerstone of the Penalty Assessment Program

While there was extensive enforcement activity from the late 1970's through the mid-1980's,<sup>7</sup> the EPA's total annual civil penalty assessments reached the \$10 million level only once during that period.<sup>8</sup> In fact, the yearly average for total assessed civil penalties for fiscal years 1977 through 1984 was only about \$6 million.<sup>9</sup> There were two main reasons for this. First, the relevant penalty guidance directed the litigation teams to multiply any proposed civil

penalty by the chance of prevailing in court. If the litigation team thought they had only a 60% chance of prevailing in court, then they reduced the proposed penalty by 40%. The result of this policy was that virtually all penalties were quickly compromised, and EPA enforcement actions rarely recaptured the violators' economic gain from violating the law. Thus in many of these major enforcement actions, the violators still ended up saving money by violating the law.

The second reason why the penalties were so low during this period of time was that the EPA enforcement staff did not have an effective tool to calculate economic benefit. The Agency adopted the CIVPEN computer model to calculate the economic benefit of noncompliance in 1978. CIVPEN, while an important first step in this area, was too complex for our enforcement personnel to operate. In addition, it required our litigation teams to do extensive research into the financial background of each violator.<sup>10</sup> Because the model was so user-unfriendly, it soon fell into disuse.

The Agency addressed both these problems in adopting a new penalty policy approach in February of 1984.<sup>11</sup> This policy made the recapture of economic benefit the cornerstone of the penalty assessment process. The Agency would no longer settle a case for a penalty below the economic benefit except in unusual circumstances. In addition, the new policy essentially abandoned the CIVPEN model and adopted two simple rules of thumb for calculating delayed and avoided costs, respectively. But the policy committed the Agency to the development of a new computer model to perform these calculations. The BEN model was the fulfillment of that commitment.

### 1.3 EPA Issues a Much Improved Computer Model Called BEN

In November of 1984, EPA issued the BEN model for calculating the economic benefit from delayed and avoided compliance expenditures for settlement purposes. BEN had several advantages over the CIVPEN model. The main advantage was that it only required as little as seven pieces of data to operate. Those seven were: the name of the case, the cost of the equipment, the cost of any onetime expenditures unrelated to equipment, annual costs (such as operation and maintenance), the date noncompliance began, the date compliance was or would be achieved and the projected penalty payment date. (A detailed explanation of how the model actually works is presented in Appendix A.) BEN eliminated the data fields that were not needed for the calculation. In addition, the model provided standard values for the more complicated and difficult to obtain data such as: the useful life of the equipment, the violator's combined federal and state tax rates, the inflation rate and the violator's cost of capital. This enabled our enforcement professionals to run a BEN analysis in as little as ten minutes. With CIVPEN, the effort might take as long as two weeks. Thus while the EPA was now requiring its litigation teams to recapture the violator's economic benefit, it was empowering them to do the actual calculations themselves.

BEN is not the only way to calculate the economic benefit from delayed and avoided costs for settlement purposes. As mentioned previously, one could use a "rule of thumb" approach.<sup>12</sup>

In trials or hearings, the Agency almost always uses an expert witness to calculate the economic benefit. The experts always calculate the benefit based on their expertise. Their approaches are usually very similar to BEN, but they are almost always different in some regard. But as far as settlement negotiations are concerned, the EPA is convinced that the BEN model is the best approach. And since over 95% of the Agency's cases are settled, BEN has become the tool of choice.

Citizen plaintiffs have also sought to recapture the economic benefit from polluters. The Clean Water Act provides this remedy for private citizens when the federal or state regulatory agency fails to take an enforcement action. In fact much of the case law in the area of benefit recapture has come from these citizen suits. Just as with EPA, the citizen plaintiffs almost always rely on experts for calculating economic benefit in a trial.

The recapture of economic benefit was only one part of the 1984 Policy on Civil Penalties. That policy also directed enforcement professionals to calculate a separate component of the penalty to reflect the seriousness of the violative conduct. The policy referred to this as the gravity component. The policy directed our enforcement professionals to add the gravity component to the benefit component. The resulting figure was the bottom line penalty figure in any negotiations. Both components were needed to produce deterrence. If all the Agency did was recapture the economic benefit, the polluter would still be no worse off than the firm that complied on time. Thus it is essential that the penalty be bigger than the economic benefit component. Otherwise the penalty would only make the violator indifferent to noncompliance. In a sense, the real penalty is the gravity component.<sup>13</sup>

#### 1.4 Penalties Increase Sharply

The impact on the penalty assessment process was dramatic. As mentioned previously, for the ten years prior to the introduction of the BEN model, the total annual penalty assessments averaged about \$6 million per year.<sup>14</sup> In fiscal year 1985, the first year BEN was available, the total assessed penalties jumped to \$23 million.<sup>15</sup> In fiscal year 1988, the penalties were already at the \$37 million level,<sup>16</sup> and by fiscal year 1994, they exceeded \$100 million.<sup>17</sup> The success of this policy change was probably due to making the recapture of economic benefit a requirement, and giving EPA enforcement professionals a reliable user-friendly tool to measure that benefit.

An additional factor in this dramatic increase was that the BEN model introduced a high degree of objectivity into EPA's penalty calculations. This greatly enhanced the confidence EPA enforcement professionals had in their penalty figures. The 1984 Policy on Civil Penalties directed each program in the EPA to develop its own penalty policy based on the guidance it contained. As mentioned above, there were generally two components to every penalty calculation: economic benefit and gravity. The program-specific penalty policies that came out of the 1984 policy<sup>18</sup> focused on the gravity component as the economic benefit calculation was the same for all programs. While these penalty policies have been extraordinarily helpful in the assessment of civil penalties, those policies are based on the subjective judgment of their respective authors. The BEN model, on the other hand, is totally objective. When our enforcement professionals began running the model, they realized that the violators were obtaining substantial economic savings by violating the law. That made them much more determined to seek penalties large enough to deny polluters any gain from their violations. This greatly energized EPA's civil penalty program.

There were of course other factors at work that probably helped bring about this result such as changes in case selection considerations and penalty policy revisions. In addition, the changes in enforcement perspective that resulted from the departure of former EPA Administrator Anne Burford and the return to the Agency of former EPA Administrator William D. Ruckelshaus in 1983 also began having their full impact in fiscal year 1985. Furthermore, the Agency greatly increased its oversight over the penalty assessment process during this period. But even these changes could not account for the spectacular increase in the penalty

amounts that began in fiscal year 1985. If the changes regarding the benefit recapture requirement did not directly cause the substantial increase in civil penalties, they at least facilitated it.

## 2 LEGISLATIVE ISSUES

As mentioned above, the EPA adopted the consideration of economic benefit in its penalty assessments in 1978. At that time, none of our statutes even suggested looking at the economic benefit of noncompliance as a factor in penalty assessments. The statutes directed the Agency to consider such factors as the size of the violator, the history of noncompliance, and the seriousness of the violation. Nevertheless, the fact that the statutes were silent on the subject of economic benefit was never an issue in any of our litigated cases. Judges had no difficulty imposing substantial civil penalties based on economic benefit regardless of the statutory language.<sup>19</sup> Neither was this an issue in any of our negotiated settlements.

### 2.1 Why Statutory Language Has Not Been an Issue

There were probably two main reasons why it did not become an issue. First the amount of civil penalty imposed is very much within the discretion of the presiding judge. In order for a polluter to get a federal court of appeals to reverse a district court's imposition of a penalty, it has to demonstrate that the judge abused his or her discretion.<sup>20</sup> This is a very difficult standard to meet. Thus it usually does not make sense for litigants to appeal the way the judge imposed the civil penalty. In negotiation, the Agency is free to use any approach as long as the defendants have the opportunity to dispute the penalty assessment. The inclusion of economic benefit as a penalty factor was certainly reasonable within the negotiation context. The second reason why this probably never became an issue is that the courts in the first few decisions involving economic benefit supported the consideration of economic benefit in the penalty calculation<sup>21</sup>

### 2.2 Congress Adds Economic Benefit Language to Some of the Penalty Provisions

Over the years, Congress amended the Clean Air Act and the Clean Water Act. In both statutes, Congress added language directing the Administrator to consider economic benefit in assessing civil penalties. In fact, the Senate Report discussing the inclusion of economic benefit as a factor in Clean Water Act cases provided some extremely helpful language in regard to proving economic benefit:

Violators should not be able to obtain an economic benefit vis-a-vis their competitors due to their noncompliance with environmental laws. The determination of economic benefit or other factors will not require an elaborate or burdensome evidentiary showing. Reasonable approximations of economic benefit will suffice.<sup>22</sup>

The courts have often cited this language in their decisions in Clean Water Act cases.<sup>23</sup> But the Senate's discussion about what evidence would be needed to prove economic benefit in a Clean Water Act case should be applicable to all environmental enforcement actions as proving economic benefit in water cases is no different than any other medium.

Congress also enacted a series of major new environmental statutes since the Agency began routinely considering economic benefit: Superfund, EPCRA, and the Safe Drinking Water Act are the prime examples. In Superfund and EPCRA, the Congress wanted economic benefit considered, but in the Safe Drinking Water Act, Congress did not include it as a factor.

### 2.3 Current Statutory Approaches to Looking at Economic Benefit of Noncompliance

There are currently three main approaches to penalty assessment as expressed in our environmental statutes. The first type does not mention anything about economic benefit (RCRA, Federal Insecticide, Rodenticide and Fungicide Act (FIFRA), and the Marine Protection, Research, and Sanctuaries Act (MPRSA)). But even the lack of any mention has not proven to be an impediment in getting courts to include substantial benefit components in, for example, RCRA penalty actions.<sup>24</sup> The second type does not mention economic benefit specifically, but it includes a catch all usually called "other factors as justice may require" (Toxic Substances Control Act (TSCA), and the Safe Drinking Water Act (SDWA)). With this approach, one could argue that the recapture of the violator's economic benefit is one of those factor that justice requires. For proof, one could turn to the court decisions where virtually every judge addressing the recapture of economic benefit in a case involving a for-profit entity has agreed that the benefit should be recaptured.<sup>25</sup> The third approach is where the statute specifically mentions the economic benefit factor (Clean Water Act, Clean Air Act, Superfund and EPCRA). But none of these statutes actually requires recapture of the benefit; they only require consideration.<sup>26</sup> The recapture of benefit is essentially an EPA policy that has been adopted by the courts. The current penalty provisions of the Agency's major environmental statutes are set out in Appendix B.

## 3 JUDICIAL TREATMENT OF ECONOMIC BENEFIT ISSUES

Most of the judges presiding over environmental enforcement actions do not have a corporate finance background. Yet the decision as to how much benefit the violator obtained is clearly a question that calls for the application of corporate finance principles. Despite this fact, the judges, as in most cases involving expert witnesses, rely on the evidence in the case and apply the law to the facts. The district court judges and the EPA's administrative law judges have been receptive to recapturing economic benefit. EPA's and the state enforcement agencies' main challenge is proving the benefit.

### 3.1 Most Judges Do Not Have a Corporate Finance Background

Virtually all of the judges, both in the district courts and in the administrative arena, do not have any corporate finance background. A small number may have some accounting or commercial litigation experience such that they are familiar with some of the aspects of calculating economic benefit. But even these few judges are not familiar with the basic approach of calculating benefit through an application of discounted cash-flow analysis. While it would be very useful to educate them about these issues, such education poses certain practical problems. First, very few federal, state or local enforcement agencies routinely consider economic benefit in their enforcement actions. In the district court setting, judges rarely see any environmental cases. And only a fraction of all the environmental cases contains an economic benefit issue. Thus a district court judge could go an entire career without seeing

a benefit calculation issue. Consequently, it would be virtually impossible to determine which judges needed the training. In the administrative arena, the judges are usually assigned to handle the environmental agencies' cases. Thus they tend to see benefit issues on a more routine basis. Obviously, it would be very beneficial to train this group of administrative law judges. But any training would have to proceed very carefully in order to avoid any appearance of compromising the independence of the judiciary.

### 3.2 Judges and Administrative Law Judges Have Been Very Supportive of the Benefit Recapture Concept

Despite the judiciary's lack of experience with corporate finance issues, judges have been very supportive of the Agency's effort to recapture the economic benefit of noncompliance. As mentioned previously, with one exception, judges have agreed with the concept of benefit recapture in every case involving for-profit violators. We suspect the reason for this support is that it is very difficult for a judge in an enforcement action to allow a violator to make money from its violations. Judges probably recognize that if violators end up with a profit even after paying a penalty, there will be very little incentive for others to comply.

### 3.3 The Main Issue is Proving the Benefit

The real challenge in trials and hearings is to prove what benefit the violator obtained. There is usually substantial disagreement between the enforcing agency and the violator on this subject. The environmental agency presents its benefit of noncompliance calculation through an expert witness. As mentioned previously, the computer model, BEN, is designed primarily for settlement purposes. The current DOS-based version of BEN makes certain simplifying assumptions that are appropriate for settlement, and it performs some highly complex calculations that the user never sees. This is all done towards the goal of promoting settlement.<sup>27</sup>

But once the economic benefit calculation needs to be presented in a trial or hearing, the complex calculations need to be explained. While it is tempting just to run the BEN model and introduce the results in court or hearing, the defendant can be expected to demand that the witness introducing the BEN analysis explain what the model did to produce the benefit figure. Thus the government needs to produce an expert in financial economics to explain the calculations. But any expert testifies based on his or her own expertise, not the model's specific calculations, which may differ slightly from the expert's calculations. Consequently, the Agency almost never uses the current version of the BEN model in court or hearing.<sup>28</sup> The only exceptions would be if the defendant stipulated that it could be used, or if the expert witness' methodology was the same as the model's.

## 4 TRAINING IS CRITICALLY IMPORTANT TO THE PROGRAM

Despite the fact that the BEN model is very user-friendly, it is absolutely essential to the benefit recapture effort to train enforcement personnel how to use the model. Any training courses need to cover the basic theory behind the model, discuss the type of data the model needs and where to find it, explain how to use the model analyses effectively in negotiation, and allow all the trainees an opportunity to run the model through a series of sample problems. This last point may be the most important. The enforcement personnel will not feel comfortable using the model unless they can get an opportunity to actually run the model themselves.

#### 4.1 EPA's Experience in Conducting BEN Model Training

The Agency first began presenting training courses on the BEN model in 1984. The approach then was to merely provide a lecture and a demonstration. No trainees got the opportunity to run the model. The result was that very few enforcement personnel became regular users. EPA recognized this problem in 1988, and began an aggressive training program to reach each EPA regional office once every 18 months with an improved hands-on version of the BEN training course. The results were dramatic. The user base increased from about 40 to 700, and the penalties, which were already rapidly increasing, doubled less than three years after the first round of enhanced training courses.<sup>29</sup> By the time the third round was completed, the penalties exceeded the \$100 million level.<sup>30</sup>

Now that the Agency training programs have reached the regional offices at least three times since 1988, the main challenges are to: 1) maintain the training of the current users and 2) train new employees. For the current users, some of them do not use the model frequently so their familiarity with the model lessens over time. These users need some sort of refresher course once in a while. The second challenge stems from the turnover in staff and from new staff positions created to meet the demand of the Agency's increasing responsibilities. In either case, it is vital that the Agency reach these employees.

#### 4.2 Three Main Approaches to Training

The three main approaches EPA has employed are 1) live, in-person training, 2) conducting training via a two-way satellite broadcast, and 3) lending out videotapes of the course. By far the most effective approach is live, in-person training. Nothing can replace the interaction that takes place between instructor and trainee particularly when the instructor is in the same room as the trainee. The main difficulty is the expense associated with taking the training course to each of the Agency's ten regional offices and headquarters. The next best option is the two-way satellite training. There still is that critical interaction between instructor and trainee, but the interaction is restricted because of the barriers raised by instructor being located at a different site. Furthermore, there is no opportunity for the instructor to observe how the trainees are handling the actual operation of the computer model during the hands-on part of the training. In addition, there are significant costs associated with a three hour satellite broadcast. Although they are usually less than the cost of an in-person course. The least effective approach is to lend out copies of a videotaped lecture. There is no opportunity to ask clarifying questions, nor is there any help available for those running the model. While this last approach is very inexpensive, it is only used when the trainees do not have any access to live training. The EPA will be experimenting with different techniques to see if the videotape approach can be made more effective.

### 5 TIMELY USER SUPPORT CRUCIAL TO THE SUCCESS OF THE PROGRAM

With the introduction of the BEN model in 1984, EPA quickly learned that user support was needed even for a user-friendly computer model. In addition, effective user support had to be delivered on timely basis. With EPA having only limited resources to support this function, the Agency came up with some creative ways of providing user support.

### 5.1 Efforts to Simplify the Model Have Only Been Partially Successful

While the EPA succeeded in greatly simplifying the economic benefit recapture computer model, the BEN model still needs a user support system. The most common issues arise over characterizing compliance costs, interpreting compliance scenarios, interpreting the model's outputs, applying relevant policy and guidance and customizing the cost of capital (i.e. the discount rate) for a violator who raises this issue. In addition, there are many occasional users at the federal, state and local government level who are not conversant with how the model operates and need the most basic assistance. Fortunately, most of these issues can be dealt with easily; the challenge is responding quickly. Most of this support has come from headquarters over the past fourteen years. In addition, most of the regional offices have hired financial analysts to respond to these inquiries. But this system still cannot cope with the volume of inquiries from EPA and the states. Nor can it be responsive to highly complex benefit situations. EPA's solution has been to obtain the services of experts in financial economics through contracts. The contractor responds to inquiries directly through a helpline<sup>31</sup> except where the inquiry involves a legal or policy issue. Those inquiries are referred to headquarters. In addition, the contractor is responsible for updating the model, implementing improvements, conducting training and providing expert advice to headquarters.

### 5.2 EPA Still Needs More Financial Analysts for Effective User Support

Even with the extensive contractor and headquarters support, the Agency still needs a significantly larger group of financial analysts. With the increased use of the BEN model at the federal, state and local levels, the need for solid user support is even more critical. While the helpline has helped cover much of the need, it is far better to have several financial analysts located in headquarters and each regional office. There are several advantages of locating adequate numbers in each office. The main advantage is that they directly service the needs of regional enforcement personnel. Enforcement staff are far more likely to seek help when the analyst is in the same building than when the analyst is available only by phone. In addition, these analysts can also assist regional personnel in evaluating ability to pay claims and determining the value of SEP's. They can also provide training thus alleviating some of the training burden on headquarters. Finally, they can assist the states and local governments in their efforts to determine the economic benefit of noncompliance.

## 6 REACTION FROM REGULATEES

While the regulatees are not enthusiastic about EPA's benefit recapture approach, this is certainly not a surprise. They would of course prefer that EPA assess no penalties at all. There is however a grudging acceptance of the Agency's routine use of the BEN model. In fact the more sophisticated violators focus on the data inputs and discount rate assumptions rather than object to the application of the model to their violations. Since the model is readily available both through the National Technical Information Service (NTIS) and the EPA's web site,<sup>32</sup> Agency enforcement personnel often see BEN analyses produced by the violators themselves.

### 6.1 Unsophisticated Attacks by Violators

The unsophisticated violators have advanced some very creative explanations why the BEN model does not apply to them. The typical argument is that since they had enough money in the bank to cover all their compliance expenditures, their cost of capital (i.e. their "time value of money") was zero, and thus their economic benefit must also be zero.<sup>33</sup> But even though a firm might have the money for pollution control expenditures in the bank, current corporate finance theory tells us that in reality the firm will be forced ultimately to raise money by increasing the level of equity investment in the company (e.g. selling more shares of stock) and borrowing from banks. The company's time value of money is hence represented by a weighted average of both types of financing and is called the weighted average cost of capital, or WACC.

### 6.2 Attacks by Violators' Expert Witnesses

The more plausible arguments come from the violator's expert witnesses. The attacks on the Agency's benefit analyses focus usually on the appropriate costs, offsets, discount rate selection or discounting assumptions. There is often a substantial dispute over what compliance will cost. Obviously, the more expensive compliance costs, the higher the benefit. Offsets may be relevant where the violator may be incurring increased costs because its violations will necessitate an expensive clean-up that would have not been necessary had it been in compliance in the first place. The extra costs could offset the benefit of noncompliance in appropriate cases. The discount rate (i.e. the violator's cost of money), is often the most contentious issue in a benefit analysis. This rate reflects the riskiness of investing in the firm, and the government may have to develop one from the financial data of the violator or of other similar corporations.

The most interesting arguments occur over the Agency's discount rate assumptions. As explained above and in Appendix A, the Agency assumes that pollution control investments are financed at the WACC. For a typical firm, this is about 10.6%. The leading experts for the violators agree that part of the analysis should employ a WACC rate, but they claim that the other part of the calculation should be based on the after-tax risk-free rate of about 2.6%. Depending on the exact methodology the violator's expert employs, use of this rate can reduce the benefit analysis by as much as half, or even mysteriously turn a large economic benefit into a negative result (implying that the violator inexplicably lost money by delaying a large capital investment). EPA firmly believes that its approach is the most realistic way to analyze how violator finance pollution control expenditures. Interestingly, the only court decisions directly on point support either the EPA's approach<sup>34</sup> or the use of an even higher discount rate based solely on the equity portion of the WACC rate.<sup>35</sup> This rate would be about 15% or higher and would yield much higher benefit numbers than a discount rate based solely on the equity portion of the WACC rate.

## 7 REACTION FROM STATE AND LOCAL GOVERNMENTS

EPA is actively encouraging the state agencies to at least consider the economic benefit of noncompliance in their environmental enforcement actions. While some states have enthusiastically embraced the concept, many are still resistant.

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## 7.1 Why Some States Do Not Use BEN

There are three reasons why the states are not using BEN<sup>36</sup>. First many of the state personnel have not had access to training, and they quite understandably feel uncomfortable using the model. The remedy for this problem is quite simple: get them the training they need. The problem as mentioned above is getting the resources to bring the training program to those who need it. The second reason why states do not like to use the model is that often produces numbers that seem "too large". But the reason those numbers are as large as they are is because that is what the polluter actually saved by violating the law. Part of the concern over the size of the benefit component may also come from some states' fears that imposing large civil penalties will give people the impression that their respective states are not "business friendly". While this fear has proved unfounded, it nevertheless persists. Obviously, EPA will need to overcome this attitude if it is to make consideration of economic benefit a routine matter in state enforcement actions.

The third problem is the difficulty in finding reliable cost data to run the BEN model. While sometimes the compliance cost data are readily available, many times they are not. This is particularly so when the polluter is unsophisticated and does not know what it needs to comply. It can also be a problem with sophisticated violators that refuse to furnish the data to the state agency. While discovery is often a useful option, it is sometimes unavailable legally or for some other practical reason. EPA runs into these problems, but because of its access to expertise, it usually is not much of an obstacle. Nonetheless, EPA is in the process of developing a computerized data base for RCRA hazardous waste program compliance costs. This will allow users to quickly develop realistic compliance cost scenarios for RCRA cases. Should this effort prove effective, it is likely that similar data bases will follow for air and water cases, the two biggest users of BEN.

## 7.2 EPA is Encouraging States to Consider Economic Benefit in Penalty Assessments

The Agency is now actively encouraging the states to routinely consider the violator's economic benefit in all cases where it is relevant. While the EPA is not requiring that the benefit actually be recaptured, it reserves the right to file a parallel federal enforcement action should the state penalty be inadequate. The Agency does not require the states to use the BEN model, but it instead makes it available to them and provides some training. But since the states lack access to financial analysts, and there is no real effective alternative to the BEN model,<sup>37</sup> BEN is the best tool for them. The key question then becomes getting the state and local government enforcement staffs trained. State and local government personnel are invited to virtually every EPA training course, and many attend those courses. The problem is that many state and local government enforcement agencies lack the travel money to attend BEN training courses in the EPA's respective regional offices. Where possible, EPA has conducted BEN training courses in state capitals and in the offices of local government agencies.<sup>38</sup> When resources permit state and local government on-site training, EPA will be responsive, but the first priority still is training EPA staff in headquarters and the regional offices.

## 8 CASE STUDIES

This paper will now present three case studies where the determination of economic benefit was a major issue. The trier of fact in each of these cases handled the benefit issue very differently, but each provides a very good illustration of what can happen in these sorts of cases.

### 8.1 United States v. Smithfield Foods, Inc.<sup>39</sup>

Smithfield is a large meat processor located in the State of Virginia. Smithfield's violations of the Clean Water Act were massive and flagrant. The government presented evidence at trial that large pieces of butchered hogs were seen floating down the river next to the factory. It became apparent that the polluter saved a great deal of money by delaying and avoiding compliance, and the judge determined that the economic benefit in the case was \$4.2 million. She also determined that the gravity component was \$8.4 million for a total civil penalty of \$12.6 million. This was the largest penalty ever assessed under the Clean Water Act, and Smithfield has appealed. The violator brought in two of the top defendants' experts in an attempt to minimize the benefit, but the judge clearly rejected the defendant's theory. She instead accepted the government's expert's discount rate approach, specifically validating the use of a company's weighted average cost of capital as a discount rate.

### 8.2 In re: B.J. Carney Industries, Inc.<sup>40</sup>

B.J. Carney operated a wood pole treatment operation in Sandpoint, Idaho and was caught discharging untreated process waste water into the local publicly owned treatment works (POTW). The violations began in 1984, and continued until the plant shut down in 1990. At the hearing in 1993, the government's expert clearly established that B.J. Carney obtained a substantial economic benefit by avoiding compliance. The benefit was so large, that it exceeded the statutory cap on Clean Water Act administrative enforcement actions of \$125,000. B.J. Carney's defense counsel tried to shake our expert's testimony, but could not do so. And the respondent never presented its own expert. Instead, the respondent's attorney tried to make a series of invalid attacks on the Agency's approach. Nevertheless, the presiding officer decided that the government had not proved that the respondent obtained any benefit and ruled that the economic benefit was zero. While the result was disturbing, the administrative law judge's (ALJ) reasoning was far more troubling.

At the urging of the author of this article, the EPA appealed the decision to the Agency's Environmental Appeals Board. The Board, in reversing the ALJ's decision, sided with the Agency on virtually every issue. One of the more significant holdings was the adoption of the approach suggested in the Senate report on the Clean Water Act amendments that stated that the Agency would not have to establish economic benefit by an "elaborate or burdensome evidentiary showing". The Board remanded the case for reconsideration of the economic benefit component. On remand, a different ALJ agreed with the Agency's expert that the benefit exceeded the statutory maximum and awarded the \$125,000. B.J. Carney has appealed to the Federal Court of Appeals for the Ninth Circuit.

### 8.3 United States v. Municipal Auth. of Union Township<sup>41</sup>

While the name of this case suggests it was an enforcement action against a POTW, Union Township was only the first party named in the case. The government settled with Union Township leaving the industrial user, Dean Dairy, to contend with. The case is usually referred

to as the "Dean Dairy" case. Dean Dairy is one of the largest milk processors in the United States. But their plant, located in Pennsylvania, did not have any pretreatment. Instead, it paid some very substantial fees for handling their industrial wastewater at Union Township's POTW. But the POTW had no way of handling that wastewater, and it essentially dumped it untreated into a nearby stream. The resulting damage was extensive. The government sued, and in conducting a BEN analysis of the delayed and avoided costs, we found that the benefits were totally offset by the very large fees paid to Union Township. Thus the government stipulated that there was no economic benefit from delayed or avoided costs.

But it was unclear how early the pretreatment option had been available to Dean Dairy, and whether Dean Dairy could have complied without reducing its output. Had output reduction have been necessary, Dean Dairy's own documents established that they would have lost a major customer, Penn Maid, whose business was worth \$417,000 per year in earnings. The judge found that there were 4.8 years of violation, and multiplied the \$417,000 by 4.8 to yield a benefit component of \$2,015,500. And to promote deterrence, she multiplied that figure by two to yield a final penalty figure of \$4,031,000. On July 20, 1998, the Federal Court of Appeals for the Third Circuit upheld the district court's decision.

This case helps illustrate two issues in particular. The first is that regardless of whether there is any economic benefit based on delayed or avoided costs, one should always make an attempt to determine if there is any economic benefit based on illegal competitive advantage. The second issue is the importance of thinking creatively. The litigation team came up with this approach totally on their own, and proved it without an expert witness. They just relied on the defendant's own documents and witnesses.

## 9 CONCLUSION

The adoption of the benefit recapture requirement along with the development of the BEN computer model in 1984 revolutionized the Agency's civil penalty program. EPA provided its enforcement professionals with the tools, training and encouragement to seek substantial civil penalties in order to recover economic benefit. And the enforcement staff has responded by obtaining annual civil penalties that are ten times the previous record amount. The major challenges on the horizon for the benefit recapture approach are the introduction of a new windows version of the BEN model which should be ready this fall, development of effective guidance on the issue of benefit based on illegal competitive advantage and ensuring that all federal, state and local government enforcement personnel receive the BEN training they need.

## ENDNOTES

1. The views expressed in this article are the author's and do not necessarily reflect the views of the U.S. EPA.
2. In many of our enforcement actions, the benefit is zero either because the violator did not save any money from its violations or because the Agency cannot prove there was a benefit.
3. Virtually all of these air cases came from the stationary source program, and very few came from the mobile source program.
4. EPA, "Civil Penalty Policy" (1978)

5. In the typical case, the BEN model would calculate both the benefit from delayed expenditures and avoided costs simultaneously to yield a total economic benefit figure of \$480,000.
6. There are different opinions as what is the appropriate measure of economic benefit here. Benefit can be based on: 1) the gross receipts for the illegal sales; 2) the net profit on the illegal sales; 3) an analysis of what producing the new substance early means in regard to increasing the value of the business.

Another very different example of an early mover advantage would be where a firm needed a government permit before it could fill a wetland in order to build a golf course. But instead of waiting for the approval, it went ahead six months prior to the approval, filled the wetland, and constructed the golf course. The violator did this because it wanted to have the golf course completed in time for the start of the golf season. But the first six months of income from the golf course would be an illegal competitive advantage. Even though the government approval eventually came and there was no environmental damage, the violator's conduct does violence to entire regulatory scheme. And the primary motivation to violate the law was clearly economic.

7. EPA, "Enforcement Accomplishments Report - FY 1989" (1990) at p. 18.
8. Id. at 15-17.
9. Id.
10. For example, users were required to determine the violator's debt to equity ratio, tax rate, equity rate of return.
11. EPA, "Policy on Civil Penalties," (1984); and its companion document, "A Framework for Statute-Specific Approaches to Penalty Assessments," (1984). Both these documents have been codified in the General Enforcement Policy Compendium as PT-1.1 and PT-1.2, respectively.
12. In one of the early court decisions involving the economic benefit of noncompliance, the trial judge actually applied the rule of thumb from the 1984 penalty policy in determining the economic benefit of noncompliance. Chesapeake Bay Foundation v. Gwaltney of Smithfield, 611 F.Supp. 1542 (D.Va 1985) *aff'd*, 791 F.2d 304 (4th Cir.1986), *rev'd on other grounds*, 108 S.Ct. 376 (1987).
13. In some violations, there are virtually no delayed or avoided costs. Neither is there any benefit from an illegal competitive advantage. These are typically paperwork types of violations (e.g. failure to label a PCB transformer under TSCA). While the potential consequences for such a violation could be devastating, there really is no benefit of noncompliance to speak of. In such cases, the penalties are based solely on the gravity component.
14. See footnote 6, supra.
15. Id.
16. Id.

17. EPA, "Enforcement Accomplishments Report for Fiscal Year 1994", (1995) p. 4-5. In recent years, the total penalty amount has not exceeded the \$100 million level, but some of this may be due to the Agency's efforts to encourage violators to mitigate their civil penalties by performing supplemental environmental projects (SEP's). The Agency evaluates each SEP using a variant of the BEN model, PROJECT. PROJECT provides the litigation team with the real cost of the SEP to the violator (i.e. the after-tax, net-present value of a proposed SEP). The value of those SEP's is reported on the enforcement programs central data base along with penalty and compliance cost information. When one adds the value of all the SEP's to the penalty information, the real totals have been about \$160 million in fiscal year 1996 and \$180 million in fiscal year 1997. EPA, "FY 1997 RECAP Measures of Success Management Report", (1998) p. 28.
18. As of this writing, there were thirty-three different penalty policies.
19. Chesapeake Bay Foundation v. Gwaltney of Smithfield, 611 F.Supp. 1542 (D.Va 1985)aff'd, 791 F.2d 304 (4th Cir.1986), rev'd on other grounds, 108 S.Ct. 376 (1987); Ohio ex rel. Brown v. Dayton Malleable, Inc., Case No. 78-694, 8 (October 10, 1979), rev'd, No. 6722 (Ct. App., Montgomery County, 1979), rem'd for partial reinstatement, 1 Ohio St. 3d 151, 438 N.E.2d 120 (Sup. Ct. 1982).
20. United States v. Municipal Auth. of Union Township, 1998 U.S. App. LEXIS 16440; Sasser v. EPA, 990 F.2d 127 (4th Cir. 1993).
21. Id.
22. S.Rep. No. 50, 99th Cong., 1st Sess. 25 (1985) (emphasis added).
23. Sierra Club v. Cedar Point, 73 F.3d 546, 576 (5th Cir. 1996); Public Interest Research Group of New Jersey, Inc. v. Powell Duffryn Terminals Inc., 720 F.Supp. 1158, 1166 (D.N.J. 1989), aff'd in part and rev'd in part, 913 F.2d 64, 79 (3d Cir. 1990), cert. denied, 111 S.Ct. 1018 (1991); In re: B.J. Carney Industries, Inc., CWA Appeal No. 96-2 (Docket No. 1090-09-13-309(g)) at page 70.
24. United States v. Ekco Housewares, Inc. 853 F.Supp. 975 (N.D. Ohio 1994) aff'd in part, rev'd in part 62 F.3d 806 (6th Cir. 1995).
25. When the violator is a municipality or some other not-for-profit entity, I suspect that judges might be hesitant about recapturing the entire benefit from noncompliance.
26. Section 120 of the Clean Air Act actually requires the recapture of economic benefit, but it is rarely used at best. It has its own unique computer model that has gone through rulemaking.
27. The soon to be released Windows-based version of BEN improves on its predecessor by tailoring many of its assumptions to the case-specific facts, and by displaying all of the details for its highly complex calculations.
28. The Agency does anticipate that its experts will use the new Windows-based version in many future cases. Other cases, however, may require more complex calculations for which customized computer spreadsheets are necessary. Still others may be so simple that BEN will not be necessary, and even less complicated analytical tools may be suitable.

29. EPA, "Enforcement Accomplishments Report FY 1993", (1994) p. 12.
30. Id.
31. The international toll-free number staffed by our contractor, Industrial Economics, Incorporated, is: (888) 326-6778 or (888) ECONSP. In addition, the helpline can be reached by electronic mail at: [benabel@indecon.com](mailto:benabel@indecon.com). Callers can obtain copies of the BEN model and printed documentation, as well as receive assistance with running the model. The helpline also provides assistance for the Agency's other computer models, which evaluate the true cost to a violator of supplemental environmental projects (SEP's), and also assess the ability of violators (whether corporations, individuals, or municipalities) to pay for environmental expenditures.
32. The address of the web site is <http://es.epa.gov/oeca/models>. EPA's other financial analysis computer models are also located at this site. They are three that deal with ability to pay claims: ABEL looks at claims from for-profit entities, INDIPAY looks at claims from individuals and MUNIPAY looks at claims from municipalities, towns, villages, sewer authorities and drinking water authorities. The last model, PROJECT, determines the out-of-pocket cost of a supplemental environmental project (SEP) to a violator. Violators propose SEP's in the hope of mitigating their penalty liability. This model tells what the SEP actually costs the violator. All these models are also available through the NTIS.
33. Unsophisticated counsel for sophisticated regulatees have made the same mistake.
34. United States v. Smithfield Foods, Inc., 972 F.Supp. 338 (E.D. Va. 1997). This case is discussed in section 8.1.
35. Friends of the Earth v. Laidlaw Environmental Services, 890 F.Supp. 470, 518 (D.S.C. 1995) rev'd on other grounds 1998 U.S.App. LEXIS 166298; PIRG of New Jersey Inc. v. Magnesium Elektron Inc., 40 ERC 1917, 1928 (1995).
36. While there is no hard data available from which one could determine how many states routinely seek to recapture the benefit of noncompliance, anecdotal information suggests that only a handful of them do this.
37. On October 9, 1996, the EPA issued a Federal Register notice requesting comment on the Agency's benefit recapture approach. One of the issues the Agency was particularly interested in was whether there were any alternatives to the BEN model for environmental enforcement agencies. Despite the fact that the notice specifically requested commenters to present or suggest alternatives, none were formally submitted. One state representative informally commented that they used something else. But an analysis of that supposedly simpler approach revealed that it was harder to use than BEN and produced very inaccurate results.
38. EPA has conducted such on-site training in the following states: Alaska, Arkansas, Connecticut, Idaho, Indiana, Louisiana, Maryland and New Jersey. EPA has also scheduled a course for Arizona in September. In addition, EPA has conducted BEN courses at the South Coast Air Management District (California) and Broward County (Florida).
39. 972 F.Supp. 338 (E.D. Va. 1997).

40. CWA Appeal No. 96-2 (Docket No. 1090-09-13-309(g)).
41. 929 F.Supp. 800 (M.D. Pa. 1996) *aff'd* 1998 U.S. App. LEXIS 16440.

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**APPENDIX A****HOW THE MODEL WORKS<sup>1</sup>**

This Appendix provides a more detailed explanation of how the BEN model works. It is a fairly broad overview of the major steps the model takes in performing its calculations. This Appendix also provides a simple example for BEN analysis. For a more detailed explanation, see the BEN Users Manual, 1998 edition.

The BEN model assumes that if funds are not spent on pollution control, they will be internally invested in projects that will benefit the entity through increased revenues. In contrast, while pollution control is a necessary cost of doing business, it does not generate revenue for the entity.<sup>2</sup> Thus delaying compliance means that the violator can use money that should have been spent on pollution control for revenue producing activities. In determining the economic benefit of noncompliance, BEN calculates the cost difference in complying with environmental requirements on time and complying late.

The basic financial principle supporting BEN is the "time value of money". Cash flows (i.e. payment or receipt of funds) occurring in different years are not directly comparable. The only way to directly compare them is to convert all cash flows to dollars of the same year. This conversion is accomplished through an application of the financial theory known as present value. This theory is based upon the principle that a dollar today is worth more than a dollar a year from now. Today's dollar can be immediately invested and earn a return over the coming year. For example, \$100 today invested at 10% per year interest is equal to \$110.00 a year from now. Conversely, assuming the same 10% "discount rate", \$110 one year from now is equal to \$100 today. The earlier a cost is incurred, the greater the potential return and economic impact. BEN accounts for the "time value of money" effect by discounting all estimated future cash flows to their present value equivalents.

The model constructs two analyses for each case. The first calculates compliance costs as if the violator complied on time. Second, the model calculates the cost of complying late. It converts all compliance costs to the date the noncompliance began, and then subtracts the delay case compliance costs from the on-time case costs. This yields the initial economic benefit as of the noncompliance date.<sup>3</sup> The initial benefit is stated in the dollar value of the year compliance was required (i.e. when noncompliance began). Then the model compounds the initial benefit forward to the actual benefit (i.e. the benefit as of the date the penalty will be paid) by a rate equal to the violator's cost of capital (i.e. its cost of money).

The following is a simplified application of the BEN model to a typical violation. The violator was supposed to install and have operating a pretreatment system on July 1, 1994. In 1997, an EPA inspector discovered that the violator never installed the proper equipment. EPA estimates that the equipment cost \$1,000,000 in 1996 dollars and that the annual operation and maintenance costs are \$100,000 in 1996 dollars. EPA expects the violator to comply by December 1998 and that settlement and penalty payment will occur in June of 1999. The output produced by the DOS version of BEN follows on the next page, along with the data inputs for this case.

In summary, BEN first constructs a parallel case where the firm achieves compliance on-time, and determines that total on-time compliance costs were \$1,663,000 in 1994 dollars (see item B). BEN then determines that compliance will only cost \$1,153,000 in 1994 dollars if the violator complies in December 1998 instead of July 1994 (see item C). BEN then subtracts the delay case costs from the on-time case costs to yield an initial economic benefit of \$510,000 in 1994 dollars (see item D). But this amount reflects the benefit in 1994. In fact,

the violator will have had the use of this money up to June 1999 the time EPA anticipates that the violator will pay its civil penalty. In order to convert this figure to 1999 dollars, BEN compounds the \$510,000 forward at a rate equal to the violator's cost of capital (discount rate). In this case the model used 10.6% to yield an economic benefit figure of \$837,000 in 1999 dollars (see item E). The Agency's policy is to recapture this amount by assessing a civil penalty of at least \$837,000.

XYZ CORPORATION

BEN VERSION4.4

AUGUST 3, 1998

A	VALUE OF EMPLOYING POLLUTION CONTROL ON-TIME AND OPERATING IT FOR ONE USEFUL LIFE IN 1994 DOLLARS .....	\$1,183
B	VALUE OF EMPLOYING POLLUTION CONTROL ON-TIME AND OPERATING IT FOR ONE USEFUL LIFE PLUS ALL FUTURE REPLACEMENT CYCLES IN 1994 DOLLARS .....	\$1,663
C	VALUE OF DELAYING EMPLOYMENT OF POLLUTION CONTROL EQUIPMENT BY 53 MONTHS PLUS ALL FUTURE REPLACEMENT CYCLES IN 1994 DOLLARS .....	\$1,153
D	ECONOMIC BENEFIT OF A 53 MONTH DELAY IN 1994 DOLLARS (EQUALS B MINUS C).....	\$ 510
E	THE ECONOMIC BENEFIT AS OF THE PENALTY PAYMENT DATE 59 MONTHS AFTER NONCOMPLIANCE .....	\$ 837

(Dollars in Thousands)

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->->->->-> THE ECONOMIC BENEFIT CALCULATION ABOVE <-<-<-<-<-<-  
USED THE FOLLOWING VARIABLES:

**USER SPECIFIED VALUES**

1A	CASE NAME =	XYZ CORPORATION
1B	PROFIT STATUS =	FOR-PROFIT
1C	FILING STATUS =	C-CORPORATION
2	INITIAL CAPITAL INVESTMENT (RECURRING)=\$	1000000 (1996 DOLLARS)
3	ONE-TIME NONDEPRECIABLE EXPENDITURE =	\$0
4	ANNUAL EXPENSE =	\$ 100000 1996 DOLLARS
5	FIRST MONTH OF NONCOMPLIANCE =	7, 1994
6	COMPLIANCE DATE =	12, 1998
7	PENALTY PAYMENT DATE =	6, 1999

**STANDARD VALUES**

8	USEFUL LIFE OF POLLUTION CONTROL EQUIPMENT =	15 YEARS
9	MARGINAL INCOME TAX RATE FOR 1986 AND BEFORE =	49.6 %
10	MARGINAL INCOME TAX RATE FOR 1987 TO 1992 =	38.6 %
11	MARGINAL INCOME TAX RATE FOR 1993 AND BEYOND =	39.4 %
12	ANNUAL INFLATION RATE =	1.8 %
13	DISCOUNT RATE: WEIGHTED-AVERAGE COST OF CAPITAL	10.6 %

**REFERENCE**

- 1 Most of this explanation was taken from an earlier article I wrote that appeared in Volume XXXV, No. 2 (Symposium Issue, 1990) for the South Dakota Law Review. This was in turn updated and reprinted, with the permission of the University of South Dakota Law Review, in the National Environmental Enforcement Journal, April 1991.
- 2 In rare cases, the violator may actually lose money by delaying or avoiding compliance with the law. This could happen through tax law changes (e.g., the new tax code deletes a tax credit for pollution control equipment investments). This could also happen if the new nonpolluting equipment is more cost effective than the old polluting equipment. Thus delaying compliance forced the violator to forgo substantial cost savings. In such cases, one should always go beyond the BEN analysis to see if there might have been another motivation to violate the law. In many of these situations, the real benefit is from an illegal competitive advantage. For example, the new complying equipment was more cost effective, but it produced an inferior product. The violator was really motivated to violate the law by the desire to maintain its customer base.
- 3 In rare cases, the violator may actually lose money by delaying or avoiding compliance with the law. This could happen through tax law changes (e.g. the new tax code deletes a tax credit for pollution control equipment investments). This could also happen if the new nonpolluting equipment is more cost effective than the old polluting equipment. Thus delaying compliance forced the violator to forgo substantial cost savings. In such cases, one should always go beyond the BEN analysis to see if there might have been another motivation to violate the law. In many of these situations the real benefit is from an illegal competitive advantage. For example, the new complying equipment was more cost effective, but it produced an inferior product. The violator was really motivated to violate the law by the desire to maintain its customer base.

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**APPENDIX B****PENALTY PROVISIONS FROM ENVIRONMENTAL STATUTES****Clean Air Act**

## Section 7413(e)(1)

In determining the amount of any penalty to be assessed under this section or section 7604(a) of this title, the Administrator or the court, as appropriate, shall take into consideration (in addition to such other factors as justice may require) the size of the business, the economic impact of the penalty on the business, the violator's full compliance history and good faith efforts to comply, the duration of the violation as established by any credible evidence (including evidence other than the applicable test method), payment by the violator of penalties previously assessed for the same violation, the economic benefit of noncompliance, and the seriousness of the violation.

## Section 7524(b)

In determining the amount of any civil penalty to be assessed under this subsection, the court shall take into account the gravity of the violation, the economic benefit or savings (if any) resulting from the violation, the size of the violator's business, the violator's history of compliance with this title, action taken to remedy the violation, the effect of the penalty on the violator's ability to continue in business, and such other matters as justice may require.

**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund)**

## Section 9609(a)(3)

In determining the amount of any penalty assessed pursuant to this subsection, the President shall take into account the nature, circumstances, extent and gravity of the violation or violations and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings (if any) resulting from the violation, and such other matters as justice may require.

**Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA)**

## Section 11045(b)(1)(C)

In determining the amount of any penalty assessed pursuant to this subsection, the Administrator shall take into account the nature, circumstances, extent and gravity of the violation or violations and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings (if any) resulting from the violation, and such other matters as justice may require.

**Federal Insecticide, Fungicide, and Rodenticide Act**

## Section 136/(a)(4)

Determination of penalty.-- In determining the amount of the penalty, the Administrator shall consider the appropriateness of such penalty to the size of the business of the person charged, the effect on the person's ability to continue in business, and the gravity of the violation. Whenever the Administrator finds that the violation occurred despite the exercise of due care or did not cause significant harm to health or the environment, the Administrator may issue a warning in lieu of assessing a penalty.

**Federal Water Pollution Control Act**

## Section 1319(d)

In determining the amount of a civil penalty the court shall consider the seriousness of the violation or violations, the economic benefit (if any) resulting from the violation, any history of such violations, any good-faith efforts to comply with the applicable requirements, the economic impact of the penalty on the violator, and such other matters as justice may require.

## Section 1319(g)(3)

In determining the amount of any penalty assessed under this subsection, the Administrator or the Secretary, as the case may be, shall take into account the nature, circumstances, extent and gravity of the violation, or violations, and, with respect to the violator, ability to pay, any prior history of such violations, the degree of culpability, economic benefit or savings (if any) resulting from the violation, and such other matters as justice may require.

**Marine Protection, Research, and Sanctuaries Act of 1972**

## Section 1415(a)

In determining the amount of the penalty, the gravity of the violation, prior violations, and the demonstrated good faith of the person charged in attempting to achieve rapid compliance after notification of a violation shall be considered by said Administrator.

**Safe Drinking Water Act**

## Section 300g-3(b)

The court may enter, in an action brought under this subsection, such judgment as protection of public health may require, taking into consideration the time necessary to comply and the availability of alternative water supplies; and, if the court determines that there has been a violation of the regulation or schedule or other requirement with respect to which the action was brought, the court may, taking into account the seriousness of the violation, the population at risk, and other appropriate factors, impose on the violator a civil penalty of not to exceed \$25,000 for each day in which such violation occurs.

**Solid Waste Disposal Act (Resource Conservation and Recovery Act, RCRA)**

Section 6928

In assessing such a penalty, the Administrator shall take into account the seriousness of the violation and any good faith efforts to comply with applicable requirements.

**Toxics Substance Control Act**

Section 2615(a)(2)(B)

(B) In determining the amount of a civil penalty, the Administrator shall take into account the nature, circumstances, extent, and gravity of the violation or violations and, with respect to the violator, ability to pay, effect of ability to continue to do business, any history of prior such violations, the degree of culpability, and such other matters as justice may require.



## WORKSHOP 3E ROLE OF NEGOTIATION IN ENFORCEMENT

This workshop will address the appropriate role of negotiation in environmental enforcement. It is a subject on which there are strongly held views both in favor of and against a role for negotiation. In favor of negotiation is the view that unilateral orders to compel violators to correct existing practice may not necessarily lead to compliance if they are unrealistic in regard to steps needed to correct or prevent a facility from violating its environmental requirements or ability to pay fines assessed. Indeed the kind of information needed to make these determinations is often either only known to the violator, or may require extended communications between the violator and the government. Furthermore, negotiation may lead to solutions that better balance environmental, economic and social concerns. In favor of no role for negotiation is that it may allow exceedences from environmental law and therefore make problems worse, encourage favoritism, bribery and inconsistent practice which can undermine the program and encourage deviations from legal requirements which must be strictly followed.

Papers and workshop discussions will address the following issues:

- What policy prescriptions and management frameworks are needed to ensure that negotiations to resolve violations result in settlements that are within acceptable bounds.
- What factors lead to successful use of negotiation to:
  - Establish that there has been a violation of an environmental requirement;
  - Establish what actions must be undertaken by when to correct the violation;
  - Establish what actions must be undertaken by whom to correct any damage;
  - Establish what penalties must be paid and to whom by when for the violation or other sanction; and
  - Establish other projects, plans or activities to be undertaken to benefit the environment and prevent recurrence of a problem.
- Who is involved in a negotiation when used in different countries.
- For countries who do not utilize negotiation techniques, what are the barriers and impediments to using negotiation.

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1. Compliance Plans: Creative Negotiations for Correction and Penalty, Kamienski, Zbigniew (Volume 2)
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See related papers from other International Workshop and Conference Proceedings:

1. The Range of Legal Enforcement Tools in Lithuania and Problems, *Lygis, D.*, Volume 2, Chiang Mai, Thailand, 1996, Page 102 - 102

2. El Salvador's Experience in the Design of Environmental Programs, *Navarrete Lopez, G.*, Volume 2, Chiang Mai, Thailand, 1996, Page 997 - 100
3. Development and Enforcement of the New Armenian Environmental Protection Legislation: Problems and Solutions, *Ter-Nikghosyan, V.*, Volume 2, Chiang Mai, Thailand, 1996, Page 971 - 982
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6. Compliance Agreements for Environmental Risk Management in the Czech Republic, *Cizkova, H.*, Volume 2, Chiang Mai, Thailand, 1996, Page 811 - 816
7. Compliance Program Innovations in Polish Environmental Law, *Kamienski, Z.*, Volume 2, Chiang Mai, Thailand, 1996, Page 793 - 809
8. Summary of Workshop: Enforcement Policy and Authorities, *Gade, M. and Peters, J., Facilitator and Rapporteurs*, Volume 2, Chiang Mai, Thailand, 1996, Page 789 - 791
9. General Remarks on Environmental Enforcement in Romania, *Popescu, D.*, Volume 2, Oaxaca, Mexico, 1994, Page 117 - 122
10. Country Experiences in Designing Elements of an Environmental Enforcement Program — Case of El Salvador, *Navarrete Lopez, G.*, Volume 2, Oaxaca, Mexico, 1994, Page 97 - 105
11. Social-Economic Problems Experienced in Compliance and Enforcement in Tanzania, *Masilingi, W.M.K.*, Volume 2, Oaxaca, Mexico, 1994, Page 63 - 73
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14. Response to Regulations for Disposal of Offensive Matter in Barbados, West Indies, *Archer, A.B.*, Volume 1, Oaxaca, Mexico, 1994, Page 145 - 159
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16. Legislative Changes for Improved Compliance and Enforcement: the Case of Bulgaria, *Maslarova, L.*, Volume 1, Oaxaca, Mexico, 1994, Page 97 - 102
17. Process of Upgrading the Polish Environmental Enforcement Procedures, *Kamienski, Z.*, Volume 1, Oaxaca, Mexico, 1994, Page 55 - 60
18. Developing Authorities and Legal Enforcement Capabilities to Respond to Violations, Summary of Theme #4 Discussion, *DeLong, A., Reporter*, Volume 2, Budapest, Hungary, 1992, Page 217 - 221

19. The New Ecological Legislation in Russia *Bogolepov, R.* , Volume 2 , Budapest, Hungary , 1992 , Page 199 - 200
20. Transition and Implementation of Waste Management Policies in Central and Eastern Europe *Wassersug, S.* , Volume 2 , Budapest, Hungary , 1992 , Page 107 - 125
21. Some Factors Influencing Environmental Enforcement in the CSFR *Kruziková, E.* , Volume 2 , Budapest, Hungary , 1992 , Page 37 - 38
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24. The Application of Criminal Law Instrument in the Environmental Law Enforcement *Hamzah, A.* , Volume 1 , Budapest, Hungary , 1992 , Page 429 - 443
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26. Choosing Among Criminal, Civil Judicial, and Administrative Enforcement Options *van Zeben, D.* , Volume 1 , Budapest, Hungary , 1992 , Page 397 - 415
27. Choosing Among Criminal, Civil Judicial, and Administrative Enforcement Options *Mulkey, M.* , Volume 1 , Budapest, Hungary , 1992 , Page 397 - 415
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29. Developing Authorities and Legal Enforcement Capabilities *O'Meara, V.* , Volume 1 , Budapest, Hungary , 1992 , Page 363 - 372
30. Compliance and Enforcement Strategies in East Germany - Saxony as an Example *Angst, D.* , Volume 1 , Budapest, Hungary , 1992 , Page 267 - 272
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32. The Implementation of Environmental Laws by the European Economic Communities *Krämer, L.* , Volume 1 , Budapest, Hungary , 1992 , Page 183 - 227
33. Another Country's System: Sweden *Melin, A.* , Volume 1 , Utrecht, The Netherlands, 1990 , Page 151 - 154
34. A Survey of U.S. Environmental Enforcement Authorities, Tools and Remedies *Reich, E. and Shea, Q.* , Volume 1 , Utrecht, The Netherlands, 1990 , Page 55 - 86



## WORKSHOP 3F

### ADMINISTRATIVE ENFORCEMENT MECHANISMS: GETTING AUTHORITY AND MAKING IT WORK

Empowering administrative environmental agencies to impose legal requirements and/or sanctions directly to violators without having to go to a court of law or other department or agency for prosecution has been an important development in many countries, resulting in faster and less costly response to violations. Discussions will draw upon workshop papers from the Third International Conference on "Field Citations".

Papers and workshop discussions will address the following issues:

- Finds of authorities administering agencies have been granted, how have these authorities evolved and why, including simple traffic ticket-types of systems, ability to assess and collect penalties, establish compliance schedules, recover economic benefit, assess damages, shut down operations, etc.
- Effective use of administrative authorities and key factors in success or failure.
- The importance to the administrative program of support of the judicial system and other governmental forms of legal response for the administrative program..

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1. Administrative Enforcement Mechanisms in Mongolia, *Enkhbat, A.* ..... 495
  2. See also Transboundary Environmental Crimes: German Experiences and Approaches, *Gallas, Andreas and Werner, Julia* ..... 375
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See related papers from other International Workshop and Conference Proceedings:

1. Choosing Among Criminal, Civil Judicial, and Administrative Enforcement Options, *Mulkey, M. and van Zeven, D.*, volume 1, Budapest, Hungary, 1992, Pg 397 - 415
2. Choosing Among Criminal, Civil Judicial, and Administrative Enforcement Options, Volume 1, Budapest, Hungary, 1992, Pg 397 - 415
3. Civil Field Citations, *Paddock, L.*, Volume1, Oaxaca, Mexico, 1994, Pg 401 - 408
4. Field Citations: A Tool for Enforcing UST Regulations in New Mexico, *Sutton-Mendoza, S.A.*, Volume 1, Oaxaca, Mexico, 1994, Pg 409 - 419
5. United States' Clean Air Act Field Citation Program: New Enforcement Authority to Address Minor Violations, *Engert, J.M. and Rasnic, J.B.*, Volume 1, Oaxaca, Mexico, 1994, Pg 421 - 426
6. Summary of Workshop: Field Citations as an Approach to Enforcement, *Alushin, M., Facilitator, Rubin, K., Rapporteur*, Volume 2, Oaxaca, Mexico, 1994, Pg 177 - 180

See also references to other International Workshop and Conference Proceedings paper listed under Workshop 3D



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## ADMINISTRATIVE ENFORCEMENT MECHANISMS IN MONGOLIA

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### SUMMARY

Mongolia has a long and rich environmental legal tradition dating back to the time before Chingis Khan. Almost a thousand years ago, Mongolia already had laws to protect its wildlife from abuse and overhunting. In 1991, Mongolia reaffirmed its commitment to this tradition by enacting a new Constitution guaranteeing the right of all Mongolian citizens to live in a clean and healthy environment, and again in 1992, by signing, along with 167 other nations, the Convention on Biological Diversity. Since that time, the Mongolian government has been actively developing a legal framework capable of conserving its natural heritage while at the same time responding to the demands of the newly introduced market economy.

### 1 ENVIRONMENTAL LEGAL FRAMEWORK

Most of Mongolia's laws have some relevance to environmental protection, but the most closely related are the following:

- Law on Environmental Protection, 1995
- Law on Air, 1995
- Law on Hunting, 1995
- Law on Protection from Toxic Chemicals, 1995
- Law on Forests, 1995
- Law on Natural Plants, 1995
- Law on Water, 1995
- Law on Land, 1994
- Law on Underground Resources, 1994
- Law on Mineral Resources, 1994
- Law on protection of Livestock Genetic Fund and Health, 1994
- Law on Natural Plant Use Fees, 1995
- Law on Water and Mineral Water Use Fees, 1995
- Law on Fees for Harvest of Timber and Fuelwood, 1995
- Law on Hunting Reserve Use Payments and on Hunting and Trapping Authorization Fees, 1995
- Law on Special Protected Areas, 1995
- Law on Environmental Impact Assessment, 1997

Also more than 30 Resolutions have been passed with at least another 10 in the drafting stage. Of these, perhaps the most important is the Mongolian Environmental Impact Assessment regulation. Together these laws cover every major resource and establish the primary rights and responsibilities necessary to make environmental protection a reality.

## **2 INSTITUTIONAL RESPONSIBILITIES FOR ENVIRONMENTAL CONSERVATION**

Several government organizations are responsible for the protection of Mongolia's environment. Their responsibilities are contained in each of the environmental laws. The following are some of the primary actors discussed by the environmental laws and the responsibilities delegated to them.

### **2.1 The Ikh Khural (Parliament) of Mongolia**

The Mongolian Law on Environmental Protection designates the Ikh Khural as responsible for the following environmental issues:

- Determining government policy on environmental conservation.
- Proper utilization of natural resources.
- Restoration of natural resources.
- Ratification and control over enforcement of environmental laws.
- Endorsement of and changes to the lists of endangered plant and animal species.
- Designation of areas under State protection.
- Setting maximum and minimum fees for natural resource use.

### **2.2 The Cabinet Ministry of Mongolia**

The Cabinet Ministry is responsible for the following conservation activities:

- Coordinating and regulating the activities of governmental and non-governmental organizations.
- Developing and coordinating implementation of the National Program.
- Financing the National Program.
- Restricting by law the use, import and export of natural resources.
- Upon consultation with the Ministry and Aimag and Capital City Governors, prohibiting economic and other activities of citizens and economic entities which adversely effect the environment.
- Organizing ecological education and training.
- Creating an economic and organizational system for and within Strictly Protected Areas, National Conservation Parks, Nature Reserves and Monuments.
- Setting protected area boundaries.

- Prohibiting the taking of Very Rare species flora and fauna.
- Regulating the use of Rare plant and animal species.
- Registering Very Rare and Rare Animals in the Mongolian Redbook.
- Establishing effluent limits and standards for adverse affects.
- Encouraging introduction of environmentally sound technologies.
- Studying natural resources.
- Conducting assessments oil quantity of natural resources.
- Establishing general system for ecological security and natural balance.
- Preventing pollution.

### 2.3 The Ministry for Nature and the Environment

In general, the Ministry is responsible for the development and enforcement of the Cabinet Ministry's environmental policy and laws, the regulation of the utilization and protection of natural resources and its restoration. It is responsible for the following activities:

- To establish a policy on environmental protection, the rational use of natural resources, their rehabilitation, and ecological safety and balance, and to take preventative measures against any negative consequences for nature and the environment.
- To provide for the implementation of environmental protection legislation and to stop violations.
- To be responsible for the "red book" of Mongolia, for territories under special state protection and ecotourism, to improve the system of financial estimates and compensation for natural resources.
- To organize surveys on natural and climatic conditions, on water, pasture, flora, and fauna resources and changes to them, and pollution of the environment and evaluation of the results of these surveys, and to provide businesses, other organizations and the pollution with necessary information about nature and the environment.
- To conduct ecological examinations and to draw conclusions on the planning of urban areas, oil technical and economic substantiation, construction and reconstruction technology of factories and other buildings.
- To be responsible for estimates of and an information bank about the soil, mineral wealth and other resources such as forests, water, air, flora and fauna.
- To cooperate with other state authorities to make a list of chemical and other hazardous substances and sources, their wastes and to organize the control over their use, storage, protection, transport and safe packaging in order to prevent any negative influences on nature.
- To organize and regulate the elimination of the consequences of natural disasters and commercial accidents, and the consequences from the loss of radioactive and hazardous substances or sources, and to provide protection from their influences.

- To work out nature protection and natural resources rehabilitation programs which shall be implemented by the government.
- To manage and organize land and forestry tenure, census of animals ( fauna), and to regulate activities affecting their use and protection.
- To determine, in collaboration with other authorities, and to approve general rules for the extraction and rational use of natural resources, and to organize control over their use.
- To determine in collaboration, with local administration scheduled figures of timber cutting, game permitted for hunting by law and other natural wealth possible for the processing industry.
- In accordance with Article 21 of the Law on Hunting in the event of the need to hunt or trap animals whose take is otherwise forbidden, to submit the proposals to the government for resolution.
- In cooperation with the Ministry of Agriculture and Industry to examine and choose the business organizations which are intending to serve foreign hunters and to grant them a license (or permission).
- To determine national standards on the regulation of negative influences on nature and the environment.

Other recent environmental legislation delegates the following conservation responsibilities to the Ministry for Nature and the Environment:

- Organizing the implementation of the national environmental policy and legislation.
- Approving and monitoring, in accordance with other Ministries, Aimag, and the Capital City, the implementation of environmental protection.
- Carrying out intersectorial and interregional coordination on conservation of nature.
- Adopting, through authorized organizations or in collaboration with other authorities, the standards of environmental capacity and organizing their implementation.
- Setting limits for the annual use of forest resources and plants.
- Placing restrictions on the use of certain kinds of natural resources.
- Coordinating research and development for environmental protection.
- Coordinating the Certified Organizations.
- Providing citizens with environmental information.
- Providing methodological assistance to the local authorities on environmental protection.
- Monitoring the implementation of environmental legislation.
- Organizing work on eradication of damages incurred due to violations of these regulations.
- Providing State Inspectors with self defense weapons and equipment.
- Establishing a database for natural resources including land, minerals, forests, water, animals, and plants.

## 2.4 The Ministry of Agriculture and Industry

The Ministry of Agriculture and Industry has responsibility for some of the same resources as the Ministry for Nature and the Environment. The Ministry, however, is charged with the economic development of those resources rather than their preservation, conservation or protection. Some of the Ministry's responsibilities relevant to the environment include the following:

- Develop the leather, fur, clothing, wood processing , engineering and metal working industries and domestic services.
- Develop foreign economic cooperation.
- Cooperate with other ministries on market regulation using such key mechanisms as customs, taxation, and loans.
- Encourage exports, liberalize imports, establish the relational structure of exports and imports, and take measures on the promotion of foreign trade.
- Study, examine and choose the prospects for the economic development strategy, organize the conclusion of treaties or agreements on the receiving of loans and financial assistance for the accomplishment of these projects.
- Develop tourism in Mongolia.
- Conclude agreements with foreign countries and international organizations oil trade, economic and technical cooperation, investment, and tourism and to provide for the implementation of obligations taken by those agreements.

## 2.5 Local Government Institutions

The Constitution of Mongolia establishes local government units. Local government, like the central government, is divided into three branches, executive (consisting of a governor and related staff), legislative (or Citizen Representative Khurals), and judicial. The local governments are divided into six political units: The Aimag is the largest and is subdivided into Soum which are then subdivided into Bag. The Capital City, Ulaanbaatar, is treated separately by both the Administrative and Territorial Units Law and the environmental laws. The Capital City is subdivided into Duureg (districts) and then Khoroo (micro-districts).

### 2.5.1 Local Governors

Aimag and Capital City Governors have the following environmental protection responsibilities:

- Develop measures for environmental protection.
- Transmit measures to the appropriate Citizens Representatives' Khurals and organize the implementation.
- Transmit to the Ministry ecological information stored in local information databanks.
- Control any activities of local business entities. If necessary, the Governor shall also prohibit their activities with adverse effects.
- Coordinate activities of the local environmental organization.

- Equip the chief inspector with the required tools and transportation.

#### 2.5.2 Soum Governors

Soum Governors have the following conservation duties:

- Organize the implementation of the legislation.
- Issue permits citizens to use nature.
- Monitor compliance.
- Assess and approve the measure of citizens rehabilitated or enhanced by them.

### **3 CERTIFIED ORGANIZATIONS**

Certified Organizations, once established and functioning, will comprise one of the most important implementing arms for Mongolia's environmental protection activities. Certified Organizations are the enterprises and institutions which, pursuant to relevant law and the Ministry for Nature and the Environment, collaborate with the local governments on issues of protection and utilization of natural resources such as forest, wildlife, water and minerals. Article 30 of the Mongolian Law on Environmental Protection identifies the rights and responsibilities of Certified Organizations as follows:

- Incorporate in its sectoral policies any measures concerning the protection of the environment.
- Organize the implementation of environmental legislation at the sectoral level and annually report to the Cabinet Ministry on the fulfillment of the preceding.
- Identify natural resource use areas.
- Establish and enter into agreements for natural resource use with local citizens and enterprises pursuant to any relevant resolutions issued by the Ministry for Nature and the Environment.
- Take precautions and protect the environment from disease, harmful insects and rodents, fire and natural disaster.

Currently, the forestry and hunting boards located in the Capital City and the Aimag act as the Certified Organizations. However, they have not been certified as such and are experiencing financial and management difficulties as a result.

### **4 CITIZEN REPRESENTATIVE KHURALS**

The Aimag and Capital City Representative Khurals have the following biodiversity conservation duties:

- Approve environmental protection measures and required budget.
- Set maximum limits for the use of natural resources in the local areas.
- Make decisions on the status of local protected area.
- Establish protected area boundaries.

- Set up protection status and procedures.
- In cities and other settlements, establish borders of special areas.
- Comments on the Governor's report.

Soum and Duureg Representative Khurals have the following biodiversity conservation duties:

- Approve measures on environment and monitor implementation.
- Determine annual limits on the use of natural resources.
- Comment on the Governor's report.



## WORKSHOP 3G COMPLIANCE SCHEDULES AND ACTION PLANS: CONTENT, ENFORCEABILITY AND USE IN COMPLIANCE AND ENFORCEMENT

An enforcement program must return violators to compliance, prevent continued and future violations, and send a broad message of deterrence to others who are or may violate environmental requirements. A practical component of most enforcement responses other than one of ignoring a violation or shutting down a facility or operation is the use of a schedule or action plan for compliance where additional time is required for a violator to reasonably take the necessary steps to come into compliance. This is true for voluntary agreements as well as legal orders. This is particularly important in the instances in which corrective action requires the purchase, construction and installation of pollution control equipment but can also be a factor in the redesign of workplace practices, removal of toxic or hazardous substances, clean up of spills or contamination etc. One paradox posed by the very use of government sanctioned schedules for this purpose is that it condones continuance of operations in violation of the law. Nevertheless, the use of compliance schedules and action plans, particularly in conjunction with sanctions, is a pragmatic way of recognizing the realities of what it takes to correct a problem once government has gotten the source's commitment to do so.

Papers and workshop discussion on this topic will address:

- How enforcement officials justify the use of compliance schedules and action plans.
- Key elements of compliance schedules and action plans that make them enforceable, more likely to succeed, more likely to be able to monitor progress, and/or support efficient escalation by enforcement officials if they are not followed.
- Examples of the use and content of compliance schedules and action plans in different countries and programs and how they have evolved. What is common to each of these and what is different and why.
- What difference it makes whether a schedule or action plan is developed by government, by a court, by negotiation with a violator, by a violator, in the law.
- What role should or can negotiation play.
- The use of sanctions in conjunction with compliance schedules or action plans.
- Whether action plans or schedules should be made public.
- How to ensure administrative officials are accountable for fair, predictable, consistent application of their authorities.

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1.	The Use of Compliance Schedules Under United States Environmental Law, <i>Bromm, Susan</i> .....	507
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2. See Update: Compliance Plans - Creative Negotiations for Correction and Penalty, *Kamienski, Zbigniew* (Volume 2)  
See also Compliance Program Innovations in Polish Environmental Law, *Kamienski, Zbigniew*, Volume 2, Chiang Mai, Thailand, 1996, Pages 793 - 809
3. See Launching Enforcement Programs Through Compliance Action Plans and Environmental Management Systems, *Shariff, Yasser* (Volume 2)

See also workshop 3D: *Structuring Financial Consequences in Enforcement: Penalty Policies, Recovery of Damages, Recovery of Economic Benefit of Non-compliance*

See also workshop 3E: *Role of Negotiation in Enforcement*

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See related papers from other International Workshop and Conference Proceedings:

1. The Range of Legal Enforcement Tools in Lithuania and Problems, *Lygis, D.*, Volume 2, Chiang Mai, Thailand, 1996, Page 102 - 102
2. El Salvador's Experience in the Design of Environmental Programs, *Navarrete Lopez, G.*, Volume 2, Chiang Mai, Thailand, 1996, Page 997 - 100
3. Development and Enforcement of the New Armenian Environmental Protection Legislation: Problems and Solutions, *Ter-Nikghosyan, V.*, Volume 2, Chiang Mai, Thailand, 1996, Page 971 - 982
4. Enforcement Strategies of the Israel Ministry of the Environment, *Rotenburg, R.*, Volume 2, Chiang Mai, Thailand, 1996, Page 963 - 969
5. A Survey of Environmental Law and Enforcement Authorities in China, *Zhao, Y.*, Volume 2, Chiang Mai, Thailand, 1996, Page 903 - 922
6. Compliance Agreements for Environmental Risk Management in the Czech Republic, *Cizkova, H.*, Volume 2, Chiang Mai, Thailand, 1996, Page 811 - 816
7. Compliance Program Innovations in Polish Environmental Law, *Kamienski, Z.*, Volume 2, Chiang Mai, Thailand, 1996, Page 793 - 809
8. Summary of Workshop: Enforcement Policy and Authorities, *Gade, M. and Peters, J., Facilitator and Rapporteurs*, Volume 2, Chiang Mai, Thailand, 1996, Page 789 - 791
9. General Remarks on Environmental Enforcement in Romania, *Popescu, D.*, Volume 2, Oaxaca, Mexico, 1994, Page 117 - 122
10. Country Experiences in Designing Elements of an Environmental Enforcement Program — Case of El Salvador, *Navarrete Lopez, G.*, Volume 2, Oaxaca, Mexico, 1994, Page 97 - 105
11. Social-Economic Problems Experienced in Compliance and Enforcement in Tanzania, *Masilingi, W.M.K.*, Volume 2, Oaxaca, Mexico, 1994, Page 63 - 73
12. A South American Country Example: Environmental Legislation Enforcement in Mendoza, Experience and Challenges, *Puliafito, J.L.*, Volume 2, Oaxaca, Mexico, 1994, Page 51 - 62
13. The Enforcement Experience in Guyana on Exploitation of Natural Resources, *Singh, J.G.*, Volume 1, Oaxaca, Mexico, 1994, Page 205 - 211

14. Response to Regulations for Disposal of Offensive Matter in Barbados, West Indies, *Archer, A.B.*, Volume 1, Oaxaca, Mexico, 1994, Page 145 - 159
15. Some Methodological Aspects of Designing Regulations and Setting Priorities in Economics Under Transition, *Bandi, G.*, Volume 1, Oaxaca, Mexico, 1994, Page 115 - 129
16. Legislative Changes for Improved Compliance and Enforcement: the Case of Bulgaria *Maslarova, L.*, Volume 1, Oaxaca, Mexico, 1994, Page 97 - 102
17. Process of Upgrading the Polish Environmental Enforcement Procedures *Kamienski, Z.*, Volume 1, Oaxaca, Mexico, 1994, Page 55 - 60
18. Developing Authorities and Legal Enforcement Capabilities to Respond to Violations, Summary of Theme #4 Discussion *DeLong, A., Reporter*, Volume 2, Budapest, Hungary, 1992, Page 217 - 221
19. The New Ecological Legislation in Russia *Bogolepov, R.*, Volume 2, Budapest, Hungary, 1992, Page 199 - 200
20. Transition and Implementation of Waste Management Policies in Central and Eastern Europe *Wassersug, S.*, Volume 2, Budapest, Hungary, 1992, Page 107 - 125
21. Some Factors Influencing Environmental Enforcement in the CSFR *Kruzíková, E.*, Volume 2, Budapest, Hungary, 1992, Page 37 - 38
22. Upgrading of Environmental Laws in France as Part of the Requirements by the EEC *Kromarek, P.*, Volume 2, Budapest, Hungary, 1992, Page 31 - 35
23. Civil Enforcement: Paying for the Past *von Meijenfeldt, H.*, Volume 1, Budapest, Hungary, 1992, Page 491 - 496
24. The Application of Criminal Law Instrument in the Environmental Law Enforcement *Hamzah, A.*, Volume 1, Budapest, Hungary, 1992, Page 429 - 443
25. The Application of Criminal Law Instrument in the Environmental Law Enforcement *Surachman, R.*, Volume 1, Budapest, Hungary, 1992, Page 429 - 443
26. Choosing Among Criminal, Civil Judicial, and Administrative Enforcement Options *van Zeven, D.*, Volume 1, Budapest, Hungary, 1992, Page 397 - 415
27. Choosing Among Criminal, Civil Judicial, and Administrative Enforcement Options *Mulkey, M.*, Volume 1, Budapest, Hungary, 1992, Page 397 - 415
28. System to Supervise Environmental Duties and to Pursuit Infringements Taking Clean Air Management as Example *Pütz, M.*, Volume 1, Budapest, Hungary, 1992, Page 389 - 390
29. Developing Authorities and Legal Enforcement Capabilities *O'Meara, V.*, Volume 1, Budapest, Hungary, 1992, Page 363 - 372
30. Compliance and Enforcement Strategies in East Germany - Saxony as an Example *Angst, D.*, Volume 1, Budapest, Hungary, 1992, Page 267 - 272
31. Environmental Enforcement in Hungary - Today and Tomorrow *Bandi, G.*, Volume 1, Budapest, Hungary, 1992, Page 235 - 251

32. The Implementation of Environmental Laws by the European Economic Communities *Krämer, L.* , Volume 1 , Budapest, Hungary , 1992 , Page 183 - 227
33. Another Country's System: Sweden *Melin, A.* , Volume 1 , Utrecht, The Netherlands, 1990 , Page 151 - 154
34. A Survey of U.S. Environmental Enforcement Authorities, Tools and Remedies *Reich, E. and Shea, Q.* , Volume 1 , Utrecht, The Netherlands, 1990 , Page 55 - 86

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## THE USE OF COMPLIANCE SCHEDULES UNDER UNITED STATES ENVIRONMENTAL LAW

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### SUMMARY

This paper presents an overview on the use of compliance schedules under various environmental laws administered by the U.S. Environmental Protection Agency (EPA).

Compliance schedules are tools commonly used in the United States to implement environmental laws and achieve expeditious compliance with regulatory requirements. A good working definition of a compliance schedule is found in one of the major U.S. environmental laws, the Clean Air Act. It defines a "Schedule of Compliance" as "a schedule of remedial measures, including an enforceable sequence of action or operations, leading to compliance with an applicable implementation plan, emission limitation, or emission prohibition."<sup>1</sup> In some cases, the authority to use compliance schedules, as well as boundaries on their use, are specifically provided for in the enabling legislation (as in the Clean Air Act noted above). In other cases, they are approved by courts using their equitable powers.

Compliance schedules may be granted generically to an entire sector or class of facilities by law or regulation, in the form of waivers, exemptions or delayed compliance dates. Schedules can also be negotiated and imposed at individual facilities via an enforceable order (judicial Consent Decree<sup>2</sup> or administrative order) or a permit. Both types of schedules, generic and site-by-site, are useful tools to achieving full compliance and can be used alone or in combination.

When established in the context of an enforcement action, compliance schedules are virtually always used in conjunction with penalties. First, penalties are imposed for the initial violation (i.e., the non-compliance for which the schedule has been established). This penalty has both a gravity based component and an economic benefit component. The penalty amount is designed to both remove any economic benefit that accrued to the violator based on its non-compliance, as well as provide a deterrent to future non-compliance. Secondly, compliance schedules contained in judicial consent decrees or administrative consent agreements routinely include stipulated penalties. These are penalties that the parties agree to for violations of the compliance schedule.

### 1 INTRODUCTION

Throughout the history of the United States' environmental enforcement program, the government has found negotiated compliance schedules to generally be both a practical and effective mechanism for bringing non-compliant facilities into compliance. As a result, it is now

standard operating practice in the U.S. to undertake negotiations in all civil judicial cases, even before formally filing the enforcement action. Over 95% of EPA's enforcement actions (both judicial and administrative) result in negotiated settlements, many of which contain compliance schedules. Due to the success of negotiated agreements, the U.S. often begins negotiations earlier and earlier in the enforcement/compliance process. Although negotiating compliance schedules can be a time consuming endeavor, if the end result is a solution that all parties have agreed to, the up front investment of time will usually be well worth it.<sup>3</sup>

### 1.1 Purpose of compliance schedules

Compliance schedules provide an adjustment period for affected polluters to comply with laws and regulations. The principle advantage of compliance schedules is that they bring those who cannot meet pollution control standards within the regulatory framework. For example, under an inflexible regulatory system with one maximum pollution level, those companies lacking the resources and the technology to comply with the law may make no effort to reduce emissions. The company has no hope of receiving a permit from the government, so it will continue to pollute at high levels without a permit. Alternatively, the company will close down - permanently, or at least until they can comply with the new standards. In contrast, through a compliance schedule, the government can grant a permit to a company that provides a step by step plan for reducing a company's emissions. The company gains from the compliance schedule because its emissions are now permitted while it is coming into compliance, and it continues to generate revenues which can be used to make necessary environmental improvements. The government gains because the company's emissions are now monitored and the company is obligated to make measurable, incremental progress towards reducing emissions in the future. And the community gains: economically from an operating company that provides jobs and other benefits, and environmentally by the company's commitment to achieve full compliance while protecting the environment to the greatest extent possible as it does so.

### 1.2 Concerns with using Compliance Schedules

There are, however, some concerns with using compliance schedules. Compliance schedules must strictly be used to bring companies into compliance by improving environmental performance. They should not provide a means for firms with existing permits to increase their emissions or stay in out of compliance without making improvements. Compliance schedules should require that compliance be achieved as expeditiously as possible and that public health and the environment be protected to the maximum extent possible in the interim. Governments must have the authority to require companies seeking compliance schedules to produce evidence of their inability to comply immediately. Such evidence may include financial records (including tax returns), documentation of efforts to obtain necessary services or equipment to meet the requirements, and feasibility studies or other indicia of attempts to come into compliance. Also, similar companies must be treated the same - the level playing field. The government could award an economic advantage to a company by granting a compliance schedule, while holding its competitors to more stringent environmental controls. Penalties should be used in conjunction with compliance schedules to offset any economic advantage gained.

### 1.3 Legal limits on use of Compliance Schedules

Another possible concern with compliance schedules is the potential for abuse. To prevent abuse, laws may place limits on the use of compliance schedules, controlling their conditions and duration. In the Clean Air Act (CAA), the U.S. Congress specifically provides for the use of generic compliance schedules.<sup>5</sup> Existing sources may receive a one year extension for complying with technology-based Maximum Achievable Control Technology (MACT) standards if this time is necessary for the installation of emission controls. Any stationary source may obtain an exemption from either the MACT or health-based standard if the government finds that the technology necessary to meet the standard is not available and it is in the national security interest of the country to grant the exemption. This exemption is renewable but the maximum period of non-compliance is four years.

The CAA also uses compliance extensions as an incentive for industry to achieve early, voluntary reductions in emissions.<sup>6</sup> The Act allows sources a six year compliance extension if the owner/operator voluntarily achieves a reduction in emissions of 90% or more (calculated from a base year no earlier than 1987), prior to the issuance of an applicable draft standard.

In addition to these statutorily provided generic compliance extensions, the enforcement provisions of the CAA also authorize the use of individual, case-by-case compliance schedules. The provision in that Act that grants administrative order authority requires that EPA, in its administrative orders, specify a time for compliance that is reasonable, taking into account the seriousness of the violation and any good faith efforts to comply.<sup>7</sup> Administrative orders must require compliance "as expeditiously as practicable". Furthermore, administrative orders can only include compliance schedules of up to one year in duration (and are not renewable). If compliance will take longer than one year to achieve, EPA, working with the Department of Justice, must invoke the court's jurisdiction and use a judicial action to take its enforcement action.

## 2 COMPLIANCE BY MUNICIPALITIES WITH WATER LAWS

Seeking compliance by municipalities with drinking water and wastewater requirements has always posed difficult and unique problems in the United States. Municipalities often lack the financial capability to comply, but since the provision of drinking water and wastewater treatment is critical, a forced shut down of operations is not a realistic option. As a result, this is an area where both types of compliance schedules (generic and site-by-site) have frequently been used.

### 2.1 Compliance with the Clean Water Act

EPA has enforced the Clean Water Act's (CWA) requirements for municipal wastewater treatment plants primarily through the use of judicial actions, even though the law provides EPA with the authority to issue administrative orders with compliance schedules.<sup>8</sup> Specifically, EPA enters into negotiated, court sanctioned consent decrees with noncompliant communities setting forth mandatory schedules of compliance. These schedules may extend for many, many years depending on the extent of the problem and the financial wherewithal of the non-compliant community.<sup>9</sup> Unfortunately, slippage from compliance schedules is relatively common and courts are sometimes asked to unilaterally modify existing consent decrees by the non-compliant party. Generally, courts are reluctant to grant such requests<sup>10</sup> since the consent decrees were freely entered into by the involved parties. In the case of U.S.

v. City of Providence, the municipality sought to unilaterally modify a compliance schedule concerning their wastewater treatment plant in a consent decree it had negotiated with EPA and the state environmental agency. The court denied the municipality's request, basing its decision on an analysis set forth in a U.S. Supreme Court decision.<sup>11</sup> Its conclusion was that any unilateral modification must meet a stringent two-pronged test: 1) the modification must relate prospectively and not relate to "rights fully accrued upon facts so nearly permanent as to be substantially impervious to change" and 2) that because of changing circumstances, the original consent decree has become "an instrument of wrong." This decision demonstrates courts' reluctance to later unilaterally modify signed and in-place agreements willingly entered into between parties.

## 2.2 Compliance with the Safe Drinking Water Act

The Safe Drinking Water Act provides for statutory variances and exemptions, with schedules of compliance, for communities that cannot meet drinking water regulations.<sup>12</sup> For example, a community may be granted a variance from a maximum contaminant level (MCL) if, after trying "best technology..." (taking cost into consideration) it is unable to come into compliance. In order to grant the variance, EPA or the State must find that the variance will not result in "an unreasonable risk to health". The variance must include a schedule for compliance, setting forth increments of progress. Noncompliance with a variance will result in enforcement of the schedule under the general enforcement authorities of the Act.

Similarly, public water supply systems may be granted an exemption from an MCL if the State finds that: 1) due to compelling factors (including economic factors), the system is unable to comply, 2) the system was in operation when the MCL requirement became effective, or if the system was not in operation by that date, no reasonable alternative source of drinking water is available, and 3) the granting of the exemption will not result in an unreasonable risk to health. Again, with the granting of the exemption the State must prescribe a schedule for compliance and any necessary interim control measures. The statute requires compliance with the requirement for which an exemption is granted "as expeditiously as practicable"<sup>13</sup> and provides some limits on the length of the schedule. Generally, noncompliance with the exemption will result in its revocation. However, EPA or the State can extend the final date for compliance beyond even the statutory limit if: 1) the system must make capital improvements which can not be completed within the exception period, or 2) the system needs financial assistance in order to comply and has entered into an agreement to obtain such assistance, or 3) the system has entered into an agreement to become part of a regionalized water system and is taking all practicable steps to meet the standards. Very small systems (i.e., those with less than 500 service connections) may obtain additional extensions.

## 3 COMPLIANCE SCHEDULES TO PROTECT UNDERGROUND SOURCES OF DRINKING WATER

The Safe Drinking Water Act is also designed to protect present and future underground sources of drinking water (USDW)<sup>14</sup>. The underground injection control program (UIC) controls the subsurface placement of fluids through wells. There are various classes of wells, the most numerous being Class V. Class V wells (commonly known as "5x28 injection wells") are shallow wells, including drainage wells, septic tank drain fields and/or cesspools.

In 1991, EPA settled a national action against ten major oil companies who discharged or spilled contaminated automobile servicing fluids (e.g., waste oil, antifreeze) into sinks and floor drains that were connected to Class V wells. These wells allowed the discharge of

contaminated fluids directly into or above a USDW, in violation of UIC regulations. Using a Administrative Order on Consent<sup>15</sup> (see Appendix 1), EPA required the ten companies to cease injection of contaminated fluids by a specified date. While there was no estimate of the reduction in contaminants discharged, assuming each well discharged only 2 gallons/day, this would amount to a reduction of over 940,000 gallons per year of contaminated fluids from reaching any USDWs.

The ten companies agreed to the settlement which required them to cease discharge, properly plug and abandon their injection wells, remove any contaminated soil, implement waste minimization at all facilities covered by the order where routine vehicle maintenance was being performed, provide EPA with detailed inventory information, provide EPA with quarterly progress reports, distribute an EPA pamphlet to their customers, and pay a penalty. These activities were to be accomplished largely under a detailed compliance schedule set out in the order. All wells were to have been closed by December 31, 1993. Certification of full compliance with all order requirements was required by March 31, 1994. The companies met this requirement for all but 6 wells out of 1288 wells closed.

This action resulted in the closure of Class V injection wells in 49 States, including States where EPA directly implements the UIC program and States which had been delegated primary enforcement authority for the UIC program. It required considerable cooperation among the States and EPA to reach agreement on the requirement for a generic 5X28 well closure plan. This plan now serves as a model for the industry and has been incorporated as an industry standard by the American Petroleum Institute (API).

#### **4 COMPLIANCE SCHEDULES FOR HAZARDOUS WASTE UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT**

In implementing the Resource Conservation and Recovery Act (RCRA), the law that governs "cradle to grave" management of hazardous waste, EPA has used individual compliance schedules in both permits and orders. The statute specifically states that EPA has the authority to issue orders requiring compliance immediately or within a specified time period, without placing any additional limitations or conditions on the use of compliance schedules.<sup>16</sup> Compliance schedules in orders are often used when a requirement cannot be implemented quickly. Examples include hydrogeologic study and the installation of ground water monitoring wells, as well as remediation of soil or ground water contamination. However, they have also been used to provide more time for a facility to come into compliance when their good faith efforts to comply have not been fruitful. For example, compliance schedules have been used to provide more time to facilities that were unable to obtain required liability insurance by the deadline for so doing, despite good faith efforts. This particular situation posed a real dilemma for EPA because even after time extensions, some facilities never were able to obtain the mandated liability insurance, i.e., no insurance company was willing to insure them. EPA was faced with changing its regulations to delete the requirement or closing down hazardous waste management facilities. Ultimately, despite a great deal of negative political reaction, EPA did shut down some facilities that never were able to obtain liability insurance. However, in most cases, their inability to obtain insurance was related to their prior poor waste management practices, weak financial condition or poor physical location. Thus, ultimately, this effort was viewed as a success in that it shut down many marginal operations.

Compliance schedules under RCRA provide needed flexibility to resolve outstanding non-compliance while maintaining governmental control to ensure that compliance is achieved in an expeditious manner with little, if any, economic benefit derived from the non-compliance.

One such instance involves a complex judicial RCRA case the government initiated against the Eastman Kodak Company. This case concerned Kodak Park, in Rochester, New York, the principal manufacturing facility of the Eastman Kodak Company. Kodak Park is a large integrated manufacturing plant producing films, papers, light filters and processing chemicals, synthetic organic chemicals, laboratory and research chemicals, food supplements, photographic equipment and related materials. There were a total of thirty-four RCRA claims alleged by the government that occurred at Kodak Park and its associated waste water treatment plant at King's Landing. The violations included, in part, failure to obtain a permit for hazardous waste incinerators, illegal disposal of hazardous waste (e.g., release of hazardous waste from the Kodak Park industrial sewer), illegal exportation of hazardous waste, illegal storage of hazardous waste and failure to properly identify hazardous waste. After intense negotiations with Kodak prior to filing an enforcement action, the parties entered into a Consent Decree which included extensive injunctive relief.

The injunctive relief required under the Kodak Consent Decree focused on: (1) Kodak's RCRA hazardous waste determinations, (2) the inspection and repair of the industrial sewer system, (3) the upgrade, permitting and/or closure of several hazardous waste incinerators, and (4) ash management at the facility. The comprehensive attachments to the Consent Decree set forth the type of injunctive relief required as well as the compliance schedules (see Appendix 2). The compliance schedules not only cover when work will need to be completed but also covers reporting requirements and procedural deadlines for such requests as modifications to the work schedule. Additionally, the Consent Decree in Section XV specifies that stipulated penalties are owed to the United States for failure to comply with the requirements of the Consent Decree including the compliance schedules. This balance of compliance schedules, reporting requirements and stipulated penalties ensures the government of timely compliance while providing Kodak with an incentive for achieving that goal.

Although not specifically addressed in the Statute, regulations promulgated under RCRA<sup>17</sup> have sanctioned the use of compliance schedules in hazardous waste management facility permits. Compliance schedules in permits have been used to upgrade facilities meeting less stringent pre-permitting standards to more stringent permit standards. (For facilities not meeting even the less stringent pre-permit standards, enforceable orders, possibly with compliance schedules, are used and permit issuance is delayed). The regulations specify that schedules of compliance shall require compliance as soon as possible. If the schedule exceeds one year, interim deadlines must be specified and reports on progress must be submitted by the permittee. Guidance on the use of compliance schedules in hazardous waste facility permits states that they can only be used where: 1) the permittee has satisfied all the informational requirements to obtain a permit, 2) the government permit writer has sufficient information to assess the adequacy of the design, construction and operating details of the work to be completed under the compliance schedule, 3) the compliance schedule is specific as to what is to be done, who is responsible for seeing that activities are completed, and when those activities are to be completed and 4) the public has a full opportunity for notice and comment.<sup>18</sup> In addition to this limited use of compliance schedules in permits to upgrade facilities to more stringent operating standards, compliance schedules are widely used in permits to impose long term remediation requirements (i.e., removal of contaminated soil, pump and treat groundwater, construction of landfill caps, etc). Such schedules may extend five to ten years or longer and have been an effective mechanism for obtaining long term, broad scope clean-ups.

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## 5 CONCLUSION

EPA has found compliance schedules to be very useful tools in bringing about compliance with environmental standards. In many cases, it has been necessary and desirable to have both generic and site-by-site compliance schedules. When used in conjunction with an enforcement action, compliance schedules can and should be used with penalties to avoid giving a company an economic benefit over its competitors. Governments may find it useful and appropriate to set some limits on the use of compliance schedules in order to limit the length and scope of negotiation, avoid giving some companies disproportionate advantages, prevent abuses of discretion, and assure equal environmental protection throughout a country. However, even where they've been used with few limitations in the U.S., negotiated compliance schedules have proven to be an effective and efficient mechanism to balance the need to provide industry reasonable flexibility to meet standards with the Government's interest in achieving speedy compliance with environmental standards.

## ENDNOTES

Even where statutes don't specify negotiation timeframes, EPA and the U.S. Department of Justice (DOJ) often find it helpful to set guidelines describing appropriate negotiation timelines. While these are not generally mandatory, they do provide a helpful check to assure that negotiations do not become a tool for delay by the defendant.

1. 42 United States Code (U.S.C.) § 7412(i)
2. Consent decrees are agreements negotiated by the parties in dispute, that the court sanctions and enforces.
3. Negotiation timeframes are sometimes specified in the implementing legislation. The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the U.S. law that addresses cleanup of toxic waste sites, specifies that if U.S. government enters into settlement negotiations with potentially liable parties, it must provide them a period of 120 days to negotiate before the government can issue a unilateral enforcement order. 42 U.S.C. § 9622 (e)(2)<sup>4</sup> The alternative in the U.S. -- litigation -- is almost always more time consuming and more resource intensive.
4. 42 U.S.C § 9622(e)(2)
5. 42 U.S.C. § 7661(3)
6. 42 U.S.C. § 7412(i)
7. 42 U.S.C. § 7413(a)(4)
8. 33 U.S.C. § 319(a)(2)(A)
9. See e.g., 930 F.2nd 132 (1st Cir. 1991) (ordering a 15-year compliance schedule over the discharge of raw sewage into Boston Harbor).
10. See e.g., U.S. v. City of Providence, 492 F. Supp. 602 (D.R.I. 1980), where the court held that any departure from the terms of the consent decree "must be based on solid reason".
11. U.S. v. Swift & Co. 286 U.S.106(1932)

12. 42 U.S.C. § 300(g)
13. 42 U.S.C. § 300(g)
14. 42 U.S.C. § 300(h) and implementing regs: 40 Code of Federal Regulations (C.F.R.) Parts 124, 144, 146, & 147
15. While only one order is attached in the appendix, all the orders were substantially identical, the differences reflecting the different geographical locations of the company's business activities.
16. 42 U.S.C. § 6928 (a). Section 6928 (c) provides for penalties of up to \$25,000 per day and permit revocation or suspension for failure to comply with a compliance schedule.
17. 40 C.F.R. 270.33
18. Memo from Bruce R. Weddle, Use of Compliance Schedules in RCRA Permits, Oct. 5, 1984.

## THEME #4

### CAPACITY BUILDING

An effort to build domestic, regional and international capacity to design and implement effective environmental compliance and enforcement programs is at the heart of the purpose for both the Fifth International Conference and ongoing international network. Each of the workshops offered within this theme addresses one of several fundamental aspects of developing capacity: management and organization issues, funding and resource management issues, training and skill development issues, and design of targeted strategies for unique categories of sources. In addition, papers and exhibits are solicited to address programs offered by various countries, NGOs, and international organizations addressing the following issues:

- Capacity building goals for this organization.
- Expertise, materials, training and/or support available or planned.
- Priorities established for supporting capacity building needs.
- How requests are made.
- Successes achieved.

Priorities for global and regional capacity building will be discussed based upon self assessments of country progress submitted by each conference participant and also be refined during the regional networking meetings at the Conference.

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#### Theme #4 Workshops:

- 4 A *Managing Centralized and Decentralized Programs; Achieving the Right Balance of Roles and Relationships for Key Functions; Accountability Measures, Compliance Indicators and Reporting*
- 4 B *Budgeting and Financing Environmental Compliance and Enforcement Programs: How Much Enforcement is Enough*
- 4 C *Training Programs for Compliance Inspectors, Investigators and Legal Personnel*
- 4 D *Setting Up and Managing Compliance Assistance Programs and Information Outreach on Regulatory Requirements*

- 4 E The Science of Enforcement: Setting Up and Financing Laboratories; Ensuring the Integrity of Sampling and Data Analysis; Scientific Support for Enforcement*
- 4 F Government/Municipal/Military: Compliance and Enforcement Strategies*
- 4 G Small and Medium Enterprises Compliance and Enforcement Strategies*
- 4 H Mobile Source Compliance Strategies and Enforcement*
- 4 I Non-Point Source Compliance and Enforcement Strategies*
- 4 J Geographic or Resource-Based Compliance and Enforcement Strategies*

**WORKSHOP 4A  
MANAGING CENTRALIZED AND DECENTRALIZED  
PROGRAMS; ACHIEVING THE RIGHT BALANCE OF  
ROLES AND RELATIONSHIPS FOR KEY FUNCTIONS;  
ACCOUNTABILITY MEASURES, COMPLIANCE  
INDICATORS, AND REPORTING**

Around the world organizations have gone through stages in which some decentralize key functions related to environmental compliance and enforcement, and some choose to centralize some or all key functions related to environmental compliance and enforcement. Decentralized management and public interest also demand improved ways to measure progress and ensure accountability for results. The CEC in North America is producing a report on compliance indicators which should also enhance discussions of this issue along with the results of workshop discussions on measuring success at the Fourth International Conference. Papers and workshop discussions will address the following issues:

- Basis for country decisions to manage the compliance and enforcement functions in a centralized or decentralized manner and what has motivated change from one system to another.
- Advantages and disadvantages posed by centralization and decentralization.
- Program relationships among levels of government in implementing environmental permitting, compliance and enforcement programs that have proven effective or ineffective.
- How priorities and strategic targets are defined, communicated and implemented in both centralized and decentralized management systems.
- How to develop and coordinate expertise and authorities across different organizations that might have jurisdiction over an environmental problem.
- How program personnel are held accountable and results reported in decentralized versus centralized systems.
- Use and development of compliance indicators.

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1.	Compliance and Enforcement in Ghana, <i>Ahorttor, William Yao and Asiamah, George D. O.</i> .....	525
2.	Relationship Between the Legal Arm of Government and the Line Environmental Agency or Ministry, <i>Schiffer, Lois</i> (Volume 2)	
3.	Decentralized Agencies with Overlapping Jurisdictions – A Problem for Enforcement, <i>Grenade-Nurse, Florabelle</i> .....	533

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4. See also Local Enforcement: A Fundamental Component of Environmental Compliance, *Spahr, Linda A.* ..... 393
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See related papers from other International Workshop and Conference Proceedings:

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## **COMPLIANCE AND ENFORCEMENT IN GHANA**

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### **SUMMARY**

Environmental management activities of governments in the developed and developing countries have evolved along similar lines. These involve setting up national authorities for policy formulation, implementation, regulation, compliance and enforcement. In Ghana, the first national environmental management authority set up in 1974 was the Environmental Protection Council. The mandate of the Council was limited at the time. The Environmental Protection Council was responsible for advising the sector Ministry on Policy issues relating to the environment .

In 1994, the Council was transformed into the present day Environmental Protection Agency through an Act of Parliament. This transformation became necessary due to the fact that a new Ministry of Environment, Science and Technology was created charged with policy issues. The Environmental Protection Agency therefore was assigned the new role of regulation and enforcement.

The organizational restructuring of the Environmental Protection Agency saw the creation of an Inspectorate Department within the Agency. Later on the fifth inter-sectorial network, the Compliance and Enforcement Network , was also created. This network is a mechanism whereby law enforcement and regulatory agencies collaborate to bring about swift resolution of environmental issues.

Public complaints on human activities viewed as environmentally unfriendly became the popular mode of seeking redress to many issues. The resolutions of many of these complaints, which constitute potential pollution issues would not have been possible without the establishment of the Compliance and Enforcement Network.

### **1 ESTABLISHMENT OF THE ENVIRONMENTAL PROTECTION AGENCY**

The Environmental Protection Council was established by Decree N.R.C.D.<sup>1</sup> 239 of 1974 and amended by Decree S.M.C.D.<sup>2</sup> 58 of 1976. The main functional responsibility of the Council was to advise the Sector Minister on environmental issues. The Council had no regulatory and enforcement responsibilities. The Council was therefore instrumental in the formulation of policies that culminated in the creation of the separate Environment, Science and Technology Ministry.

Ghana returned to democratic form of Government in 1992 after a military take over in 1981. Among the changes brought by this democratic form of governance was the creation of a new Ministry to be responsible for the Environment. With the creation of this Ministry, the traditional responsibility of the Environmental Protection Council ended. It became essential to transform the Council to take up new and emerging responsibilities of regulation and enforcement.

The Environmental Protection Agency was therefore established by an Act of Parliament in December 1994. The Act 490 confers on Environmental Protection Agency a legislative function of compliance, enforcement and control. This function is also an essential element in the regulatory cycle for the protection of the environment and the realization of the targets and goals of the National Environmental Policy of the country.

One of the specific regulatory empowerment of Act 490, was the establishment of the Inspectorate Department within the Agency. Inspectors of the Agency were given broad powers to enter and carry out inspection and investigations of all premises for the purpose of compliance and enforcement and regulation.

## **2 ESTABLISHMENT OF THE COMPLIANCE AND ENFORCEMENT NETWORK IN GHANA.**

In order to implement the National Environmental Action Plan, four (4) Intersectorial Networks were set up. These networks were for Natural Resources, Mining & Industry, Environmental Education, and Built Environment. This became necessary because it was realized that the traditional sectorial approach has been responsible for the transfer of pollutants from one medium to another. This situation is also known to encourage the end-of-pipe approach to addressing pollution problems.

The four Intersectorial networks did not however include a compliance and enforcement network. This apparent omission came as a result of the fact that the Environmental Protection Council which existed at the time of drafting the Action Plan had no enforcement powers. The transformation of the Council into an Agency, therefore necessitated setting up the fifth intersectorial Network responsible for Compliance and Enforcement.

The need for setting up the Compliance and Enforcement Intersectorial Network became apparent at a workshop organized at Akosombo in October 1995. The workshop brought together Law Enforcement and Regulatory Agencies in the country. The objective of the workshop had been to foster cost effective, cross-sectorial and integrated collaboration in compliance and enforcement of environmental regulation. The major outcome of the workshop has been the decision to set up the Compliance and Enforcement Network (Compliance Enforcement Network) to complete the regulatory cycle of the work of the Agency. Subsequently, the network was inaugurated on July 30, 1996.

## **3 COMPOSITION OF THE COMPLIANCE AND ENFORCEMENT NETWORK.**

The network comprises representatives of the following:

- All Law Enforcing Agencies (the Ghana Police Service (GPS), Ghana Army (GA), Ghana Airforce (GAF), Ghana Navy (GN) and Ghana National Fire Service (GNFS).
- The Attorney General's Department.
- Eight regulatory bodies: the Mines Department (MD), Factory Inspectorate Department (FID), Town and Country Planning Department (TCPD), Ghana Standards Board (GSB), Forestry Department (FD), Ministry of Health (MOH),

Ministry of Local Government and Rural Development (MLG & RD), and the Environmental Protection Agency (Environmental Protection Agency) as the coordinating Agency.

- Accra Metropolitan Assembly.
- The Ghana News Agency.
- Ministry of Environment, Science & Technology. (MEST).

The Network is chaired by the Executive Director of the Environmental Protection Agency.

#### 4 FUNCTIONS OF THE COMPLIANCE AND ENFORCEMENT NETWORK

The network is a problem solving forum for potential environmental pollution cases that are referred to the network. The main functions of the network have been:

- establishing complaints and investigation procedures;
- public awareness creation;
- capacity building of member bodies for effective compliance and enforcement monitoring;
- authorization of criteria pollutant(s) measurement and taking decision on appropriate measures;
- joint field monitoring, inspections, and verifications;
- collaborative actions to ensure compliance and enforcement of decisions by the network or other regulatory bodies.

#### 5 MODE OF OPERATION OF THE COMPLIANCE AND ENFORCEMENT NETWORK.

Currently, the Compliance and Enforcement Network is functional only in the capital, Accra but issues dealt with are countrywide. The network holds quarterly meetings in Accra.

There are four subcommittees of the network and they meet as often as there are issues to be considered. The four subcommittees are shown in the table below:

**Table 1 Subcommittees of the Compliance and Enforcement Network**

NO.	Subcommittee	Members	Lead Agency
1	Small & Medium Scale Manufacturing Enterprises (SMMEs)	EPA, FID, AMA, GNA, TCPD, CEPS, GNFS, FD, AG, MLG & RD, GPS.	EPA
2	Small & Medium Scale Industrial Mining Enterprises (SMIMEs)	EPA, MD, GPS, AG	MD.
3	Noise Nuisance	EPA, FID, GNFS, AMA, GNA.	AMA
4	Legal	EPA, GPS, AG.	EPA

Most of the issues referred to the network are public complaints sent to the Environmental Protection Agency. Some are issues which arise out of routine or proactive inspections, monitoring or investigative activities of officers of the Agency.

Initially complaints are investigated and the appropriate measures recommended. These recommendations may be notifications in the form of one or more of the following:

- Prohibition/ cessation of activity within a specific time frame.
- Removal or mitigation/minimization of the particular offending activity (dust, noise, solid waste, liquid waste, etc.).
- Relocation of the particular activity to such a new location where the activity is compatible with land use.

It is only in cases where the occupier of the affected premises of the activity does not comply with the notification by the Environmental Protection Agency that the case is referred to the Network. The compliance and enforcement network may not necessarily meet on the issue, but the appropriate subcommittee reviews the issue first. Recommendations of the subcommittee of the network are communicated to the operator (occupier) of the facility in question

## **6 REFERRAL PROCEDURE OF CASES TO THE COMPLIANCE ENFORCEMENT NETWORK**

The procedure for referral of cases to the Compliance Enforcement Network for investigation and prosecution involves the following:

- Environmental Protection Agency shall refer difficult cases of enforcement to the Compliance Enforcement Network.
- Environmental Protection Agency shall provide detailed investigation report to the Compliance Enforcement Network on such cases of offending activities or operations.
- The appropriate subcommittee shall then undertake independent investigation to assess the environmental impacts, and also identify other regulatory agency, whose laws have been violated by such activities for joint prosecution when necessary.
- The subcommittee assigned an investigation shall also undertake periodic compliance monitoring. If violations are detected, the legal department of Environmental Protection Agency in collaboration with Attorney General's Department will initiate prosecution proceedings.

The compliance and enforcement network relies on its members to achieve results. Previously environmental compliance and enforcement was considered as the sole responsibility of the Environmental Protection Agency, but the present collaborative approach works differently. It is not possible to outwit one regulatory agency and receive a favorable response from another. The present mechanism ensures that an application, for instance, rejected at the Town and Country Planning Department, does not receive a favorable response at the Environmental Protection Agency or similar regulatory agency.

## **7 ACHIEVEMENTS OF THE COMPLIANCE ENFORCEMENT NETWORK**

Within the short period of its existence, Compliance Enforcement Network has enhanced the following:

- permitting has become less cumbersome, swift and straight forward;
- environmental pollution issues are being resolved faster than previously;
- increased public awareness has led to more effective compliance and enforcement activities;
- fewer issues get resolved at the premises of the courts;
- prosecution proceedings of violators have become faster because the Attorney General's department is represented on the network.

## **8 THE ENVIRONMENTAL SET UP AND COMPLAINTS**

In post-independence Ghana, physical planning has been slow to develop. Most infrastructure development therefore seemed to proceed before physical planning. The results of this situation is that a lot of small scale and sometimes medium scale industrial activities become located in built up residential area.

In most urban centres however, there are clearly designated industrial estates. There is however land use conflict in areas outside these designated industrial areas. Due to the comparatively bad shape of private sector businesses in Ghana not many of the small and medium scale enterprises are able to afford modern and sophisticated equipment for their activities. Not many of these also go through the environmental requirement for getting set up.

Typical examples of such enterprises which are found in the built-up environment include: terrazzo chipping production plants, block moulding enterprises, wood processing/saw milling enterprises, aluminium fabricating enterprises, worship centres, refuse burning, bakeries with traditional ovens, skinning of animals, etc. The nuisance from these activities normally include noise, dust, vibration, odor and smoke. Obviously, neighbors living close to these enterprises find these activities unacceptable because such activities affect their health and comfort.

## **9 ROLE OF THE PUBLIC AND MEDIA IN COMPLIANCE AND ENFORCEMENT**

A number of polluting enterprises are found in built-up areas. The natural tendency is that the public is taking interest in the operations of these enterprises. Accordingly, complaints about the unacceptable level of nuisances and pollution are brought to the attention of the Agency by the public. In addition, media publication is also very effective in drawing public and regulatory agency's attention to environmentally unfriendly activities.

Monitoring for compliance and enforcement has also become the concern of both media and the public. When a complaint is lodged about a particular operation/activity, the complainant does not rest until the issue is resolved to his/her satisfaction. Should the situation reappear after some time, the same person will call the attention of the Agency for redress.

One of the management tools used by the Agency which is paying-off greatly in compliance and enforcement is environmental education. The Environmental Education Department of the Agency has carried out nationwide environmental education in all 110 District Assemblies of the country. The District Assemblies are the decentralized units of Government Administration in the country. According to the Act of Parliament which set them up, the District Assemblies are responsible for the effective management of all resources under their jurisdiction.

The educational program was aimed at equipping the Assembly Members with skills of identification of environmental impacts of various activities. The Assemblies are also to ensure that all new developments meet the Environmental Impact Assessment requirements. Existing enterprises are also required to prepare Environmental Management Plans covering the operations.

The results of the public educational program are that people are highly aware of what constitutes nuisance and pollution to the environment, and are prepared to go to all lengths to ensure resolution of such nuisance situations.

There are Frequency Modulation Radio Stations in all Regional Capitals and some major towns in Ghana. Almost all these stations have phone-in programs for the public to express their views on all issues including environmental issues. These are also channels of complaints of the environment by the public. The Environmental Protection Agency has a mechanism of investigating these complaints and for making recommendations for redress.

In some cases the radio stations serve as monitors for compliance enforcement. Long after an environmental issue is resolved, a radio station may still comment on the effectiveness of the recommended remedial measures. This situation is very helpful to both the public and the regulatory agencies. This consciousness seems to compel most offenders to take the appropriate measures to avoid prosecutions.

## **10 ENFORCEMENT ACTIONS**

A total of 45 complaints on the environment were received by Environmental Protection Agency and investigated in 1997. This shows substantial increase over the 1995 and 1996 records of 16 and 39 complaints respectively. These offending activities predominantly sited in built-up areas can be categorized under one or more of the following:

- small scale activities which have expanded over the years and have become incompatible with current land-use;
- small and medium scale activities which existed in undeveloped residential areas but have now been caught up with development;
- poor waste management practices.

The principal activities and impacts on the built-up areas that are constant sources of complaints are classified as follows:

**Table 2 Principal Complaint Activities**

NO.	Activities	Environmental Impact
1	Block molding Saw milling Terrazzo chipping production	Noise, dust, and vibration
2	Skinning of animals and hides burning with used tires Open dump solid waste burning	Smoke pollution
3	Open pit latrines Broken sewer lines Fish meal processing	Odor nuisance
4	Lead recovery from car batteries	Hazardous fumes
5	Illegal sand and stone winning	Land degradation
6	Siting of industries in zoned residential areas (built-up)	Land-use conflict

The substantial increase in environmental complaints in the past three years indicates increasing public awareness of environmental nuisance. It also suggests the desire of the public to ensure that private sector businesses (both small and medium) integrate environmental management in their operations. Furthermore, it demonstrates public confidence in the Environmental Protection Agency's activities and that of the Compliance Enforcement Network.

Eight enterprises received letters of advice after inspection. Only two companies had their cases referred to the Attorney General's Department for prosecution for non compliance to enforcement notices served on them. These cases are all pending in the law courts.

This figure is also confirmation that most offending industries prefer to heed the enforcement notices rather than be dragged to court. It also proves the effectiveness of the Compliance and Enforcement Network mechanism that has been set up.

## 11 CONCLUSION

The Compliance Enforcement Network in Ghana is barely a year and half in existence. Compliance Enforcement Network has however brought about tremendous change in regulating human activities within the built-environment. Environmental complaints are now resolved faster using lesser resources and operators of the offending activities are now anxious to comply with recommended measures in notices served on them. There has been better understanding and cooperation among Law Enforcement and Regulatory Agencies than before. The Compliance Enforcement Network concept has worked effectively in Ghana and is recommended for countries with limited resource allocation for environmental issues.

**Table 3 Enforcement Notices Issued in 1997**

<b>NO.</b>	<b>Type of Enforcement Notice</b>	<b>NO. Of Notices</b>	<b>Total No investigations</b>
1	Permit withdrawal	1	
2	Relocation	18	
3	Mitigation measures	5	
4	Land reclamation	1	
5	Prohibition/cessation	3	
6	Administrative order to submit Environmental Management Plan, Small Scale Registration Form or Environmental Impact Statement.	3	
7	Prosecution	2	
	<b>Total</b>	<b>33</b>	<b>45</b>

**REFERENCES**

- 1 National Redemption Council Decree
- 2 Supreme Military Council Decree

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## **DECENTRALIZED AGENCIES WITH OVERLAPPING JURISDICTIONS – A PROBLEM FOR ENFORCEMENT**

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### **SUMMARY**

The establishment of the Environmental Management Authority represents a departure from previous models of environmental management in Trinidad and Tobago. The Authority is designed as a quasi-autonomous unitary agency, charged with responsibility for developing an articulated environmental management system through the coordination of a number of discrete laws and divided but coordinated agencies. The experience of the Authority, though brief, is demonstrating that effective environmental enforcement, no less than management, requires investment in the development of interagency partnerships for the delivery of coordinated programs.

### **1 INTRODUCTION**

Trinidad and Tobago are the two largest of twenty-three islands comprising one archipelagic state situated at the southern end of the Caribbean chain.

The country qualifies as a small island developing state having a population in 1996 of 1,267,000 persons and a land area of 5,123 square kilometers. Petroleum extraction, refining, natural gas extraction and the manufacture of petrochemicals dominate the economy and consequently Trinidad and Tobago has enjoyed a relatively high per capita national income among developing countries.

Trinidad is different from the Caribbean islands to the north in that it is geologically part of the South American continent. The natural environment is rich in terrestrial and marine biodiversity but rapid industrial development, high population densities, and imprudent land use practices have led to environmental problems.

The environmental issues of greatest concern in Trinidad and Tobago are pollution control and waste management arising from industrial development. Integrated management of natural resources, particularly watershed and water resource management and conservation of biodiversity, is also a priority. Deforestation, due to land development and land use practices, has led to soil erosion, flooding, and loss of habitat and biodiversity and to the degradation of water resources. Wetlands and other coastal and marine resources have also been identified for remedial action.

### **2 ENVIRONMENTAL MANAGEMENT IN TRINIDAD AND TOBAGO**

Trinidad and Tobago is a unitary state in which executive power lies with the Prime Minister and a Cabinet of Ministers of central government. Fourteen municipal corporations in Trinidad comprising nine regional corporations and five urban corporations administer local government. The island of Tobago enjoys a special constitutional relationship with Trinidad and Tobago by virtue of the Tobago House of Assembly Act.

Central environmental management responsibility was for a time assigned to the Ministry of Health and for a time to the Ministry of Agriculture. A separate Ministry of the Environment was established between 1989 and 1991. From 1991 to the present time environmental management oversight has been assigned to the Ministry of Planning and Development. In 1995 the Environmental Management Authority ("the Authority") was established.

Responsibility for management of the environment has been fragmented among many agencies and legislative instruments. At this time there are seventeen Ministries of central government with responsibility for over thirty Divisions, Authorities or Corporations which execute environmental functions under over ninety pieces of legislation. At the local government level, the municipal corporations are charged with environmental functions under the Public Health Act, the Litter Act, the Water and Sewerage Act and the Municipal Corporations Act. The Tobago House of Assembly also has environmental functions under the Tobago House of Assembly Act.

The Ministry of Planning and Development now exercises oversight of environmental management functions through the Authority. However environmental management functions are still decentralized among coordinated agencies. These agencies execute laws, many of which are outdated, and many of which were designed with the dominant purpose of regulating the exploitation of natural resources. The foremost of these is the Ministry of Agriculture, Land and Marine Resources, which is responsible for renewable natural resources management such as forestry, wildlife and fisheries management. The Ministry of Energy and Energy Industries is responsible for the management of the exploration and production of nonrenewable resources such as petroleum, natural gas and other minerals. The Ministry of Works and Transport is responsible for controlling land and coastal erosion and some aspects of marine pollution. Other important Ministries are the Ministry of Housing and Settlements, which has recently been assigned responsibility for land use planning and land surveying, and the Ministries of Health, and Public Utilities.

The many statutes in Trinidad and Tobago related to the environment are concerned mainly with natural resources management, agriculture, land development and land management, or public health. Prior to the Environmental Management Act ("the Act"), there was no coordinating body of environmental legislation and little coverage of pollution control. There were, and still are, overlapping jurisdictions, as well as contradictions among policies and regulations. Some aspects of environmental concern such as watershed management fell within the responsibility of more than one agency and other areas such as air pollution control did not fall within any agency's mandate.

Though many, the environmental laws were indifferently enforced. The following are among the causes of under-enforcement that have been suggested:

- archaic legislation;
- low penalties;
- lack of enforcing rules and regulations;
- insufficient trained investigative personnel, equipment and other facilities;
- lack of legally trained personnel within the responsible agencies;
- insufficient priority placed on environmental issues in the wider society; and
- overlapping jurisdictions.

These overlapping jurisdictions, many of which were under-resourced, have led to uncertainty and confusion concerning jurisdiction, and in the event, to inaction.

### 3 DECENTRALIZATION

The complexity of managing the environment through many central government agencies and jurisdictions is compounded by the allocation of environmental responsibilities at the local government level.

Under the Municipal Corporations Act of 1990, the municipal corporations have among their statutory responsibilities:

- the construction and maintenance of all drains and water courses except main water courses and highway water courses;
- the maintenance, control and enhancement of the physical environment including monitoring of water courses, beaches and water front areas, swamps, forests, game sanctuaries, savannas, parks and other open spaces; and
- the disposal of garbage from public and private property, the development and maintenance of sanitary landfills, and abatement of public nuisances.

The municipal corporations therefore have concurrent jurisdiction with the Ministry of Agriculture, Land and Marine Resources over the control of forests and game sanctuaries. There is concurrent jurisdiction with the Ministry of Health for abatement of public nuisances under the Public Health Ordinance, and for control over littering of public places and premises under the Litter Act.

The Tobago House of Assembly Act includes the environment among the areas for which the Tobago House of Assembly has responsibility to formulate and implement policy within Tobago. However detailed implementing laws and regulations have not as yet been developed setting out the procedures for the administration of these functions.

Despite this devolution of responsibility, the local authorities have neither the human resources nor the financial resources to carry out these responsibilities fully; many of which are still performed by central government agencies.

### 4 THE ENVIRONMENTAL MANAGEMENT AUTHORITY

The Authority is a relatively new entity established under the Act as a quasi-autonomous central statutory authority to coordinate environmental management in Trinidad and Tobago.

The Act has a threefold conceptual thrust. Firstly it introduces framework legislation encompassing all aspects of overall environmental policy and management at central government level. An Authority, a Trust Fund and a Commission are provided for. The Commission is designed as a court with authority to enforce administrative and civil sanctions against violations of the Act and to hear appeals against certain decisions of the Authority.

This legislation commits the public and private sectors to common environmental management principles such as sustainable development and the polluter pays principle, among other internationally accepted principles of environmental law.

Coordination is effected through the formulation and declaration of a National Environmental Policy and through consultative mechanisms to incorporate the views of stakeholders in the public and private sectors. Coordination is also effected through the formulation of interagency agreements between the environmental agencies and the Authority. These agreements include the appointment of Environmental Officers within the specialized

agencies and the development of joint programs between the Authority and the specialized agencies. Consistency between these environmental programs and the National Environmental Policy is to be sought at all times.

Secondly, the Act retains the existing environmental laws and institutions, while providing for the phased rationalization of this framework through the development of an Environmental Code. The Code is intended to consolidate into one enactment, rationalize and update, the many laws dealing with environmental matters.

Thirdly, in order to fill the institutional gaps in the area of pollution control, the Act introduces air, noise and water pollution regulation and waste management provisions. The powers provided in the area of pollution control are being detailed through the development of the required enforcing standards, rules and regulations. The Authority has direct executive power over pollution control as averse to the function that it carries out in relation to natural resources management which involves designating environmentally sensitive areas and species and establishing limits on the wise use of these areas and species.

The Act also provides for the development of public education programs, the voluntary introduction of environmental management systems within facilities, and the introduction of economic incentive measures.

## **5 ENFORCEMENT PROVISIONS OF THE ENVIRONMENTAL MANAGEMENT ACT**

The Authority is empowered to enforce directly the environmental requirements of the Act by issuing Notices of Violation, and Administrative Orders which may include Administrative Civil Assessments. These Assessments are charges levied on the violator on the principle that the polluter ought to pay compensation for environmental damage caused by his acts or omissions.

The Authority has the power to appoint inspectors to monitor and investigate compliance with the Act.

The jurisdiction of the Act is largely administrative and civil. However the Act creates two indictable offences of knowing or reckless endangerment of human life or health through the handling or release of a pollutant or hazardous substance; and knowingly or recklessly undertaking/permitting activity in an environmentally sensitive area or with respect to an environmentally sensitive species which may have an adverse impact on the environment in that area or on that species. The prosecution of these offences will be undertaken by the Director of Public Prosecutions or with his consent.

The Authority is being staffed with in-house legal counsel and personnel who will monitor and investigate violations. However commercial and industrial enterprises will be required to undertake self-monitoring, and the decentralized agencies will monitor and enforce the legislation for which they are responsible.

## **6 ORGANIZATIONAL TYPOLOGY**

The Authority does not fit easily into any single environmental organizational typology.<sup>1</sup> It most closely resembles the unitary type of agency in that it encompasses both resource management and pollution control functions. It exists at central government and

Cabinet level and has enforcement, compliance and regulatory functions under one common authority. It will conduct administrative and judicial law enforcement when the Commission is established.

However the Authority does not have all enforcement, compliance and regulatory functions at the central government level. This distribution of responsibility poses a challenge to the coordinating powers and skills of the Authority. Environmental management in Trinidad and Tobago may be conceived of as distributed among divided agencies of equal rank and independent in their functioning. Each sectoral agency, which operates under an environmental statute, has some responsibility for investigating violations and enforcing compliance with the law e.g. the Town and Country Planning Division; the Forestry Division; and the Public Health Inspectorate of the Ministry of Health. In addition, the specialized criminal law enforcement agencies namely the Police Service and the Director of Public Prosecutions are responsible for the investigation and prosecution of summary and indictable offences.

There are also elements of the "traditional agency" model apparent in the Authority in that the powers of the Authority include both environmental management and administrative enforcement functions while judicial enforcement will be conducted by the Office of the Director of Public Prosecutions with regard to environmental crime.

The Authority therefore can be said to exhibit aspects of all three types of organization model. It may be conceived of as a matrix organization, functioning as a unitary agency of central government where it is entirely devoted to both resource management and pollution control functions and to the inspections and administrative enforcement functions empowered by the Environmental Management Act. At the same time, the specialized agencies are charged with the execution of programs in harmony with the National Environmental Policy and the enforcement of the laws for which they are responsible. Specialized enforcement agencies such as the Police Service and the Director of Public Prosecutions are responsible for the enforcement of summary and indictable offences.

## **7 COORDINATED ENFORCEMENT PROGRAMS**

Without coordination and programming, fragmented and overlapping jurisdictions are likely to lead to contradictions, inconsistencies and inaction, in management as well as in enforcement. This paper submits that uncoordinated overlapping jurisdictions are one cause of under-enforcement.

A small state such as Trinidad and Tobago is perhaps ideally positioned to devise and implement coordinated environmental strategies and programs through the machinery of the Act. Coordinated investigations and enforcement policies and programs may be devised among the Authority, the Police Service, the environmental agencies and the Office of the Director of Public Prosecutions. Such policies and programs will require the establishment of common objectives, priorities and strategies and the application of resources to these strategies.

Designing these policies and programs through partnerships will require the identification of roles and assigning tasks to these roles, namely:

- surveillance, investigation and prosecution of summary environmental offences under various statutes – the Police Service;
- monitoring, investigating, and identifying violations of the Act - the Environmental Inspectorate created by the Act; and

- enforcement of the more serious criminal offences in the criminal courts and of environmental violations before the Commission - the Office of the Director of Public Prosecutions and the Authority respectively.

A pilot program to examine the feasibility of establishing an environmental force within the Police Service is in the process of being detailed. This program proposes the development of a dedicated squad, trained to investigate, identify and prosecute environmental crimes under existing sectoral statutes.

The Authority also proposes to develop an Operations Manual which will establish guidelines, policies and procedures that will guide the Authority and other Environmental Officers and Inspectors of participating agencies in the investigations and enforcement function. The purpose of the Manual and the training programs that will be developed is to ensure that the conduct of investigations and enforcement is swift, transparent, fair and consistent, in order to provide an effective deterrent.

The approach to improved enforcement must be multifaceted. When the Commission is in place and subsidiary legislation sufficiently developed the provisions of the Act permitting direct citizen suits may be activated. This will provide for direct enforcement against violations by private citizens before the Commission.

When the existing environmental legislation is updated it would be desirable, to provide where appropriate for the enforcement provisions of the Environmental Management Act to be applied to these other statutes. This will provide for more robust penalties, promote deterrence and lend the civil jurisdiction of the Commission to those statutes. The Commission will be a specialized bench of adjudicators both legal and technical, in which forum administrative and civil sanctions of the Act will be enforced. This dedicated and specialized bench is expected to deal expeditiously with the increased environmental caseload.

## **8 CONCLUSION**

The radical initiative taken through the Environmental Management Act is demanding of management and programming expertise, vision, and communication skills. It is yet premature to evaluate the results of the attempts at interagency partnerships and coordinated programming, particularly since the administrative and legal infrastructure is still being put in place. However the organizational models that have been identified reveal that coordination through interagency partnerships is always part of any organizational option for environmental management. This is perhaps inevitable since the alternative, that is, to attempt to design monolithic centralized agencies to perform all policy, coordinating and executive management and enforcement functions, would be neither feasible nor effective.

## **ENDNOTES**

1. See William Eichbaum's "Alternative Organizational Structures for a Compliance and Enforcement Program", in ICEE Proceedings, Budapest 1992.

## **WORKSHOP 4B BUDGETING AND FINANCING ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT PROGRAMS: HOW MUCH ENFORCEMENT IS ENOUGH**

Any environmental compliance and enforcement program is a highly leveraged undertaking in which limited resources are expended to wield even greater influence over the behavior of regulated sources of pollution, illegal practices or illegal use of resources. This discussion will benefit from two capacity building documents, one entitled, "Financing Environmental Permit, Compliance Monitoring and Enforcement Programs" prepared for the Fourth International Conference, and the second, "Strategic Targeting for Environmental Compliance and Enforcement Programs" commissioned for the Fifth International Conference.

Papers and workshop discussions will address the following issues:

- The minimum human and capital resource needs for starting an environmental compliance and enforcement program: can it be defined, if so, what they are. How those needs change over time to that of a mature program.
  - On what basis officials responsible for environmental compliance and enforcement programs have made a successful case for funding those programs.
  - How officials have ensured an effective balance in funding program elements needed to support:
    - Personnel versus equipment;
    - Technical versus legal support;
    - Field personnel versus policy and management support; and
    - Inspection and related compliance monitoring activities designed to detect violations versus legal and other program personnel to respond to and to follow up on violations detected.
  - What creative financing schemes countries and NGOs have developed.
  - Financing schemes designed to also provide incentives for compliance and how well have these worked.
  - Cost cutting measures program officials have developed when faced with budget cuts to maintain program integrity and how well they have worked, including:
    - Use of third party inspectors or purchase of laboratory support;
    - Use of self-certifications and monitoring;
    - Automation in enforcement; and
    - Strategic targeting schemes.
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See related papers from other International Workshop and Conference Proceedings.

1. World Bank Supported Environment Institution Building Investments, *Aden, J.*, Volume 1, Chiang Mai, Thailand, 1996, Pages 275 - 279
2. Summary of Workshop: Organizing and Financing Programs, Volume 2, Chiang Mai, Thailand, 1996, Pages 781 - 783
3. Summary of Workshop: Organizing and Financing Programs, *Glaser, R. and Paddock, L., Facilitators, Rubin, K., Rapporteur*, Volume 2, Chiang Mai, Thailand, 1996, Pages 781 - 7831.
4. Norway's Experience in Building an Inspector Corps: Education and Financing, *Miller, A. and Rodland, G.*, Volume 1, Oaxaca, Mexico, 1994, Pages 63 - 68

## **WORKSHOP 4C**

### **TRAINING PROGRAMS FOR COMPLIANCE INSPECTOR, INVESTIGATOR AND LEGAL PERSONNEL**

Discussions will build upon a capacity building support document commissioned for the Fifth International Conference: "Inspector Training Compendium, Course comparison and International examples of formal Training Programs" as well as the results of projects within Western Europe and North America to exchange and develop training materials, and a project within Western Europe to define standards for training of environmental inspectors. A complementary project undertaken by Interpol is developing a compendium on environmental training for police.

Papers and workshop discussions will address the following issues:

- How different countries define training needs for environmental inspectors, for legal enforcement personnel, for criminal investigators, or other personnel, and what is similar or different and why. How have different countries defined the skills and knowledge needed to perform enforcement related functions well.
  - Approaches countries have taken in training personnel:
    - How training programs have evolved and whether there are common patterns;
    - For those countries who have established formal training programs: what was the impetus, how were funding needs and programs defined and implemented;
    - How training is delivered in various countries. What approaches countries have developed to train personnel in a manner which meets budget constraints;
    - The potential for innovative technology in training enforcement personnel, for example, satellite training and interactive CD-ROMs; and
    - The relative importance of and reliance on classroom training, reading material, on-the-job training and observation of field work.
  - Identification needs and opportunities for sharing training materials among nations which are not country-specific and how that can best be done, including a role for INECE.
  - How countries assess the qualifications of enforcement personnel. What mechanisms work best under what circumstances, including consideration of performance appraisals, written tests, observation of practice, other forms of testing or use of qualifications.
    - Strategic targeting schemes.
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1. Enforcement Training Programs, *Currie, Christopher* (Volume 2)
  2. Synopsis of International Inspector Training Course Compendium, Course and Program Comparison .....543
  3. See also UNEP Judicial Symposia on The Role of Judiciary in Promoting Sustainable Development, *Kaniaru, Donald, Kurukulasuriya, Lal, and Okidi, Charles* ..... 21
  4. See also Enforcing Environmental Law in Central America: A Regional Environmental Law Program Experience, *Gonzalez Pastora, Marco A.* ..... 703
- 

See related papers from other International Workshop and Conference Proceedings:

1. Synopsis of Multi-media Inspection Protocols: International Examples, Volume 1, Chiang Mai, Thailand, 1996 Page 394
2. Synopsis of Course: Conducting Multi-media Inspections, Volume 1, Chiang Mai, Thailand, 1996 Page 396
3. Norway's Experience in Building an Inspector Corps: Education and Financing, *Miller, A. and Rodland, G.*, Volume 1, Oaxaca, Mexico, 1994, Pages 63 - 68
4. Developing an Effective Compliance Monitoring Capability (e.g. Inspection Capability), Summary of Theme #3 Discussion, *Hove, M.T., Reporter*, Volume 2, Budapest, Hungary, 1992, Pages 213 - 216
5. U.S. Experience and Differences Between Civil and Criminal Investigations and Use of Central Elite Force to Supplement Local Inspectors, *Gipe, D. and Wills, C.*, Volume 1, Budapest, Hungary, 1992, Pages 325 - 337
6. UK Experience in Establishing an Inspectorate for Integrated Pollution Regulation, *Handyside, J.*, Volume 1, Budapest, Hungary, 1992, Pages 339 - 350

## **SYNOPSIS OF INTERNATIONAL INSPECTOR TRAINING COURSE COMPENDIUM, COURSE AND PROGRAM COMPARISON**

Capacity Building Support Document for Environmental Compliance and Enforcement Programs

### **PURPOSE**

This report compiles and describes known courses from around the globe designed specifically to train environmental inspectors. It also compares and contrasts the content of inspector training courses to assess elements common to and key differences among country training programs. Finally, it provides examples of how several different countries have institutionalized the training and development of inspectors into full programs that ensure an ongoing capability and advancement for inspectors. Criminal investigations are treated as a distinct topic for development elsewhere.

The course compendium, curriculum and program comparison are designed to assist individuals and agencies responsible for environmental compliance and enforcement to design and implement training programs for their inspectors. As part of the work of the ongoing International Network for Environmental Compliance and Enforcement it will enable countries developing or enhancing their training programs to build on the experience of others in the field and generally help to advance the professionalism and dialogue on what constitutes an environmental inspection.

### **SUBJECT AREAS**

The compendium includes such information as course content (e.g. technical, legal and program content, health and safety training, overall inspection procedures, communication skills, sampling and analysis, interviewing and observation, procedural requirements), the type of course materials that may be available (e.g. manuals, videos); the mode of instruction (e.g. field demonstrations, classroom instruction, interactive computer programs); language; length of the course and frequency of delivery; target audience; prerequisites; whether the course is required or optional; how course results are evaluated; whether certification or other recognition results from having taken the course; and contacts for obtaining further information on the course. Training program descriptions review overall training and or experience requirements for inspectors, sequencing of course content and requirements for refresher training and tracking of course completion and credentials.

### **SCOPE**

At least some information is presented for each of the following countries. More countries are being added prior to final publication.

Australia	Denmark	Hong Kong	The Netherlands
Canada	Estonia	Ireland	United Kingdom
Chile	Finland	Mexico	United States
Costa Rica	Germany-Bavaria		



## WORKSHOP 4D SETTING UP AND MANAGING COMPLIANCE ASSISTANCE PROGRAMS AND INFORMATION OUTREACH ON REGULATORY REQUIREMENTS

Technical assistance and outreach programs are significant ways governments have to offer encouragement for compliance. Many nations and local communities have established programs offering technical assistance to business and industry in environmental control, pollution prevention and/or cleaner production. Few of these are actually focussed on assistance related specifically to regulatory compliance for reasons which include lack of institutional linkage, lack of enforcement motivation, a desire to avoid shifting the burden of responsibility for compliance from those regulated to the government and/or the level of training required to actually offer compliance assistance. In other cases a range of means of trying to communicate about regulatory requirements have been tried with mixed results.

Papers and workshop discussions will address the following issues:

- What methods are used to communicate and reach out to the regulated community about environmental requirements and which have proven to be most effective, have not worked well and why.
- What programs have been developed to offer compliance assistance, what circumstances initiated the program. What are the resources required to implement the program and how are successes or results assessed.
- How are programs for assistance and/or outreach linked to enforcement practices, what policy or program design alternatives were considered and why was the approach selected.

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1.	Implementation of Industrial Pollution Control Programs in Sri Lanka, <i>Ellepola, Ramani</i> .....	547
2.	Compliance Assistance and Environmental Enforcement in Sonoma County and the San Francisco Bay Area, <i>Paige, Dean C. and Garn, W. John</i> .....	555
3.	Reaching the Regulated community Through Compliance Assistance Centers, <i>Vendinello, L.</i> .....	583
4.	See also Enforcement and Encouragement; An Investigation in the Brick and Roofingtile Industry, <i>Schoenmakers, John M.J.</i> .....	307

*See also Workshop 2A: Communications and Enforcement*

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*See also references to other International Workshop and Conference Proceedings papers on Promoting Voluntary Compliance listed under workshop 3A*



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## **IMPLEMENTATION OF INDUSTRIAL POLLUTION CONTROL PROGRAMS IN SRI LANKA**

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### **SUMMARY**

This paper describes the basic legal provisions relating to Industrial Pollution Control in Sri Lanka. The major regulatory programs on pollution control, as well as programs designed to assist industries are discussed. The problems faced by the Regulatory Agencies and industrialists in complying with environmental norms as well as future trends in the implementation of pollution control programs with the devolution of powers to the provinces is briefly discussed.

### **1 LEGISLATIVE PROVISIONS RELATING TO POLLUTION CONTROL IN SRI LANKA**

Industrial pollution control is a relatively new field in Sri Lanka. The Central Environmental Authority (CEA) was set up in 1981, subsequent to the enactment of the National Environmental Act No.47 in 1980. At its inception, the Authority functioned mainly as a coordinating and policy making body without regulatory powers to control industrial pollution. Subsequently, an Amendment was brought in to the National Environmental Act in 1988, giving wider powers to the Authority.

There are two main regulatory provisions in the National Environmental Act which are being implemented by the Central Environmental Authority. These are:

- a) The Environmental Protection License procedure for the control of industrial discharges; and
- b) The Environmental Impact Assessment procedure for major development projects.

The Regulations pertaining to these two processes were published in February 1990 and June 1993 respectively.

#### **1.1 Environmental Impact Assessment**

Since June 1993, all major development projects are required to undergo full scale environmental impact assessments prior to implementation. The so called 'Prescribed Projects' which require Environmental Impact Assessments include large scale projects such as highway development projects, power generation and transmission projects, construction of airports and harbors, River Basin development and irrigation projects, extraction of timber, and clearing of land areas, mineral extraction projects, solid and hazardous waste treatment

and disposal sites as well as development of industrial estates above a certain magnitude. In addition to this, very large scale, individual industries with a high pollution potential are also required to undergo full scale Environmental Impact Assessments.

The Environmental Impact Assessment procedure ensures that all the impacts that a major project may have on the environment are identified and mitigatory action planned at an early stage. This makes it easier for project proponents to plan for such measures to be incorporated into the project at an early stage of the project planning cycle.

### 1.2 Environmental Protection Licence Scheme for Industries

Since July 1990, all industries which discharge or deposit effluents or emissions into the environment are required to obtain an Environmental Protection Licence (EPL) from the Central Environmental Authority. The Licence so issued to an industry will stipulate the standards and criteria under which the industry is allowed to discharge its waste.

Different standards are required to be complied with, depending on whether the final effluent is discharged into an inland surface water body such as a river or lake, into coastal waters or used for irrigation purposes. Although the above mentioned standards for discharge of waste water applies to all industries in general, several selected industrial sectors such as the textile, natural rubber processing and leather tanning industries are required to meet industry specific standards which are somewhat less stringent than the general standards mentioned above. In addition to the standards for liquid effluent disposal, there are additional regulations on hazardous waste disposal, noise generation etc. which the Central Environmental Authority has already published. Air emission standards have also been developed and will come into force in the near future.

The Environmental Protection Licence issued to an industry is legally binding on the industry and violation of the conditions in a licence is an offence punishable under the National Environmental Act.

The licence issued to industries is annually renewable and if an industry is found in non compliance with the conditions in the licence, action is usually taken to cancel the licence and proceed with legal action. However, legal action against industries is usually initiated, after warnings are given by the Authority requesting the industry to comply with the relevant environmental norms.

### 1.3 Problems of Existing Industry versus New Industry

In reviewing the present status in Sri Lanka in relation to industrial effluents, it is clear that major pollution problems arise mainly from those industries which were established two to three decades ago, before the present Environmental Regulations came into force. As such, a clear demarcation has to be made between the so called 'existing' industries which are industries already in operation when the present environmental regulations came into force as opposed to 'new' industries which came into existence after environmental regulations came into force.

The Central Environmental Authority has been successful to a great extent in controlling pollution arising from new industries (i.e., industries established after 1990). It is a relatively easy task to control pollution from these 'new' industries, as action is taken by the industry at the planning stage itself to install the necessary pollution control systems.

The major problem lies in the control of pollution from the so called 'existing' industries. These are industries which were established twenty to thirty years ago before environmental regulations were in place. Many of these older industries often use outdated technology and have not given any thought to waste minimization or end of pipe treatment. Many of these industries are cash strapped, and find it difficult to adopt new technology or install end of pipe

treatment systems as it may require considerable amounts of funds. Some of these industries also face problems such as the lack of physical space for the installation of the required end of pipe treatment systems.

The industries which generate the largest quantities of waste water in Sri Lanka are, the textile, natural rubber processing and food processing industry sectors. These three industry sectors are widely distributed throughout the country. In addition to these, large scale industries such as the pulp and paper mills and small scale leather tanneries also contribute to water pollution, although these are few in number.

Industrial effluents are generally disposed of into nearby water bodies such as rivers, lakes or into the ocean. The major problem with disposal of waste water into water bodies arise from the fact that most of these rivers are being used by the general public for various purposes such as bathing, washing etc.

The situation regarding siting and control of pollution from new industries has significantly improved since the enactment of the National Environmental Act and its regulations in 1990. Most new industrialists are now aware of the need to plan their pollution control strategy at an early stage of the planning process unlike in the older industries when not much attention was paid to pollution abatement measures at the planning stage, thereby making it more difficult and costly to incorporate pollution control measures at a later stage.

The necessary legislative provisions are already in place for taking legal action against errant industrialists who are violating the norms and standards stipulated by the Central Environmental Authority. However, the Authorities have been fairly flexible in this regard particularly in relation to existing industries. These industries have been allowed sufficient time to meet the stipulated standards. In cases where the industry concerned does not make any attempt at all to abate the pollution from his industry the Central Environmental Authority proceeds with legal action.

## **2 ENVIRONMENTAL STANDARDS IN SRI LANKA**

At the present time several Environmental Standards have been developed and are being enforced by the Central Environmental Authority through the Environmental Protection Licence (EPL) Procedure and the Environmental Impact Assessment (EIA) Process. The available environmental standards, are briefly described below.

### **2.1 Industrial Effluent Standards**

The following standards are presently being enforced on industries which discharge wastewater:

- a) General standards for discharge of effluents into inland surface waters.
- b) Tolerance limits for industrial effluents discharged on land for irrigation purposes.
- c) Tolerance limits for industrial and domestic effluents discharged into marine coastal areas.
- d) Tolerance limit for effluents from rubber factories discharged into inland surface waters.
- e) Tolerance limits for effluents from textile industry discharged into inland surface waters.

- f) Tolerance limits for effluents from tannery industry.

## 2.2 National Environmental (Ambient Air Quality) Standards

Ambient air quality standards have been set up in Sri Lanka after taking into consideration, the WHO recommended standards for ambient air quality as well as the existing air quality in the country which was studied through several air quality monitoring programs.

A commonly made allegation particularly by industrialists is that Sri Lanka has set a very stringent ambient air quality standard. The ambient air quality standards set up by the Central Environmental Authority is in fact more stringent than that recommended by the World Health Organization. However, there is a specific reason for adopting such a standard. Air Quality Monitoring carried out by the Central Environmental Authority in the Colombo Metropolitan Area has indicated that the air quality in the city of Colombo is relatively good. Except for parameters such as Suspended Particulate Matter (SPM), other important parameters such as Carbon Monoxide, Sulphur Dioxide, and Oxides of Nitrogen were well within the WHO recommended levels. In fact the measured concentrations were below the levels stipulated by the WHO. Taking this fact into consideration the Ambient Air Quality Standards was made more stringent than the WHO recommended threshold levels with the primary aim of maintaining the air quality levels at the present levels. Furthermore, the ambient air quality standards are not regulatory standards and as such are not imposed on industry.

## 2.3 National Noise Control Standards

The Central Environmental Authority receives a large number of public complaints on a daily basis. A majority of these complaints are with respect to noise. It was therefore considered necessary to publish noise level standards with respect to noise arising from industrial and other activities such as construction activities. The noise control standards came into force in 1996. These standards are imposed on new industries with immediate effect while existing industries have been given a grace period of one and a half years to meet the standard.

## 2.4 Air Emission Standards for Air Polluting Industries.

With a view to controlling emissions of harmful pollutants such as sulphur dioxide, particulates and oxides of nitrogen from major air polluting industries such as thermal power generation plants, refineries, cement plants, acid manufacturing plants, steel mills, air emission standards were developed in 1996.

These air emission standards have not been published as yet and are therefore not in force. Once they are published they will apply to new industries with immediate effect and industrialists who are already in operation will be given a grace period in order to meet the proposed emission standards.

## 3 PROGRAMS TO ASSIST INDUSTRY COMPLY WITH ENVIRONMENTAL NORMS

In Sri Lanka a mix of regulatory and incentive based strategies are adopted in order to control pollution arising from industries. There are many programs which have been initiated in recent times with a view to providing assistance to industries. Special emphasis has been given to the control of pollution from the so called "existing" industries which are older industries set up several years or decades ago before the present environmental regulations were in force. Some of these programs are briefly described below.

### 3.1 Pollution control and Abatement Fund (PCAF)

A 'Pollution Control and Abatement Fund' (PCAF) has been set up in order to provide interest free loans as well as free technical assistance to industries which have been established in the past and which have pollution problems at present.

Under this scheme industries are able to obtain funding on a concessionary basis for the installation of waste treatment systems and for the implementation of other pollution minimization measures. The funds are being disbursed through the major development banks. This is a boon to industries, in particular the small and medium scale industry who may lack the finances required for implementation of pollution control measures.

### 3.2 Common Waste Treatment Systems

In order to assist older industries in special areas with a high concentration of industries where the necessary space for the installation of treatment systems is not available, the Government, with World Bank assistance, is to set up common waste treatment systems for joint waste treatment. Industries in such areas will be expected to join the common waste treatment system or install waste treatment systems on their own. Two areas with a high concentration of industries have been identified, one to the North of Colombo the capital city, and the other to the south of Colombo, where such treatment systems are to be installed in the near future. The treated waste water from these two treatment systems will be disposed of into the ocean through pipelines after treatment.

### 3.3 Demonstration Waste Treatment Systems

There are several specific industrial sectors where the required pollution control technology is not available in the country at present. Demonstration waste treatment systems have been set up for such industrial sectors by the Government in order to assist similar industries to set up their own treatment systems with confidence.

### 3.4 Cleaner Technology/Waste Minimization Project

Another program which is being implemented in order to assist industries is a demonstration waste minimization project in selected industrial sectors. A UNIDO assisted waste minimization project is being implemented by the Central Environmental Authority covering three selected industrial sectors. These are the distillery, textile and metal finishing industrial sectors. Through this project, selected industries in these three industrial sectors have been shown ways and means of reducing waste generation quantities through simple process and raw material changes, as well as good house keeping practices. Demonstration waste minimization projects such as these help industries in meeting the required environmental standards while at the same time reducing end-of-pipe treatment costs.

### 3.5 Future Siting of Industry

In order to avoid the problems arising from inappropriate siting of industry, the Government has made a policy decision that in future, all effluent generating high polluting industry should be sited in industrial estates with treatment facilities. However, at present a sufficient number of such estates are not available for this purpose. The Ministry of industries is in the process of identifying and developing several industrial estates countrywide, in order to cater to this need. The plan is to develop these industrial estates on a Build Own and Operate or Build Own and Transfer basis. In addition to these, there are several industrial estates being developed by the private sector.

### 3.6 Relocation of Selected industrial Sectors

Other programs which are ongoing is the relocation of industries which have similar processes, to one central location in order to facilitate sharing of costs for waste treatment and disposal. One example in this regard, is the relocation of tanneries situated in and around Colombo to a suitable location outside Colombo. The main reason for the relocation of these tanneries was that these tanneries which were established several decades ago were carrying out their operations in highly residential areas which had developed in and around these industries. The operation of these tanneries was causing a major nuisance to the nearby residents. In addition, although these tanneries many of which are involved in chrome tanning generate substantial quantities of waste water often containing chromium, in most of these locations there is not sufficient space for the installation of the necessary treatment systems. The relocation of the tanneries has given an opportunity to the industry to share the cost of waste treatment in addition to minimizing pollution/nuisance problems by moving out from the populated areas.

### 3.7 Management of hazardous industrial waste

Although the quantities of hazardous waste arising from industrial operations in Sri Lanka is not very substantial at the present time, it is envisaged that the problem is bound to become serious with increased industrialization. There are a few selected industrial sectors which are already facing a problem in relation to the disposal of hazardous waste. With an increasing number of industries installing treatment systems for the treatment of their waste water, a serious problem with regard to the disposal of sludge from such waste treatment systems has arisen. A recent survey carried out in Sri Lanka, has estimated that a total of 40,000 MT of hazardous waste is being generated within the country annually, of which almost fifty percent consists of waste oil. The proper disposal of this waste poses a serious problem, due to the non availability of a high temperature incinerator or a properly designed land fill site in the country. The government is in the process of identifying a suitable site to be developed as a hazardous waste land fill site. Although Regulations governing the management of hazardous waste have come into effect in 1996, the implementation of the Regulation is being delayed due to the non availability of the required infrastructure facilities such as landfill sites.

### 3.8 Controls on the Import and Use of Toxic Chemicals

Chemicals classified as pesticides, fertilizers or pharmaceuticals are fairly well regulated in Sri Lanka, as legislation is already in place for the purpose. All pesticides, fertilizers and pharmaceuticals go through a registration process whereby aspects such as toxicity and environmental effects are looked into very carefully, as well as efficiency.

However, the use of toxic chemicals by industry is a fairly serious problem in Sri Lanka, as extremely toxic/hazardous chemicals are sometimes being imported into the country, for use in industry. At the present time there is no registration or permit scheme in place for the control of industrial chemicals.

A complete inventory of the chemicals in use within the country has been compiled by the Central Environmental Authority. Relevant data on nearly one thousand chemicals is now available in the Authority as a computerized data base. Chemical and trade names, acute and chronic toxicity data, environmental effects, disposal methods, and the legal status of these chemicals in other countries are available in this data base. In addition, international data bases such as the Geneva based International Register of Potentially Toxic Chemicals (IRPTC) has made available their data bases to the Central Environmental Authority. The Authority has

identified several highly hazardous chemicals which are presently being imported into Sri Lanka with no restrictions at all. It is proposed to bring in a suitable control system, for the import and use of these chemicals in the near future.

## 4 FUTURE TRENDS

### 4.1 Amendment to the National Environmental Act

The existing system of implementation of programs to control industrial pollution has been described in detail above. In brief, the major regulatory program for the control of Industrial Pollution, is the issue of Environmental Protection Licences to waste generating industries. All industries which discharge waste water, emit noise or air emissions are required to obtain an Environmental Protection Licence from the Central Environmental Authority and to discharge their waste material in accordance with the standards and criteria prescribed by the Central Environmental Authority.

#### 4.1.1 Decentralization of Licensing

As the law stands today, all waste generating industries whether they are high or low polluting in nature, are required to obtain an Environmental Protection Licence. This places a heavy burden on the Central Environmental Authority which is required to issue licences to the estimated 25,000 to 30,000 industries scattered through out Sri Lanka. It is a difficult if not an impossible task to issue such a large number of licences on an yearly basis even for agencies which are well staffed. It is unreasonable to expect a handful of officers to perform this task effectively. Part of the functions relating to the Environmental Protection Licence Procedure have already been delegated to the Local Authorities. Since January 1994 the issue of Licences to a total of fourteen low polluting sectors of industry have been delegated to the Local Authorities. A further 4 sectors of industries were added to the delegated list in 1996. Delegation of part of the Authority for the issue of Environmental Protection Licence has relieved the Authority of part of its heavy load.

#### 4.1.2 Shifting the Burden of Compliance

The present program to control industrial pollution places the burden of detection of pollution, solely on the Central Environmental Authority. Under the provisions in the National Environmental Act, only the Central Environmental Authority is empowered to initiate legal action against high polluting industries which are operating in violation of standards and criteria prescribed by the Authority. (Local Authorities have the necessary powers to initiate legal action against the smaller scale low polluting sectors of industries). Furthermore, the burden of proving that a particular industry is polluting is on the Authority. This places a heavy burden on the Agency in the implementation of its Pollution Control Program.

In order to overcome the above problems and to implement a more effective Pollution Control Program, the Authority has recommended certain amendments to the National Environmental Act. The major Amendments include the requirement that in the future, industries which require an Environmental Protection Licence from the Central Environmental Authority would be prescribed by Regulation. Industries so prescribed by the Authority will be required to obtain an Environmental Protection Licence from the Authority and carry out operations according to the conditions stipulated in the licence. All waste discharges from such industry will be required to meet the standards prescribed by the Authority in the Licence.

There are reservations in some quarters whether this process would result in industries that are not prescribed by law, to operate as they please with no controls. This would not be the case however, as all industries whether prescribed or not, will be required to abide by the standards and criteria stipulated by the Authority.

Industrial development in Sri Lanka is still at a stage where there are only a handful of very large scale highly polluting type of industry. Compared to other countries in the region such as India, Thailand, Indonesia and Malaysia the level of industrialization in Sri Lanka is relatively low. There are no large scale industry such as petrochemical industries and other chemical manufacturing plants of the scale that are found in neighboring countries.

Given this situation, Sri Lanka is in the fortunate position that action could be initiated to ensure that in future when large scale high polluting industry do come into the country, the necessary infrastructure would be in place to ensure that the operation of such industries do not cause unacceptable levels of pollution.

#### 4.2 Functions of Provincial Authorities Versus the Central Government

Although at present, a majority of the Pollution Control Programs are being implemented by the Central Government through the Central Environmental Authority, with the devolution of powers to the provinces, it is envisaged that a majority of the pollution control activities will be devolved to the regions, in time to come.

At the present time the North Western Provincial Council has its own statute and the Environmental Protection Licence program for industries is being administered through the Provincial Authority. This system is acceptable except for a few problems which have to be overcome. The following specific problems have been identified in this regard.

The Provincial Authority is somewhat hampered in the performance of its duties due to the lack of personnel. In addition, the Provincial Authority does not have the experience and expertise presently available at the Central Environmental Authority in order to tackle major pollution problems arising from large scale high polluting industry.

Pollution problems such as air or water pollution, do not respect boundaries. A pollution problem in one province can severely affect the neighboring provinces. It is important therefore, that minimum standards are available to the provinces in order for them to operate in such manner that is acceptable to the rest of the country.

The division of responsibilities between Provincial/Local Authorities versus the Center requires to be clarified. At the present time, in the absence of fully functional Provincial Environmental Agencies there is no conflict between the center and the provinces. In future however, when the Provincial Authorities come into being, the roles of Provincial Authorities as opposed to that of the Central Government will have to be clearly defined in order to avoid confusion.

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## **COMPLIANCE ASSISTANCE AND ENVIRONMENTAL ENFORCEMENT IN SONOMA COUNTY AND THE SAN FRANCISCO BAY AREA**

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### **SUMMARY**

A retrospective overview of the results of the Compliance Incentive Program implemented with the auto repair industry in Santa Rosa, Sonoma County, California over a 5 year period is given along with details of the expansion of such programs in the San Francisco Bay area. The program, Sonoma Green Business (SGB), was introduced as an alternative approach to supplement traditional environmental regulation based enforcement activities. While Sonoma Green Business was originally intended to recognize businesses for their efforts in environmental protection and full regulatory compliance, over the course of its inception and implementation the program has had profound effects that were not entirely anticipated. The Compliance Incentive Program has not only led to greater degrees of compliance within the regulated community, but has also contributed to a level of cooperation between local environmental regulators, law enforcement agencies and criminal prosecutors not previously experienced. This in turn has resulted in the first criminal prosecutions and convictions for environmental crimes in Sonoma County. A planned Compliance Incentive Program expansion in Sonoma County to include the printing and wine making industries, as well as Compliance Incentive Program development in the nine counties surrounding San Francisco Bay, is expected to continue these trends.

## **1 COMPLIANCE INCENTIVE PROGRAM ORIGINS**

### **1.1 Background Information**

Full details of the implementation and initial effects of the Sonoma Green Business Compliance Incentive Program were presented in a paper entitled "The Compliance Incentive Experience in Santa Rosa, California" published in the Proceedings Volume 1 of the Third International Conference on Environmental Enforcement 1994. A brief synopsis follows.

In 1988 the City of Santa Rosa's Industrial Waste Section embarked on an effort to establish local regulatory control of the discharge of industrial pollutants to the sanitary sewer system and its Laguna Wastewater Reclamation Plant. The facility is an advanced tertiary municipal wastewater treatment plant with a 20 million gallon per day flow. It serves 4 cities and a population of over 200,000. Reclaimed water is used entirely for irrigation in summer months and during the winter months a portion of the flow is discharged to the Russian River. Irrigation activities include both urban and agricultural uses. Additionally, Class B biosolids produced by the facility are applied to local crop land or composted with wood chips to produce

a high quality Class A compost which is made available for sale on the open market. Control of industrial discharges is essential to maintain the ability to maximize the reuse of local water resources and to recycle organic solids. Further, requirements placed on the facility in its National Pollution Discharge Elimination System Permit (NPDES) issued by the United States Environmental Protection Agency (US EPA) and the California North Coast Regional Water Quality Control Board mandate an effective Industrial Waste Control Program (IWCP). The US EPA and Water Board also set strict limits on the concentration of pollutants in plant effluent as well as in biosolids used for land application and composting. After 3 years of development, the City's program was fully approved by both agencies in 1991.

The core of the City's Industrial Waste Control Program is a system of inspections, permitting and sampling of businesses discharging to the sanitary sewer system. These activities are backed by a Wastewater Discharge Ordinance which provides enforcement authority to issue citations, impose monetary and other civil penalties and write Cease and Desist orders to halt illegal discharges, and terminate water and sewer services. Working within this framework City Industrial Waste inspectors discovered that the auto repair and service industry with over 275 facilities and an estimated base of 300,000 vehicles was, as a whole, a major source of Toxic Organic and heavy metals discharges. Vehicle service operations had not previously been recognized as a significant source of industrial discharges nor were they regulated. Working with affected businesses to address the problem and derive a solution, inspectors found owners and managers to be, if not antagonistic to, at least wary of government regulators. At the same time most agreed to cooperate. Many felt they had little choice. Inspections of the largest auto repair and maintenance shops were made and Wastewater Discharge Permits issued. Technically based pollutant limits were placed on any process discharges to the sanitary sewer and a regular sampling program was established to verify compliance.

#### 1.2 From Confrontation to Cooperation, a Shift in Philosophy

By the end of 1991 it had become apparent to inspectors that shop owners were struggling to comply but often felt overwhelmed by ever more numerous and complicated environmental regulations and requirements. Owners complained that numerous inspections by various regulatory agencies often left them confused about exactly what was required for compliance. Many said they were given conflicting information by different agencies and even by different inspectors from the same agency. But, by far the most often voiced complaint was that the costs of equipment required to clean up discharges had to be passed on to their customers, which gave non complying businesses a competitive advantage. An almost exclusively punitive approach by Sonoma County regulatory agencies including the issuance of Notices of Violation, Cease and Desist orders and fines, added to businesses' expenses and fostered an increasingly adversarial relationship with the regulatory agencies.

In an effort to address these concerns, area environmental inspectors began adopting a new approach to environmental regulatory requirements. Incorporating the concept of "pollution prevention", inspectors began to work directly with auto shop owners to provide technical assistance to aid them in the elimination of toxic and hazardous pollutants at the source instead of trying to clean up discharges at the "end of pipe". Results of discharge water quality sampling of each shop were reported to shop owners immediately for quality control. Individual contaminants in discharges were identified and traced back to their source with the use of product labeling information and Material Safety Data Sheets. Process changes and product substitutions were encouraged to be made where ever possible. Where no other alternative was available waste pretreatment technologies were installed. A switch from a

strictly punitive approach to this problem solving strategy quickly led to a lessening of antagonism and the beginnings of cooperative relationships between the businesses and environmental agencies. It also had the most significant effect of bringing the discharges from cooperating businesses into full compliance with discharge standards. The latter accomplishment helped assure the Laguna Plant's continuing compliance with discharge and biosolids standards. The new approach can best be summed up as "education before litigation".

In response to industry concerns of multiple inspections and conflicting information, City inspectors contacted inspectors from all of the seven other environmental regulatory agencies serving Sonoma County. Included were Santa Rosa Fire Department, Sonoma County Emergency Services, Sonoma County Environmental Health Department, Regional Water Quality Control Board, Bay Area Air Quality Management District, Department of Toxic Substance Control and California Environmental Protection Agency (CAL EPA). Broad agreement developed amongst the agencies' personnel that a higher level of inter-agency communication and cooperation was required. To that end the Sonoma Environmental Quality Assurance Committee was formed. The Committee members include inspectors and managers of all of the agencies. The committee meets once a month. The meetings provide a forum for discussion of pressing environmental compliance issues, creating enhanced inter agency relations and communications, cross training, and information sharing on non-complying businesses.

### 1.3 Supplementing Enforcement with Incentive

By June of 1992 ongoing discussions with business owners had convinced Sonoma Environmental Quality Assurance Committee members that what was needed to form a sustainable cooperative relationship between regulators, business and the public was a "carrot" to supplement their regulatory "stick". Working together, members looked for successful environmental compliance incentive programs already in existence. They found only one active program, "Clean Bay Business" in Palo Alto, California. Although new itself, it served as a model for the Sonoma Green Business program. Program criteria were developed in a collaboration between agencies, business representatives and the environmental consulting firm Strategic Environmental of Sebastopol, California. Key players included several small auto shop owners, owners of four large auto dealerships, Chamber of Commerce directors from the cities served by the Laguna Treatment Plant, auto shop instructors from local educational institutions and representatives from local environmental groups.

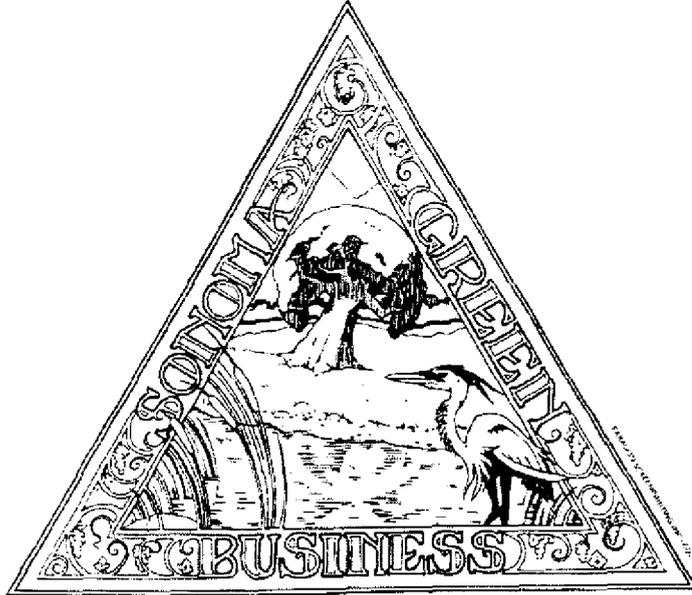
The Sonoma Green Business Compliance Incentive Program consisted of four elements:

- Technical Assistance—businesses are provided with Information on environmental compliance, including training and material on Best Management Practices and Pollution Prevention.
- Regulatory Streamlining—a collaborative effort involving all environmental regulatory agencies creates an integrated inspection checklist for the automotive repair and service industry to streamline the inspection process. This eliminates conflicting, confusing and redundant, regulation, reduces the number of annual inspections, and enhances communication between agencies.
- Recognition— a recognizable regional sticker (Figure 1) is presented to businesses that comply with all mandatory environmental regulations. This provides businesses with the incentive to make the commitment and investment

required for full regulatory compliance. The sticker provides the business with a marketing tool, moving the competitive advantage away from non-complying businesses.

- **Consumer awareness**—a significant pollution prevention outreach effort is initiated to educate consumers about the program and the environmental information represented by the recognition stickers. Consumers are given the opportunity, by supporting environmentally responsible businesses, to play a meaningful role in pollution prevention.

After two years of program development and facility inspections, on March 1, 1994 the first 41 Sonoma Green Business certificates were publicly awarded at a regularly scheduled Santa Rosa City Council Meeting.



**Figure 1** Regional sticker presented to businesses that comply with all mandatory environmental regulations

## **2 SONOMA GREEN BUSINESS COMPLIANCE INCENTIVE PROGRAM PROGRAM - LOCAL DEVELOPMENTS 1994 TO 1998**

### **2.1 Program Participation**

While only 41 businesses were originally certified, another 30 were in process at the time. The number of businesses participating has increased steadily thereafter. By May of 1998 a total of 112 auto repair and maintenance facilities had been certified as Sonoma Green Businesses. Over 1/3 of the auto shops in the Laguna Plant's service area are now participating in the program. Virtually all of the largest shops are participants. Additionally, the

program has expanded to include auto service shops not only within the Laguna Plant's service area but also throughout Sonoma County. Meanwhile, other sectors of the local business community had begun to take notice of the program.

A number of local printing and graphics shops were contracted to assist in the development of written and graphic materials related to the Sonoma Green Business program for auto shops. By mid 1995 Sonoma Green Business program managers began receiving requests from these printers to include their operations in the program. In 1996 neighboring Napa County, which was also developing a Compliance Incentive Program, modeled Santa Rosa's auto related Incentive Program and also began development of an Incentive Program for winery operations. Many wineries maintain facilities in both counties. This led Napa and Sonoma Counties, which together constitute the wine center of California, to cooperate to make their Incentive Programs for both business types as similar in concept and implementation as possible. Meanwhile, in the nine Counties surrounding San Francisco Bay, the Hazardous Waste Management Capacity Allocation Committee of the Association of Bay Area Governments (ABAG), with the aid of CAL EPA and US EPA grants, is coordinating an effort to establish Green Business Programs area wide. A primary goal of the effort is the development of compatible programs region wide. The ABAG organization comprises a Regional Conference of Governments and includes representatives of nine bay area counties and many cities within those counties. The geographic region represented consists of an area the size of the state of New Jersey and a population equivalent to that of the State of Massachusetts. Both Sonoma County and the City of Santa Rosa are ABAG members. Progress on this front is described later.

## 2.2 Inspections

A reduction in the number of inspections required to confirm ongoing regulatory compliance was a stated goal the Sonoma Green Business program. A review of inspection data and interviews with Industrial Waste Control Program inspectors have confirmed that this goal has been met for City inspectors. Inspection data for other participating agencies was not available during preparation of this report. Documentation is provided in the IWCP inspection data for the period from April 1994 to March 1998 for the auto repair industry. (Table 1)

**Table 1 Industrial Waste Control Program inspection data**

DATES	INSPECTIONS TOTAL	SGB PARTICIPANTS	NON PARTICIPANTS
April 94 to March 95	265	128	137
April 95 to March 96	293	87	206
April 96 to march 97	170	44	126
April 97 to March 98	126	34	92

For participating businesses a 73% reduction in the number of inspections, determined to be necessary to confirm compliance, resulted over the four year period. For non participants only a 33% reduction occurred during the same time frame. Industrial Waste

Control Program inspectors attribute the decline in the number of required inspections to 2 factors; increased knowledge of Best Management Practices, compliance requirements and record keeping procedures on the part of Sonoma Green Business shop owners and managers and, inspector confidence in program participants which allowed a switch from annual to biennial inspection schedules for Sonoma Green Businesses. This decrease not only provided relief to business operators but also freed up inspector time which has been utilized to investigate the serious environmental violations detailed below. Some business owners choose not to participate in the program even though they are in full compliance with regulations and meet all qualification criteria. Regardless of participation in the program, any business that consistently demonstrates ongoing compliance is placed on a biennial inspection schedule. This is a factor contributing to the smaller, but still significant decrease in inspection frequency for non participants.

### 2.3 Compliance

The compliance status of any business subject to environmental regulations is determined by facility inspections and discharge sampling as appropriate. Violations detected during the process are classed based on the severity of the violation. A Class I Violation is *defined as* "...representing a significant threat to human health or safety and the environment." A Class II Violation is defined as "A minor deviation from the regulation, standard, requirement or permit." Any Class I violation will result in civil and/ or criminal actions. For Sonoma Green Business participants Class I violations are also cause for immediate revocation of Sonoma Green Business status. Class II violations generally result in Warning Notices or Notices of Violation which normally provide up to a thirty day period to correct the violation. Immediate correction of some violations may be required. e.g. improperly filled out Hazardous Waste Labels. For the Program participants any failure to correct Class II violations in a timely manner and/or continuing Class II Violations are also cause for revocation of status.

Since 1994 overall compliance within the auto service sector has been exemplary. Inasmuch as auto shops in general were rarely found to be in complete compliance in 1990 when the first inspections and permitting of these operations were performed the current record is remarkable. A review of the compliance data for auto service shops confirms the progress (Table 2). As can be seen from this data four Sonoma Green Business participants were removed from the program since 1994. These shops were removed from the program for serious Class I environmental violations. Civil actions appropriate to correct the violations were immediately filed against these businesses which represent less than 4% of participating shops.

Only one non participating shop was subject to enforcement action for a Class I violation during the same period. While this variance was not expected, an explanation may be found in the fact that the majority of the largest high volume local vehicle service providers are program participants. These facilities have much more diverse operations and handle much larger volumes of hazardous materials and waste than the smaller operators which make up the bulk of non participating businesses. In addition many of the larger businesses also operate underground storage tanks not generally found in smaller operations. Larger businesses in general are also subject to regulation by more agencies than smaller shops. One or more of these factors figured prominently in all instances of revocation. All of the Class I violations resulting in revocation of Sonoma Green Business status were committed by large shop operators.

Minor environmental violations were spread evenly between participating and non participating shops. These violations in general consisted of minor discharge limit violations, hazardous waste labeling requirement discrepancies or minor violations of permit conditions. All were corrected within 30 days. The frequency of these minor violations highlights the need for the constant attention to detail by business operators which is required to maintain total

environmental compliance. It also serves as a reminder to regulators that educational and training efforts must remain a high priority in relations with the business community as must continued credible levels of inspection and enforcement.

Overall the compliance record for vehicle repair operations in Sonoma County is good. It is anticipated that the decreased number of violations in 1997 and the absence of any violations in the first 6 months of 1998 represent a continuing trend towards total compliance within this business sector.

**Table 2 Compliance data for auto service shops**

YEAR	CLASS	NUMBER OF VIOLATIONS		SPECIFIC VIOLATION	ENFORCEMENT ACTION
		SGB	NON		
1994	I	1	0	Unreported underground tank leak	SGB Revocation Clean-up Order
	II	1	6	SGB - Improper haz. waste labeling. NON - minor permit condition and discharge limit violations.	SGB - Warning Notice NON - Notices of Violation
1995	I	2	1	SGB- AQMD rules violation, failure to obtain proper permits. NON - Serious permit condition and discharge limit violation.	SGB Revocation (2). NON - Administrative Order Cease and Desist.
	II	4	6	SGB - Minor labeling and storage violation, failure to maintain equipment NON - Permit condition and discharge limit violations.	SGB - Warning Notices w/ 30 day compliance requirement. NON - Notices of Violation w/30 day compliance requirement
1996	I	1	0	SGB - Illegal haz. waste disposal	SGB - Revocation
	II	13	4	SGB - Minor labeling storage and discharge limit violations. NON - Minor permit condition and discharge limit violations.	SGB - Warning Notices and Notices of Violation w/ 30 day compliance requirements. NON - Same.
1997	I	0	0		
	II	3	2	SGB - Minor discharge limit violations and unauthorized storm drain discharge. NON - Permit condition and discharge limit violations.	SGB - Warning Notices and Notice of Violation. NON - Notices of Violation
1998	I	0	0		
	II	0	0		

### 3 DETOURS AND ROADBLOCKS

#### 3.1 Reorganizations

Between 1994 and 1998 major reorganizations of California State and local regulatory agencies took place. On the state level, under State Senate Bill 1082, a unified hazardous waste and hazardous materials management regulatory program was established. Six existing programs were consolidated and made consistent throughout each County. In each County a Combined Uniform Permitting Agency (CUPA) was to consolidate existing permit processes and provide businesses with a single permit for the six core programs:

- Hazardous Waste Generators and Hazardous Waste Onsite Treatment;
- Underground Storage Tanks;
- Hazardous Material Release Response Plans and Inventories;
- Accidental Release Prevention Program;
- Above Ground Storage Tanks (spill prevention/countermeasure plan); and
- Uniform Fire Code Hazardous Materials Management Plans and Inventories.

Three Combined Uniform Permitting Agencies were certified in Sonoma County in 1997. As a result several agencies participating in SEQAC underwent reorganizations. The Santa Rosa Fire Department, Sonoma County Emergency Services and the Environmental Health Department were affected. The Fire Department and Emergency Services were both Certified as Combined Uniform Permitting Agencies in their respective service areas. Many of the responsibilities that had been carried out by the Environmental Health Department were transferred to one or both of the CUPA's. Agency personnel were reassigned, organizational structures were modified and in some cases staffing levels were increased to meet additional responsibilities. For SEQAC that meant new members and participants and an increased need for training and cross training, a necessity for establishing new working relationships and a need to educate new personnel in the specific requirements of the Sonoma Green Business program.

A concurrent reorganization took place within the City of Santa Rosa. In an effort to streamline the organizational structure, increase efficiency and to remain competitive with private sector contractors, City departments were directed to eliminate one level of management. This resulted in a reassignment of managers, a reorganization of department structures and a redefinition of the job duties of many employees. IWCP inspectors, for instance, were given much more responsibility for record keeping, report preparation and scheduling of daily activities.

These changes placed additional demands on inspectors' and managers' time and added to, or changed key personnel with a stake in the Sonoma Green Business program. The development of criteria for additional business types was postponed as Sonoma Environmental Quality Assurance Committee participants learned the requirements of their new responsibilities and adjusted to their new roles. As some agencies substituted management personnel for front line inspectors at Committee meetings, the remaining inspectors often felt that their input was no longer really being heard. This issue resolved itself during the annual elections of the committee chair and co-chair. Nearly unanimous votes consistently elected inspectors to the posts. The front line inspectors thus maintained a modicum of control over the direction of the Sonoma Environmental Quality Assurance Committee and the program.

Maintaining multi-agency commitment to the program amidst the controlled chaos of the reorganizations also proved to be an ongoing challenge. However, the consistent support of the business community, the exposure of the program that resulted from the support of both CAL EPA and US EPA, and its expansion regionally served as powerful incentives for continuing support. The single most important influence for ongoing support of Sonoma Green Business however was the strengthened enforcement activity that came about as a result of the "cooperation before confrontation" philosophy developed by participating Sonoma Environmental Quality Assurance Committee agencies. In an effort to address the problem of non-responsive and non-complying businesses members sought out the aid of local law enforcement agencies. The Committee's addition of members of the City of Santa Rosa Police Department's Environmental Crimes Unit and the regular participation of Sonoma County Deputy District Attorney, Jeffrey Holtzman revolutionized environmental enforcement in Sonoma County. These developments led to the first misdemeanor and felony indictments and convictions for environmental crimes in Sonoma County, which will be detailed below.

While auto repair shops requesting Sonoma Green Business Certification during the reorganization period were handled expediently, active recruiting of new participants took a necessary back seat to the more pressing concerns resulting from the reorganizations. Overall support for the Program remained strong but progress was slowed. The reorganizations essentially represented a 2 year delay in the expansion of the Program.

### 3.2 Public Awareness/Advertising

A major component of the Program is a consumer outreach program. The development of strategies to inform the public has been a priority since Sonoma Green Business inception. Between 1993 and 1997 Santa Rosa allocated \$10,000 USD per year for program promotion. Outreach activities to date have included:

- Over 500 - 30 second TV commercials on local stations;
- TV News Stories;
- Program Presentations to Local Service Clubs (Kiwanis, Rotary, etc);
- Local Newspaper and Business Magazine Articles;
- Local Radio Talk Show Interviews;
- Announcements Included in City Utility Billing Statements;
- Public Transportation (Transit Bus) Banners;
- Bumper Stickers;
- Information Leaflets for Shop Waiting Areas;
- Program Presentations at Public Meetings ( City Council, County Board of Supervisors, RWQCB etc); and
- Press Conferences and Announcements.

The success of the promotional activities aimed at raising public awareness has been decidedly mixed. As is the case with most advertising efforts, devising a strategy that reaches the target audience has been a challenge. Feedback from shop owners identified the Program Information Leaflets (Figure 2), which are provided for shop service desks and waiting rooms as effective promotional tools. Customer response to the basic information provided was uniformly positive. A number of shop owners reported customer comments indicating that they

would always look for a Green Business now that they knew of the program. Many indicated that they would encourage friends and family to do the same. SGB bumper stickers proved to be another popular item.

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WE'RE A SONOMA GREEN BUSINESS

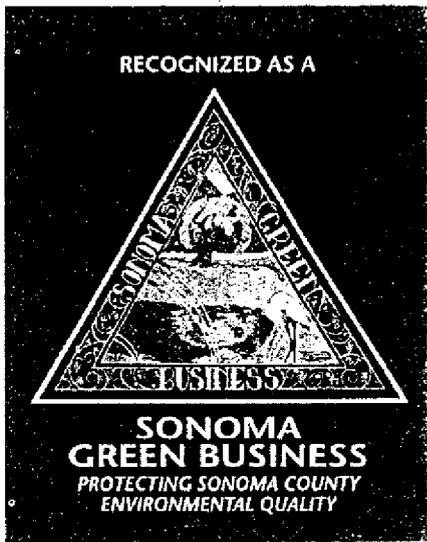
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Figure 2 Program Information Leaflets

Articles on the Program have appeared in all local newspapers including the Business Section of the Santa Rosa Press Democrat. The Press Democrat has a daily distribution of 100,000. Three other papers with distributions from 10,000 to 30,000 have also run SGB

stories. Sonoma Business Magazine ran a lead story on the program. This publication has a readership of 50,000, with 53% being CEO's and corporate executives with the remainder represented by engineers, attorneys, and other professionals.

Despite the wide range of promotional efforts undertaken, random surveys at shopping malls and community events revealed that less than 20% of respondents had heard of the Sonoma Green Business program. However, a majority of the respondents indicated that they would consider Sonoma Green Business status as a determining factor in their choice of service providers once they were aware of the program. Many indicated this would be the case provided that the cost of services was not significantly more than at non participating businesses.

Another factor has limited the scope of the outreach effort. Local elected officials have expressed concern that only auto repair shops had been offered the opportunity for participation. They have requested that promotional activities on the part of program managers be curtailed until such time as other businesses could be brought into the program. Individual businesses have not been curtailed in their use of SGB status as an advertising tool but have been encouraged to promote their participation. Thus, for 1998 no promotional expenditures were planned by program managers. The planned addition of printers and wineries to the program in late 1998 should resolve this problem. But, based on the disappointing results of past advertising efforts, careful consideration will be given to the most effective use of a limited ad budget.

Program managers have also been disappointed that participants have not taken full advantage of the opportunity to consistently highlight their participation in the program in their own advertising efforts. A small percentage use the Sonoma Green Business logo in their print advertising and in phone directory listings. The majority however, have done little more than display their certifications on site and provide their customers with program informational flyers. At present Sonoma Green Business managers are conferring with owners in a major effort to encourage all participating businesses to stress their Sonoma Green Business status in radio, television and print advertising. Many of the larger businesses advertise daily in all three mediums. Indications are that this approach will be much more cost effective in the public education effort.

## **4 ENFORCEMENT**

### **4.1 A Costly Lesson, the Role of Criminal Enforcement**

In late 1993 the Santa Rosa Police Department formed, what was at the time, one of the first environmental crimes units in the U.S. Spearheaded by Lt. Scott Swanson, the unit, which has no budget, consists of three officers and two supervisors. While they spend most of their time with patrol and other duties, the record of their arrests for environmental crimes is a testament to their effectiveness. (Figure 3)

The unit was formed as a result of instances of environmental crime which had serious repercussions and attracted the attention of the local political establishment and media. One such incident occurred soon after the formation of the Unit. During the night of January 27, 1994 two seventeen gallon drums of carburetor cleaner containing cresylic acid and methylene chloride were dumped directly outside of the gates of the Laguna Wastewater Treatment Plant alongside the road bordering the facility. The drums ruptured, spilling the highly toxic solvent to the ground. When personnel began arriving at the plant the next morning the overwhelming odor of the spilled solvent pervaded the facility. IWCP inspectors quickly located the ruptured

drums. Local environmental agencies including the Regional Water Quality Control Board, Environmental Health Department, and Santa Rosa Fire Department along with the Santa Rosa Police Department were notified immediately. The Health Department declared a Code RED emergency and the Water Quality Control Board advised "...dig fast, far and deep before the solvent reaches ground water". By 3:00 PM on January 28 environmental cleanup specialists equipped with a mobile laboratory, protective clothing, backhoes and tandem semi trailers were brought on site and a cleanup was begun. Soil samples were taken and analyzed continuously as soil was removed until no trace of contamination was detected in the excavation. Ninety six thousand pounds of contaminated soil were removed. It was necessary to transport the material from California to Louisiana for proper disposal. When it was all over the City had spent over \$95,000 USD to investigate and clean up the spill. Despite the best efforts of the Police Department the perpetrators were never identified. The incident served as a wake up call to all agencies involved. Incentives for compliance had their place, but weeding out the environmental outlaws must also be given a high priority. Civil enforcement activities, while effective for most environmental violations, did little to deter the hard core environmental scofflaw. Business owners' complaints of losing business and competitive advantage to these outlaw operators had come home to roost. Subsequent to this incident, Police Department supervisors and officers began attending Sonoma Environmental Quality Assurance Committee meetings regularly.

Santa Rosa Police Department  
 June 19, 1999

## SR police cleaning up on polluters

BY KAREN CLONK  
 AND BOB BIRTSCHMANN  
 Staff Writers

Santa Rosa's toughest environmental law, one of the toughest in the nation, has captured more than 30 polluters in its 10-year life, according to Santa Rosa Administrator who said he said he became the first person in the county charged of enforcing hazardous waste dumping.

"We look at it as a public safety issue. When people contaminate public water, there are public health, environmental and economic concerns," said Police Lt. Scott Swanson, who spearheaded the effort.

Lawns turned at preventing pollution long have been on the books, and corporate polluters have been paying hefty fines through the civil courts. But only recently have local police stepped in to enforce a criminal provision.

The Santa Rosa Police Department's environmental crime unit is one of the first in the country, according to police and the County District Attorney's Office. A team of officers responds to pollution complaints, and the arrests have led to convictions, fines and even jail sentences for polluters.

Often those caught breaking the rules are small-business owners who try to save money by dumping toxic waste illegally. Police say the result is a costly health hazard.

"Nationally, tens of billions of dollars of public money are going to clean up these crimes and that's not right," Swanson said.

In court hearings, some residents have complained Santa Rosa police are overzealous in enforcing laws that routinely are ignored elsewhere, making it harder to do business in town.

But Swanson insisted strict enforcement of environmental laws makes economic sense because it creates a "level playing field" in which all businesses compete on the environmental rules.

Nevertheless, he acknowledged catching polluters has not been viewed as a top priority.

But that is changing. The San Francisco and Oakland police departments recently have moved into the environmental crime business, each with an officer on the beat full time, he said.

"Until people question why police officers are out there enforcing environmental crimes when there are real crimes," but one illegal dumpsite can harm hundreds if not thousands of people," said Jeffrey Hottzman, the county prosecutor who handles environmental cases.

Santa Rosa's fledgling environmental crimes team has no budget. Its three officers and two supervisors spend most of their time with patrol and other duties, but their records reflect their time.

Hottzman, who works closely with the team, said Santa Rosa has brought 300 cases in the last 2 1/2 years. So far in 1999, the team has investigated more than two dozen cases, Police Sgt. Brad Marsh said.

The cases range from illegal dumping of oil car batteries to the classic midnight dumpster of hazardous waste," Hottzman said.

In the last 18 months, the team has racked up several arrests leading to convictions of people who knowingly pollute the environment.

Last month, the former president of a Santa Rosa cleaning products firm was sentenced in Sonoma County Superior Court of the first felony case involving hazardous waste.

Dennis Albert Clark, 58, president and owner of Dislike Products Corp., pleaded no contest to repeatedly dumping chemicals into a drain pipe. He received a \$20,000 fine and a six-month jail sentence to be served at home with an electronic bracelet. Ronald Lee Schwab, the firm's operations manager, was convicted of a misdemeanor, fined \$10,000 and given a 90-day jail sentence.

In January, 34-year-old plastics engineer Samuel Jeffries was sentenced to 90 days in jail and fined \$10,000 for illegal storage and disposal of hazardous materials in the operation of his Santa Rosa firm, Gustaf Engineering.

When police make environmental crimes officers, it sends a message that environmental laws will be enforced, Swanson said. That's a message that often comes as a shock to those caught in the act.

"If you take a rockers' attitude to figure out if you have a toxic substance, you don't walk the creek and throw it out," he said. "They know it's against the law. But there is a surprise about getting caught."

Figure 3 Article praising Santa Rosa Police Department

With the addition of the Police Department only one element was missing to insure total environmental crimes coverage. Sonoma Environmental Quality Assurance Committee participants reopened lines of communication with Jeffrey Holtzman, Sonoma County Deputy District Attorney, Environmental Division. The Environmental Crimes Division of the District Attorneys office was formed in December 1989. It began full operations in the early 1990s. Mr. Holtzman had previously been of assistance to the City's IWCP in providing information and training on Inspection and Search Warrants and in offering expert advice on the legal implications of the Sonoma Green Business program. IWCP inspectors had also consulted with him regarding issues related to deceptive labeling of over the counter automotive solvents. He enthusiastically supported increased levels of interagency cooperation. The full participation of the Police Department and the District Attorneys Office in environmental enforcement activities closed the loop on environmental regulation and enforcement in Santa Rosa and Sonoma County.

#### 4.2 Leveling the Playing Field

Sonoma Environmental Quality Assurance Committee served as a conduit for exchange of information between regulatory agencies and law enforcement in Sonoma County. Agency personnel provided training to the police personnel on the recognition of hazardous waste and the dangers posed by exposure, environmental regulations and ongoing civil enforcement activities. The Police Department supplied training to agency personnel on police methodology and procedure. Santa Rosa Police Department officers took to their new environmental mandate with a vengeance. Officers on night patrol, on their own initiative, adopted a practice they dubbed "dumpster diving". As time allows, officers on patrol in industrial areas routinely examine the contents of trash dumpsters on industry sites. They look for evidence of illegal hazardous waste disposal, checking container labels for contents and looking for leaking dumpsters and containers. Santa Rosa Police and Fire Department representatives have also provided training for drivers for the local garbage haulers, Empire Waste Management and West County Disposal, on how to spot evidence of illegal waste disposal on their routes and how to protect themselves from chemical exposure and injury. The drivers seem to welcome this new challenge as a way to make their days more interesting and challenging. They express some pride in knowing that they could have a part in environmental protection, a role not usually associated with their profession.

Allegations of environmental crimes reach the unit in a number of ways. By far the most common sources of information are ex-employees who had witnessed illegal disposal or handling of chemicals in the course of their employment. Whether employees act out of a sense of responsibility or anger at being discharged, tips from these sources prove valuable to police and regulatory agency inspectors. Another valuable resource are referrals made by regulatory agency personnel. In some cases of this nature inspectors often suspected illegal disposal but had been unable to develop evidence to support even a civil action.

#### 4.3 Enforcement in the Auto Repair and Service Sector

Given the amount of time and effort expended on the education of the owners and managers of auto repair shops in the course of SGB program development and implementation, it came as no surprise that the need for criminal enforcement activities in that business sector have proved to be minimal. Criminal charges were brought against only one auto service related business during the period from 1994 to 1998. Early in 1997 the Police Department received a tip from a former employee that Galvin Precision Machining, Inc was routinely illegally disposing of hazardous waste (Figures 4 & 5). The Department was joined

by IWCP inspectors and the Santa Rosa Utilities Department in conducting an investigation into these charges. A modified version of dumpster diving was used in the investigation. In this case, Empire Waste Management cooperated by supplying a clean garbage truck to pick up the contents of Galvin's waste dumpsters. The truck was then taken to the City's corporation yard where the contents were examined by Fire Department and Health Department personnel, and Industrial Waste Control Program inspectors wearing protective clothing. Materials were sorted, classified and analyzed and numerous instances of illegal disposal of hazardous wastes including buckets of waste oil, and beryllium, copper, chromium and nickel shavings and chips were documented. Motorized miniaturized video cameras were also lowered into the sewer system at downstream manholes. As the camera moved up the sewer line and into the Galvin sewer lateral it taped evidence of metals residue being discharged to the lateral through shop sewer drains.

16 California Environmental Insider JULY 31, 1997

### Santa Rosa Authorities Go Underground to Detect Illegal Disposal

Sonoma County Deputy D.A. Jeffrey Holzman has announced the indictments of a machine shop owner on 13 counts and six misdemeanor counts of illegal disposal of hazardous waste and materials. The indictments were filed by the D.A. against Galvin Precision Machining, Inc. and its owner James Francis Galvin. The D.A. was able to obtain the indictments because of an aggressive investigation by the Santa Rosa Police Department, which literally tapped into the sewer to obtain some of the damaging information, and diverted a garbage truck to obtain the rest.

The Santa Rosa P.D. was tipped off by a former Galvin employee that the company was routinely illegally dis-

posing of hazardous waste. Department officers dropped videotape equipment into the sewer system using manhole covers and videotaped heavy metal residue coming from the shop. The residue included copper and chromium shavings that apparently was contained in waste water dumped into the company's toilet. The officers also accompanied city garbage men on their regular stop to pick up the company's garbage. However, they then diverted the garbage truck from the county dump to the city corporation yard, and examined the wasteload obtained from the company. They found large piles of metal chips and shavings, along with buckets of waste oil. The metals included beryllium, copper, chromium, and nickel.

Galvin faces possible jail time and a penalty of as much as \$100,000.

Santa Rosa Press Democrat  
November 21, 1997

## No contest plea in SR hazardous waste case

### Shop owner to pay \$50,000

By CLARK MASON

WY 200

The owner of a Santa Rosa machine shop admitted illegal disposal of heavy metal shavings and contaminated waste oil in a plea to contest in two violations of hazardous waste law and agreed to pay \$50,000 in restitution.

James Galvin, owner of Galvin Precision Engineering, agreed not to contest a misdemeanor against him, as well as a felony charge against his corporation. In exchange, the Sonoma County District Attorney's office agreed to dismiss more than a dozen other hazardous waste violations.

Galvin believed he was innocent and was complying with the law, but decided to enter the plea rather than fight the case, according to his attorney, Richard Scott of Santa Rosa.

Even though Galvin previously believed it was set up and therefore innocent, these cases can be very costly both for business and taxpayers, Scott said.

"He said it was easier for his client to agree to pay \$50,000, knowing the restitution money will be directed toward the purchase of a hazardous materials response vehicle for the Santa Rosa Police Department."

Galvin was given a six-month suspended jail sentence this week and put on three years probation by Municipal Court Judge Patricia Gray.

The case was brought against the southeast Santa Rosa company on Yolanda Avenue after months of investigation earlier this year by the Santa Rosa Police Department's environmental crimes unit. Officers went undercover and underground via manhole covers

where they videotaped heavy metal residue in the sewer pipeline coming from the shop.

The videotape along with garbage placed in order to videotape the refuse, the machine shop was sending to the county dump. According to police, they found large piles of metal chips and shavings along with buckets of waste oil that should have been disposed of at a special collection site.

District Attorney Holzman said Galvin believed he was in full compliance with the law and was given permission to dispose of "shop" sewer in the dumpster and some liquid by products in the sewer system.

"SRPA can call up three different agencies and they will give three different opinions," Scott said.

He said it is believed that a disgruntled employee, hired for work and later found trespassing on the property, videotaped the business and then called the police claiming knowledge of waste violations.

Deputy District Attorney Jeffrey Holzman, supervisor of the law, criminal, and consumer case division, said "all of those things were reviewed and considered in assessing both the nature of the charges filed as well as the nature of the disposition that was ultimately reached."

"The fact remains illegal hazardous waste from Mr. Galvin's operation was being discharged to places they should not have gone and which could have presented a threat to public safety and health."

Scott said Galvin never received any warning that he was violating the law before being caught by authorities.

"You don't have to be a bad person to end up in the prison and I could tell you your client business is dead."

Holzman acknowledged that the business "at this point, is out of luck as dead and done for good."

Figures 4 & 5 Tip that Galvin was illegally disposing of hazardous waste

On July 23, 1997 thirteen felony and six misdemeanor indictments for illegal disposal of hazardous waste and materials were filed against Galvin by the District Attorney. In November of 1997 the owner pleaded no contest to one misdemeanor and one felony charge against his corporation. He received a six month suspended jail sentence, was placed on three years probation and ordered to pay \$50,000 USD in restitution. The restitution money was earmarked for the purchase of a hazardous materials response vehicle for the Police Department. The case was reported by print and broadcast media both locally and regionally.

#### 4.4 Sonoma County's First Environmental Crimes Conviction - Cooperation Equals Success

The Galvin case was the exception in the auto repair and service sector. Auto shops in general have, in the years since SGB program inception, proved to be responsible environmentally and have remained free from the need for criminal enforcement activities. Not all businesses in Sonoma County however have emulated that record. But the cooperative relationship between environmental agency personnel and law enforcement has had a significant impact on criminal non compliance across the board.

The first case of documented environmentally related criminal activity in Sonoma County occurred in 1993. This case led to the first successful prosecution of environmental crime in County history. The case resulted from an investigation of Diablo Chemical, a cleaning products manufacturer, which was initiated after a tip from former employees. (Figures 6 & 7) The ex-employees reported that they were directed by their bosses to place containers of corrosive or toxic waste in a trash bin. Industrial Waste Control Program inspectors had long suspected wrong doing at this location but had been unable to develop proof. Based on the tip however, a three month cooperative investigation began involving Santa Rosa Police and Fire Departments and IWCP personnel along with the Environmental Health Department, Regional Water Quality Control Board, and the Department of Toxic Substances Control. The investigation resulted in misdemeanor and felony indictments for illegal disposal of hazardous waste.

This was the first case in which the modified version of "dumpster diving" described above was used. As in the Galvin case, Empire Waste Management supplied clean garbage trucks to pick up the contents of Diablo's waste dumpsters. During examination of the dumpsters' contents investigators documented numerous instances of illegal disposal of hazardous wastes including methylene chloride, and high and low pH wastes. The procedure continued for several weeks. Surveillance cameras were also mounted with a clear view of the Diablo's dumpsters. These cameras documented that the wastes were actually placed in the dumpsters by Diablo employees or managers. Meanwhile IWCP technicians placed programmable automatic samplers in the sewer line serving the facility to detect unauthorized discharges.

San Francisco Chronicle  
April 8, 1993

#### ■ NORTH BAY

### No Contest Plea Entered in Toxics Dumping Case

Santa Rosa — Sonoma County won its first felony hazardous waste conviction yesterday when the owner of a cleaning products company pleaded no contest to charges of dumping toxic chemicals down a Santa Rosa sewer.

Diablo Products owner Dennis Clark was ordered by Municipal Court Judge Mark Tansil to pay \$50,000 in fines and serve a six-month sentence on electronic confinement.

Clark, who moved his business to Nevada several months ago, pleaded no contest to one count of illegal hazardous waste disposal. Prosecutor Jeff Holtzman had originally filed six felony counts against Clark.

The guilty plea sends a message that "those businesses who do not comply with environmental law now face stiffer penalties and sanctions," Holtzman said.

Ronald Schwab, general manager of Diablo Products, also entered a no contest plea to a downgraded misdemeanor count of illegal hazardous waste disposal. The plea bargaining included dismissal of five other felony counts against Schwab.

Judge Tansil ordered Schwab to pay \$10,000 in fines and serve 90 days on electronic confinement. Schwab, a Reno resident, continues to work for Diablo Products.

The prosecution agreed to a dismissal of charges against the company, but Holtzman said he is leaving the door open for a future civil suit against the business.

On July 27, 1994, the Santa Rosa police environmental crimes unit raided Diablo Products after an investigation showed that Clark and Schwab were routinely dumping toxic cleaning fluids such as methylene chloride and toluene into a city sewer drain and a dumpster.

## Toxic

Continued from Page A1

warehouse on Louis Court, off Frozier Street, that houses several small businesses.

Lt. Scott Swanson, supervisor of the police environmental crimes unit, said an inter-agency investigation was begun after a disgruntled former Diablo Products employee telephoned police nearly three months ago.

The ex-employee said the bosses at Diablo Products directed workers to place containers of corrosive or toxic wastes in the trash bin, for delivery to the county landfill, or to pour them into a sink, drain or toilet.

State law requires the disposal of hazardous wastes in a specially licensed dump.

Swanson said that during the investigation police brought a clean garbage truck to the business and hauled off the contents of the trash bin.

"We found there indeed was a regular flow of materials" into the trash bin, he said.

Jeff Holtzman, the deputy district attorney who oversees prosecution of environmental and consumer crimes, said police recovered more than 160 gallons of discarded industrial-strength cleansers and chemicals used in their production.

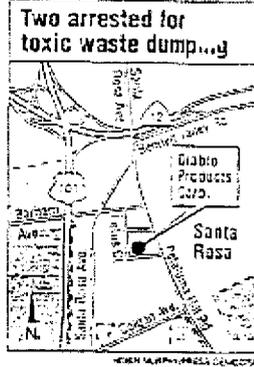
Authorities said the illegally dumped wastes included the solvents methylene chloride and toluene, eye bleach, methyl alcohol and ethyl alcohol.

Swanson said that in the midst of the investigation police also had the city monitor flows into the sewer from drains and toilets at Diablo Products. He said evidence was found that plant employees had poured chemicals into the sewer.

Holtzman said the company, which moved to Santa Rosa some years ago from the East Bay, employed four to six people. He said the District Attorney's Office has yet to decide whether to seek charges against anyone other than Clark and Schwab.

Holtzman said a continuing investigation will seek to establish how long Diablo Products officials and workers have been dumping corrosives and toxins in the trash bin and down the drains. The arrest warrants, based on information gathered in the investigation, accuse Clark and Schwab of six felony counts each.

He said the firm does not have a state license for the disposal of hazardous wastes and there is no other evidence it got rid of such waste by any legal means.



The Diablo Products case marks the first time the district attorney has sought felony charges against an alleged hazardous-waste polluter. In the past, Holtzman's office has handled illegal-dumping cases in civil court or with misdemeanor criminal charges.

The prosecutor said he is seeking felony charges against Clark and Schwab because they are in the chemical business and presumably know the hazards presented by corrosives and toxics.

"It's a very serious case involving chronic, blatant disregard of environmental safety laws," he said.

Figure 6 Diablo Chemical Toxic Dumping

Santa Rosa Press Democrat  
July 28, 1994

## SR company's top people charged with toxic dumping

By CHRIS SMITH  
Staff Writer

Police jailed the owner and manager of a Santa Rosa cleaning-products firm Wednesday on suspicion they dumped dangerous wastes in a landfill-bound trash bin and down the sewer.

Diablo Products Corp. owner Dennis Clark and general manager Ronald Lee Schwab are the first Sonoma County businessmen to face felony charges of illegally disposing of hazardous chemicals.

A judge set bail for each at \$50,000.

Police carrying arrest and search warrants were waiting Wednesday morning when Clark, 58, and Schwab, 32, arrived for work at the small production-and-distribution shop in an industrial pocket off Petaluma Hill Road. Diablo Products bottles industrial cleaners for use by restaurants and other businesses.

After the suspects were handcuffed and jailed, police detectives aided by firefighters and industrial-waste officials spent most of



PHOTO BY CHRIS SMITH

*Santa Rosa fire inspector Eileen Kortas gets equipment ready Wednesday to gather evidence at Diablo Products Corp.*

the day collecting evidence at the shop. Diablo Products is located in an industrial  
*See Toxic, Page A9*

### Figure 7 Diablo Chemical Toxic Dumping

When a search warrant was served on the facility in July of 1994 the strike team consisted of representatives of the Santa Rosa Police and Fire Departments, Industrial Waste Control Program, Health Department, Department of Toxic Substance Control and the District Attorneys Office. While the Police Department and Toxic Substances Control personnel pored over company records, the remaining agencies took samples from product formulations, sink traps, sewer drains and dumpsters, and performed analyses and sorted and classified chemical evidence. Samples taken from the traps and drains were compared with those taken downstream in the sewer system. The comparison confirmed that the source of pollutants

found downstream was Diablo Chemical and not other users discharging in the same area. The records review included review of the manager's daily note book. His notes were found to contain reminders to place certain hazardous wastes in dumpsters on specific days. Hazardous wastes were once again found in company dumpsters during the search. Analyses, of samples taken from sewer drains revealed the presence of high concentrations of methylene chloride and toluene and pH levels as low as 2.0 and as high as 12.

Armed with the overwhelming evidence gathered over the three month course of the investigation the District Attorney obtained felony and misdemeanor indictments against the company's owner and manager. On April 4, 1995 both pleaded no contest to a charge of dumping toxic chemicals down a sewer and were convicted and sentenced to six months and 90 days of electronic confinement respectively. The owner was also required to pay \$50,000 USD in fines and restitution. The manager was assessed a \$10,000 fine. Proceeds of the fine were allocated as restitution to the Santa Rosa Police and Fire Departments, Environmental Health Department, IWCP and the District Attorneys office. The money was earmarked for continuing training in hazardous materials investigations.

#### 4.5 Defusing Environmental Time Bombs - Continuing Successes

Environmental Agency inspectors have acted as the very effective eyes and ears of the law enforcement community in Sonoma County in a number of environmental cases since 1994. The case against Michael Inks (Figures 8 & 9) is a good example. Industrial Waste Control Program inspectors are encouraged to be on the lookout for possible unknown sources of discharges to the sanitary sewer. In August of 1995 a city environmental inspector noticed an open door on a wood frame Quonset type warehouse building on the edge of Santa Rosa's downtown and directly adjacent to a residential neighborhood. Curious as to what activities were taking place within, he decided to investigate. Looking into the open door he was alarmed to note that the entire structure was filled to the rafters with what appeared to be hundreds of rusting containers of paints and chemicals. He was met by Mr. Inks who informed him that he was a paint recycler and that the contents of the warehouse consisted of unused partially full containers of paint that he would blend into new product. Mr. Inks was informed that he needed permits to carry on that activity and that the inspector was required to report the presence of the facility to the appropriate regulatory agencies. The Health Department and Santa Rosa Police and Fire Departments were notified. On September 1, 1995 a multi agency team armed with a search warrant visited the facility. Their inspection revealed what police Sgt. Brad Marsh later called "...a disaster waiting to happen." Investigators found containers of paint thinner, solvents, acids, latex and oil based paints and a variety of other hazardous materials in buckets and containers in various stages of decay stored haphazardly throughout the structure. Some materials were actually found stored in the rafters. Fire Department inspectors also noted numerous electric and building code violations. The proximity of the warehouse to a residential area was especially troubling. Single family homes were located directly next to and across the street from the building. Mr. Inks was immediately arrested and charged with illegal storage and disposal of hazardous waste and reckless disregard for public safety.

Santa Rosa Press Democrat  
November 22, 1995

Santa Rosa Press Democrat  
November 22, 1995

### Raid defuses toxic array of SR chemicals

By DEAN C. PAIGE

The owner of a paint business was arrested Tuesday by Santa Rosa police for allegedly storing a warehouse full of hazardous waste paint and other chemicals.

Members of the police environmental unit were called Wednesday morning to the warehouse at Cleveland Avenue and 11th Street in Santa Rosa, an area known as a hazardous waste site.

They arrested Michael Inks, 40, of Santa Rosa, on suspicion of having stored a variety of hazardous waste and other chemicals in the warehouse.

"It was a disaster waiting to happen," said Don Mack, head of the warehouse, where Inks was arrested on Wednesday morning.

Paul Disher, area supervisor of the Sonoma County Environmental Health Department, said that he was alerted Wednesday morning by Mack.

There were barrels and containers in many cases of decay and piled up on the ground. Some of the top of other items, Mack said.

Inks was taken to Sonoma County Jail and booked at 10:30 a.m. Tuesday. The Environmental Health Department is now investigating the site, including whether paint containers are leaking and if so, how to clean up the site.

Inks is currently on bail, so he could contact the police when they return to the warehouse to see if there are any more items.



Santa Rosa Police Officer Paul Disher looks over some of the materials stored in the warehouse at Cleveland Avenue and 11th Street.

### Toxic

Continued from Page 11

"I don't think it's possible to release it," Mack said, explaining that Inks had been told that the waste was hazardous and should be disposed of properly.

Inks had intended to use it when he started to paint the wall of the paint shop. The Environmental Health Department is now investigating the site, including whether paint containers are leaking and if so, how to clean up the site.

Inks is currently on bail, so he could contact the police when they return to the warehouse to see if there are any more items.

Santa Rosa police officers arrested Inks Tuesday at his warehouse at Cleveland Avenue and 11th Street. Inks was arrested on suspicion of having stored a variety of hazardous waste and other chemicals in the warehouse.

The warehouse was full of hazardous waste paint and other chemicals. Members of the police environmental unit were called Wednesday morning to the warehouse at Cleveland Avenue and 11th Street in Santa Rosa, an area known as a hazardous waste site.

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Inks is currently on bail, so he could contact the police when they return to the warehouse to see if there are any more items.

### Paint storage owner jailed

The owner of a paint business was sentenced to 90 days in jail Tuesday after pleading no contest to a charge of illegally storing hazardous waste.

Michael Inks, 40, of Santa Rosa, was arrested in early September after members of Santa Rosa Police Department's environmental crimes unit raided a warehouse at Cleveland Avenue and 11th Street.

Authorities said the warehouse was full of dangerously stored paint, paint thinner and lacquers that presented a toxic hazard and potential for fire.

Since his arrest and posting bail, Inks has disposed of many of the more dangerous items, according to Jeffrey Holtzman, supervisor of the Sonoma County District Attorney's environmental and consumer law division.

Holtzman said Inks will be eligible for work release while serving his jail time.

### Figures 8 & 9 Michael Inks arrested

On November 21, 1995 Inks pleaded no contest to the charge of illegally storing hazardous waste and was sentenced to 90 days in the County Jail. He was also ordered to clean up the warehouse and properly dispose of the wastes. Mr Inks had already accomplished much of that task under the supervision of the Environmental Health Department subsequent to his arrest and release after posting bail.

The latest environmental crimes case to be brought in Sonoma County came about as a result of routine sampling and observation of industrial process discharges to the sanitary sewer by Industrial Waste Control Program technicians. (Figures 10 & 11) Discharges from Gelardi's Plating Shop are routinely sampled by Santa Rosa IWCP personnel. Samples are taken continuously for four days per quarter to confirm compliance with National Discharge Standards promulgated by US EPA and Technically Based Local Limits developed by the Laguna Treatment Plant. Gelardi's Plating is an older job shop electroplating operation performing copper, zinc, nickel, and chrome plating and polishing. During the first week of January of 1998 personnel on routine sampling duty noted a yellow hue to the discharges from the Gelardi shop. A discharge of highly toxic hexavalent chrome was suspected. Over the next days of sampling and subsequent analyses the yellow hue was indeed determined to be the result of the discharge of hexavalent chromium at levels in excess of both Federal and local discharge standards. The limits for the discharge of Total Chromium set forth in the Code of Federal Regulations is 2.77mg/L on a daily basis and 1.71 mg/l monthly average. Technically

Based Local Limits set allowable discharge limits at 0.1 mg/l. Analyses of discharge samples revealed levels of hexavalent chrome as high as 340mg/l over the four day sampling period. Industrial Waste Control Program management immediately prepared a Cease and Desist Order and terminated water and sewer services to the facility. Previous sampling at Gelardi's over a period of many years had at times revealed minor limit violations which had been addressed through civil proceedings. Regular inspection of the facility had also uncovered instances of improper handling and labeling of plating wastes which had also been addressed civilly. Changes in shop ownership and management however had led to the more serious conditions that were soon revealed.

Santa Rosa News-Record  
January 21, 1998

## SR plating shop quarantined during chemical inquiry

By Staff Writers  
The Press

Local news the official newspaper of Santa Rosa, California, dated January 21, 1998. The article reports on the discovery of hexavalent chrome in the shop's discharge.

The shop had previously found a drain of chrome kept by some 200 gallons of acid of hexavalent chrome, but it was a previously hidden problem of the two chemicals combined, perhaps in an explosion or an accident, said George Brock, chief of the Santa Rosa Police Department. Brock said the shop had been closed since the discovery of the problem.

The shop is located at 10000 E. Highway 101, Santa Rosa, California. The shop is owned by James Brown, who is also the owner of the shop's parent company, Santa Rosa Plating Shop.

James Brown, owner of the shop, said he had been in the shop since 1970. He said he had been in the shop since 1970 and had been in the shop since 1970. He said he had been in the shop since 1970 and had been in the shop since 1970.

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Environmental health officer of the shop, the findings are being made. What is left, he said, is a mixture of hexavalent chrome and other chemicals.

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12 California Environmental Insider APRIL 30, 1998

### Charges Filed in Santa Rosa Plating Case

The matter of a Santa Rosa plating shop has been charged with various hazardous waste violations. A 10 count criminal complaint filed in Sonoma County Municipal Court. The charges were filed against James Brown, the owner, and other employees. The case was referred to the D.A. by the Santa Rosa Police Department's environmental unit. The charges are related to the illegal waste disposal practices occurring at the shop.

Brown was charged with nine felony and five misdemeanor crimes, including unlawful treatment and storage of various hazardous wastes, and illegal disposal to land, dumpsters and into the public sewer lines. Among the wastes that were illegally disposed of were hexavalent chromium wastes, nitric solutions, cyanide waste, waste acids, and copper and general plating shop wastes such as ruffing wastes and sludge waste. The case is being prosecuted by Deputy D.A. Jeffrey Harrison.



Figures 10 & 11 Charges filed for discharge of hexavalent chromium

Immediately upon verification of the discharge violations the Health Department, Santa Rosa Police and Fire Departments and the District Attorney were notified of the situation. A multi agency investigation was initiated. On January 21, 1998 the shop was quarantined and a search warrant issued by the District Attorneys Office. Thorough inspection of the facility revealed potentially lethal problems now existing in the shop. Investigators discovered process plumbing leaks which were responsible for the discharge violations as well as evidence of

illegal storage, treatment and disposal of hazardous waste. Most ominously, Fire Department investigators discovered a drum of cyanide waste stored between two drums of acid. The mixing of acids and cyanide wastes in an accident or earthquake would create a lethal cloud of hydrogen cyanide gas. Shop owner James Lee Beeson denied any wrongdoing. On March 27 1998 Beeson was indicted and charged by the District Attorney with 14 felony counts of hazardous waste disposal, storage and handling. A trial date has not been set as of this writing.

These investigations and prosecutions of environmental crimes, examples of 10 that have occurred since 1994, have only been possible because of the close cooperation of all local environmental, police and prosecutorial agencies. The combined resources, knowledge and expertise of all participants have contributed to this outstanding record of success.

## **5 A FORMULA FOR SUCCESS**

### **5.1 Agency Limitations**

Environmental Agencies are limited in the scope of their enforcement powers. They are granted authority to perform inspections on private property, collect samples and apply and enforce civil penalties for non compliance. Those powers enable local agencies to maintain compliance with environmental regulations within the majority of the business community. In Sonoma County the majority of business owners have been found to be upstanding environmental citizens. Even in cases of violation, civil actions have been sufficient to reestablish compliance in most cases. Agency inspectors have not routinely been trained in criminal investigation techniques and police procedure, nor are they granted criminal enforcement powers.

This situation has enabled Sonoma County Environmental Agencies to form cooperative relations with the business community and to provide recognition for environmental responsibility in the form of the Sonoma Green Business Program. Lacking, was the ability to deal decisively with the environmental outlaws; those, who for whatever reason, choose to ignore regulations and endanger themselves, their neighbors and the environment in the process. In the early 1990s it became apparent that serious environmental crimes were being committed in Sonoma County and that the local environmental establishment must devise a way to get tough with the environmental outlaw.

### **5.2 Agency Cooperation**

From inception, the core concept of the Sonoma Green Business Compliance Incentive Program has been total compliance with all environmental regulations. It is intended to recognize modern, progressive businesses which make pollution prevention and environmental protection integral parts of their business operation and ethic. To qualify, a business must be in compliance with air, water, worker protection, recycling and waste disposal regulations. Traditionally in the U.S. multiple local agencies administer these varied regulatory programs. In order to assure program validity, it is necessary therefore that all of the environmental regulatory agencies with jurisdictions in Sonoma County cooperate in design, implementation and expansion of the program.

Environmental agency inspectors had been operating within their respective areas of expertise in relative isolation without a complete knowledge of the activities of their counterparts prior to 1992. With the inception of SGB and the formation of SEQAC, front line inspectors began a program of cross training which led to enhanced understanding of the

totality of environmental requirements for all participants. This led in turn to enhanced compliance levels and improved cooperation amongst agencies and between business and regulators. Local environmental agency cooperation is absolutely necessary in any successful environmental regulatory strategy.

### 5.3 Local Criminal Law Enforcement Closes The Gap

Historically in California local police agencies and prosecutors have not been involved in criminal enforcement of environmental regulations. This role was left in the hands of state and federal authorities.

Local authority for criminal enforcement of environmental regulations in Sonoma County was established with the formation of the Environmental Division of the Sonoma County District Attorneys Office in 1989 and the Environmental Crimes Unit in the Santa Rosa Police Department in 1993. The entry of these agencies into the environmental regulatory arena ushered in a new era in environmental compliance and enforcement in Sonoma County. Their participation in SEQAC and their cooperation with existing regulatory agencies allowed for coverage of all contingencies related to these issues. From the SGB Incentive Program for environmental compliance to criminal prosecution of environmental crime the "cooperation before confrontation" and "education before litigation" concepts engendered in Sonoma Green Business and SEQAC serve to level the environmental playing field for area businesses.

The cooperating regulatory agencies provide the assistance that the environmentally pro-active portion of the business community needs to stay in compliance. The problems of conflicting compliance information provided by the various agencies is largely eliminated through the ongoing cross training and information sharing efforts of Sonoma Environmental Quality Assurance Committee. Businesses at the forefront of environmental compliance and pollution prevention are provided with public recognition of their efforts through the Sonoma Green Business program.

The "education before litigation" philosophy adopted by environmental regulators provides those businesses which experience minor problems with environmental regulations and compliance the opportunity to correct problems in a timely manner without fear of fines or other legal action. It has enabled business and regulators to work cooperatively to solve problems. It also facilitates open communication and largely eliminates hostility toward regulators on the part of businesses.

The entry of law enforcement and prosecutors into the local environmental arena has produced vigorous investigation and prosecution of serious environmental crime. Aided in their investigations by all SEQAC environmental agencies, police and prosecutors develop strong cases and win consistent convictions based on the overwhelming weight of scientific evidence. Wide reporting on successful environmental crimes prosecutions and convictions by local and regional news media serves public notice that local authorities are dedicated to leveling the playing field. It has provided clear and consistent proof that non compliance with environmental regulations provides no competitive advantage and that deliberate serious violations of environmental law will be dealt with swiftly and harshly.

The success of environmental compliance and enforcement activities in Sonoma County over the past four years has been a direct outgrowth of the cooperation that was required amongst agencies to successfully implement the Sonoma Green Business Program. It is only through the cooperation of all local regulatory and law enforcement agencies that this success has been achieved. By initiating and continuously supporting this approach the City of Santa Rosa's IWCP has insured that reclaimed water and biosolids produced by the Laguna Wastewater Treatment Plant meet Federal State and local standards for recycling and reuse

and has played a major role in environmental protection throughout the county. It is expected that the development of Compliance Incentive Programs in all nine San Francisco Bay area counties along with the attendant need for interagency cooperation in program development and implementation will produce results similar to those experienced in Sonoma County.

## **6 EXPANDING THE CONCEPT - COMPLIANCE INCENTIVE PROGRAM PROGRAM, REGIONAL DEVELOPMENTS 1994 - 1998**

### **6.1 Bay Area Green Business Program**

Early in 1994 CAL EPA reached a settlement with Stanford University over severe hazardous waste violations. CAL EPA allocated a portion of this settlement (\$75,000) to fund development of a Bay Area Green Business Recognition Program, (BAGBRP). The program was coordinated through the Association of Bay Area Governments (ABAG). ABAG's primary goal was the creation and implementation of a fully integrated environmental compliance/resource conservation recognition program. The BAGBRP modeled the Sonoma Green Business Program for the compliance incentive aspect and the Santa Clara Pollution Prevention Program as the resource conservation/pollution prevention strategy. Any business wanting to be recognized as a Bay Area Green Business, had to demonstrate full environmental compliance and employ Best Management Practices in energy conservation, water conservation, solid waste reduction, and pollution prevention. In the development of a regional comprehensive environmental incentive program several additional goals were set by ABAG, including:

- developing pledges for participating businesses and governmental agencies;
- creating a single, recognizable logo that could be used in all 9 Bay Area counties;
- developing program standards which would define what a "Green Business" is;
- developing industry-specific checklists of these program standards (i.e. taking the generalized program standards and making them industry-specific);
- developing a comprehensive public awareness strategy for logo recognition; and
- identifying two of the nine Bay Area counties where the highest probability of success existed.

### **6.2 Bay Area County Assessments**

The program planning process began by developing an assessment tool for the nine Bay Area counties to determine the best areas in which to initiate pilot programs. Presentations were made to key players in eight Bay Area counties, (one county declined to participate), Ratings were made based on 9 criteria including:

- attendance (the number of people that showed up to each presentation);
- number of distributed surveys returned at the end of the presentation;
- number of regulatory agencies and resource conservation departments represented at the presentation;

- 
- number of elected officials represented at the presentation;
  - willingness of counties to participate in the implementation of the program;
  - degree of management support from all regulatory and resource conservation agencies;
  - existence of past or present recognition programs;
  - evidence of on-going multi-media coordination between the agencies, and level of agreement on priority industries targeted for initial focus.

Results of the rating process were submitted to the ABAG committee and two counties, Napa and Alameda, were selected to begin the pilot implementation of the BAGBRP.

### 6.3 Pilot Implementation

After completion of assessments of the nine Bay Area counties, ABAG received a generous grant from US EPA to fully fund the development and implementation of the program. ABAG selected Environmental Learning Systems, Sebastopol, CA to assist in the implementation of the pilot projects. Full scale implementation efforts began in 1995/96. The two counties selected presented key demographic differences that helped identify the core elements of the implementation pilots that would be necessary for rapid deployment of the model throughout the rest of the Bay Area. A key difference between the counties is demographics. Alameda County is densely populated – 17 cities with a total population base of over 1.5 million people – with a large number of auto repair shops, (over 800). By comparison Napa County has only one major city and 6 smaller cities, with a total population base of about 250,000 people, with the majority of the 120 auto repair shops in one city, (80+ in the City of Napa). Both of the counties formally entered the pilot process by bringing together representatives from each participating agency, both regulatory and resource conservation. One of the key elements of the BAGBRP was the use of the concept developed in the Sonoma Green Business Program of convening a monthly multi-agency meeting such as the Sonoma Environmental Quality Assurance Committee group in Sonoma County. These "roundtable groups" in each county had the initial task of determining the priority industry on which they initially wished to focus. Both counties elected to begin with the auto repair industry which was also selected in all other participating Bay Area counties. Counties also had the option of selecting a second industry, a choice only Napa exercised in choosing wineries.

### 6.4 Developing Regional Elements

While the implementation process was being developed in the two pilot counties, the ABAG committees were busy developing additional elements of the regional program. Among these, one of the most important, was the translation of the General Program Standards into industry-specific checklists for the automotive repair industry and the wine industry. Comments obtained from representatives of these industries indicated that having industry-specific compliance and resource conservation information was very helpful and an important component for participation in the program. Other elements that added a comprehensive regional aspect to the program include;

- Program description for government;
- Program description for businesses;
- Guidance Document for Implementing Agencies;
- Sample County resolution;

- Sample Certificate of Compliance;
- Green Business Program Policy Guide; and
- Revocation Policy.

#### 6.5 Program Kick-offs

After one year of focused facilitation in both Alameda and Napa Counties, both were able to kick-off their programs with the automotive repair industry. Alameda County was able to secure another grant from US EPA to fund a part-time BAGBRP coordinator. Their program went into effect in November of 1996. The initial outreach to the automotive repair facilities in Alameda County generated 10 businesses that volunteered for the program. Currently, Alameda County has recognized 14 businesses as being "Green" and has begun the process of expanding the program to the printing industry. Napa County was able to initiate its program in April 1997 without the aid of additional funding. Six shops there have volunteered and been recognized in the BAGBRP. The winery program is scheduled to begin in August 1998.

#### 6.6 Program Incentives

Incentives provided in the BAGBRP vary between counties. Some counties (Sonoma, Napa, Contra Costa) have offered a reduction in permit fees as an incentive to recognized businesses. Incentives also include sliding inspection schedules, ranging from 1 year for some participating agencies to a 2 or 3 year cycle in others. Another incentive allows some small businesses to totally eliminate their permit fee for hazardous waste generation if they qualify as a Small Quantity Generator. In these cases counties allow disposal of small quantities of hazardous waste by participating businesses at no charge. Qualifying small businesses are allowed to bring limited quantities of waste to county sponsored "household hazardous waste pickup days". Another developing trend which serves as an incentive is the reduction of insurance rates for BAGBRP participants.

#### 6.7 Program Benefits

While the BAGBRP has been gaining momentum for a regional launch, many early program benefits have already been realized. Foremost, no other program yet identified has developed industry-specific multi media checklists that integrates environmental compliance and resource conservation information. This has been accomplished for 3 separate industries (auto repair, wineries and printers) with work in progress for dry cleaners. These checklists are evidence of the cooperation and communication that has been established between agencies which had become accustomed to working in relative isolation from each other.

This multi-agency cooperation is one of the primary benefits of the BAGBRP. In each county implementing the program, regulatory personnel and resource conservation staff have come together in regular meetings to build a program according to the unique needs and requirements of their particular community. In two of the four implementing counties these regular BAGBRP meetings have expanded to include additional information on other environmental issues, both regulatory and resource conservation oriented. In the short span of three years the BAGBRP has been implemented in four counties, with a fifth scheduled to begin implementation in July 1998. This takes the program past the half way mark in its goal of including all nine Bay Area counties by the year 2000. While the look and feel of the program may vary slightly between the counties, the General Standards are the same, as is the logo and the operating policies.

The BAGBRP is demonstrating that regulated businesses can go beyond environmental compliance to achieve comprehensive resource conservation standards and that this information has value to the businesses, and to their customers. To date, over 30 businesses in the participating counties have been able to achieve full environmental compliance and complete the requirements of the resource conservation standards. The accomplishments of these businesses stand as evidence that easy access to environmental information is an important aspect of today's information intense economy.

Finally, one of the most telling benefits comes from the two largest participating environmental agencies, CAL EPA and US EPA. Until 1997 neither agency had an official designated position related in any way to Green Business program coordination. Now, both agencies have created positions for this important coordinator role. Coordinators have been charged with promoting development of cooperative multi-agency operating systems throughout their jurisdictions. Once in place these individual systems act as a "one stop shop" for, permits and compliance and resource conservation assistance and information. 6.8. Program Barriers

While there is much to be excited about, the BAGBRP has identified some challenges and barriers in its attempt to implement new environmental protection concepts in various counties. These challenges and barriers include:

- Compliance vs Assistance Cultures-- A large philosophical difference exists between the regulatory agencies that focus on environmental compliance, and the resource conservation agencies that provide assistance to businesses reaching out for educational services. These agencies have had little previous experience interacting to address environmental issues. Since many resource conservation experts use the phrase "I'm not a compliance officer" as a marketing tool in approaching businesses, there has been some resistance on their part to accompany regulatory personnel on inspections. In addition, there is also some resistance from regulatory inspectors related to doing anything beyond compliance enforcement, such as providing solid waste reduction information, during an inspection. However, some of the inspectors are already assisting shops by providing information on pollution prevention and are now beginning to realize that it's not a big stretch to provide some solid waste and water conservation information at these same facilities.
- Database Structure--Each regulatory agency operates their own database system and tracks their own compliance or resource conservation information. Integrating these databases, or even a portion of the information contained in these systems, has been a major challenge. The Internet and World Wide Web are not yet available to many of these agencies, and sharing information via electronic mail is generally not presently possible, either internally or between agencies. One of the biggest obstacles currently is the development or purchase of a unified data handling program for use in tracking information on "Green Businesses." This problem may necessitate building separate data systems for program implementation and tracking, or outsourcing this data service to the private sector
- Sustainable Funding--A major conflict is inherent in the funding mechanism for a Green Business Program. In some of the participating counties, especially the smaller ones, operations are funded through a General Fund. In the larger counties regulatory agency funding is primarily generated through permit and inspection fees. One of the problems inherent in the BAGBRP today is the

difficulty of developing a funding strategy based on charging a fee to businesses wanting to be verified as being a participating green business. Resistance to any new fee by the business community presents a significant obstacle. As a result, all participating counties are attempting to incorporate this service within the existing permit fee structures. A major difficulty arises because a regulatory agency that charges a business a permit fee to generate and handle hazardous waste, is in jeopardy of losing all or a portion of that fee if the business becomes more environmentally educated and reduces or eliminates its hazardous waste generation. It is conceivable that some businesses will drop out of the regulatory structure altogether. So, in fact, as the system is designed at present, businesses that make use of non sustainable environmental practices by generating and disposing of hazardous waste rather than developing alternative strategies are allowed to do so provided that a fee is paid to the regulatory agency. Once a business stops using or generating hazardous materials and/or wastes the agencies are faced with a reduction or elimination of their revenue stream. What the BAGBRP has determined is that the increase in positive environmental awareness or environmental responsibility on the part of the business community may have a negative impact on environmental agencies, by reducing or eliminating their ability to generate fees. The challenge, then, is how to generate a revenue stream to the agencies based on positive sustainable environmental behavior.

- Organizational Challenges--Regulatory agencies, and to some degree resource conservation agencies, have not generally been customer service-oriented and do not think like a business. This means that the government has a very difficult time in the public awareness/public outreach aspects of the BAGBRP. As previously mentioned, public education and awareness efforts have had mixed results. That is primarily based on the fact that many of these government agencies believe that they have to create a marketing program to help the businesses market the Green Business logo. In fact, this may not be the case. Based on experience with auto shops and wineries indications are that the real desire of the businesses is for the regulatory agencies to create a strong public outreach program so that the public recognizes the logo, and the businesses can then create their own marketing strategy internally to leverage that awareness to their own marketing advantage.
- Small Quantity Generator focus--The design of an incentive program for mid-level industry sectors such as wineries and dairies necessitates a different strategy and a different use of the logo. The BAGBRP has found for instance, that the winery program needs to include vineyards as well as the wineries themselves in order to certify an entire process, from grape to bottle, as a Green Business operation. This is in part due to the fact that the use of the logo for vineyard operators has very little meaning since the customer, the public, does not buy grapes directly from the vineyards to make wine. Vineyards are an integral part of the supply chain for wineries, and this relationship necessitates a different strategy and commitment from the wineries to help identify some incentives to induce vineyard operators to participate in the program. Wineries for instance might pay their vineyard operators an extra 10-15 cents per ton of grapes if they meet the criteria as a recognized Green Business.

As indicated, the development of a comprehensive Bay Area region wide Green Business program does present significant challenges. By employing the "cooperation before confrontation" strategy pioneered in Sonoma County however, each of the Bay Area counties is making significant progress. The ongoing success of the Sonoma County program, despite obstacles, is a strong indication that vastly improved environmental compliance and enforcement region wide are achievable goals.

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## REACHING THE REGULATED COMMUNITY THROUGH COMPLIANCE ASSISTANCE CENTERS

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### SUMMARY

EPA's Small Business Compliance Assistance Centers represent an innovative approach to reaching the regulated community with timely and comprehensive environmental compliance information. Developed by EPA's Office of Compliance, each "virtual" center focuses on a particular industry and is operated in partnership with industry, academic institutions, environmental groups, and other federal and state agencies. Five centers are currently in operation, covering agriculture, automotive service and repair, metal finishing, printing, and printed wiring boards. Four more centers are scheduled to open in 1998 to handle the compliance needs of local governments, the chemical industry, paints and coatings applicators, and transportation. Each center offers a range of communications services including Web sites, e-mail groups, fax-back systems, and telephone assistance lines.

### 1 INTRODUCTION

#### 1.1 Why Compliance Assistance?

Compliance assistance is an important component of an effective enforcement and compliance assurance program. Compliance assistance consists of information and technical assistance provided to the regulated community to help it meet the requirements of environmental law. First and foremost, compliance assistance ensures that the regulated community understands its obligations by providing clear and consistent descriptions of regulatory requirements. Compliance assistance can also help regulated industries find cost-effective ways to comply and to go "beyond compliance" in improving their environmental performance through the use of pollution prevention and other innovative technologies.

Major types of assistance include:

- a. **Outreach:** Assistance provided to a group of regulated facilities or governmental entities. Activities may include seminars, conferences, training courses, and dissemination of written or electronic information.
- b. **On-Site Assistance:** Assistance provided through an on-site compliance assistance or technical assistance visit such as an Environmental Management Review (EMR). Assistance provided during a compliance inspection is not considered compliance assistance for the purposes of this form.
- c. **Responsive Assistance:** Incidental, off-site compliance assistance that the agency provides on request, including answering inquiries in phone calls and letters.

As identified above, information offered during inspections is not considered compliance assistance. Further, other programmatic activities that the regulatory agency is required to perform, such as issuing public notices and issuing permits, are not considered compliance assistance.

### 1.2 Why Compliance Assistance Centers?

Small businesses often have difficulty in complying with environmental requirements. Many small businesses want to comply with the law, but don't know where to begin. Unlike larger facilities, many small businesses are rarely visited by an inspector and do not have the resources to hire or contract environmental expertise. As a result, most small businesses face a daunting task in picking their way through myriad federal environmental regulations to find those that apply specifically to their own line of business and situation. Conversely, the problems facing a government agency are also challenging. How can a federal agency reach hundreds of thousands of small businesses with information and help in complying with technical environmental regulations?

One innovative approach is the use of Compliance Assistance Centers. Working in close cooperation with industry, states, universities, and other groups, we have developed a series of Small Business Compliance Assistance Centers, each targeted to the regulatory information needs of a specific industry. Each center offers a range of communications services including Web sites, e-mail groups, fax-back systems, and telephone assistance lines.

Five of these "virtual" centers are already operating, covering agriculture, automotive service and repair, metal finishing, printing, and printed wiring boards. By Fall 1998, four more centers are scheduled to open to handle the compliance needs of local governments, the chemical industry, the application of paints and coatings, and transportation.

The goal of the Centers is to help the hundreds of thousands of small businesses across America:

- Identify the specific federal environmental regulations that apply to their own line of business.
- Take appropriate steps to improve their compliance with environmental regulations.
- Consider pollution prevention approaches and environmental improvements that will bring profits and savings to the company.

The centers also provide state and local officials with a way to exchange information and keep up-to-date on industry-specific pollution prevention and federal compliance information.

### 1.3 How do the Centers fit into a Compliance Assurance Strategy?

Preserving and building on environmental improvements and successfully addressing a new generation of environmental problems will require the combined and sustained efforts of all levels of government, regulated entities (both public and private), and the public. Government must target significant environmental and noncompliance problems, develop and use a wide range of tools to address those problems, apply its authorities in a fair and consistent manner, and measure the results of its efforts. A comprehensive compliance assurance strategy incorporates a wide range of tools including: civil and criminal enforcement, compliance monitoring, compliance incentives, and compliance assistance. The centers serve as one mechanism to provide the tool of compliance assistance to nine sectors that are

primarily composed of small businesses. The approaches used by the centers and described below allow hundreds of thousands of small businesses to be provided with information and help in complying with environmental regulations.

The potential for EPA and States to take an enforcement action against businesses motivates businesses to access the Centers as an effective mechanism in achieving and maintaining compliance. The Centers can also benefit businesses after an enforcement action has been taken by enabling them to efficiently access regulatory and technical information that may facilitate their return to compliance.

## **2 THE CENTERS' APPROACH**

Originally developed by EPA's Office of Compliance as one of the Clinton Administration's "reinventing government" initiatives, the aim of the centers was to develop "Plain English" guides to regulations, identify low-cost strategies to achieve compliance, and help consolidate reporting and cut paperwork for client industries. The idea was to have small businesses in a particular sector have a place to go for accurate, useful information on environmental compliance and pollution prevention that would allow for unlimited access and that would be free and anonymous. The reliance on an Internet-based communications vehicle allows for this

The innovation at the heart of the Compliance Assistance Centers lies in their specificity and in the process of planning and implementing each Center. Each center is planned and operated by a public-private partnership. Thus, for example, CCAR-GreenLink™, the center for the automotive service and repair industry, is operated by the Coordinating Committee for Automotive Repair, a consortium of 38 industry affiliates. The National Metal Finishing Resource Center was established with funding provided by the National Institute of Standards and Technology and the U.S. EPA, and is now operated by a partnership that includes the American Electroplaters and Surface Finishers Society, the National Association of Metal Finishers, the Metal Finishing Suppliers' Association, and the National Center for Manufacturing Sciences.

The "custom design" of each center reflects the nature of the particular sector served including its existing environmental information delivery system. Each Compliance Assistance Center attempts to capture and distill environmental compliance information pertinent to its sector. The idea is to make the information useful, timely, and designed so as to be easily-accessible by industry members. Because the centers are industry-specific and because industries have different preferences for receiving information, the centers are able to take these preferences into account. Each center has the freedom to adapt to changing circumstances and the changing needs of its stakeholders. As a result, each center determines its own:

1. Partners (trade associations, states, universities, contractors).
2. Delivery mechanisms (toll-free numbers, Internet-based, hard-copy distribution).
3. Primary customers (states, regulated community, secondary stakeholders).
4. Sources of funding (EPA, other federal or state government agencies, private sector, or some combination of the above).
5. Path towards long-term financial viability (charging customers, soliciting advertisers, obtaining government grants, developing revenue-producing products).

6. Approach to capturing, collecting, and disseminating information, and ultimately measuring success (surveys, third-party certification, environmental indicators, reductions in insurance premiums).
7. Management (e.g., trade associations, universities, state small business programs, private consortium, etc.)

### 3 FEATURES

What kinds of information are available through the Centers? All of the Web sites offer easy-to-understand summaries and plain-language versions of federal regulations that apply to the industry; the latest regulatory actions; recent guidance documents and other publications; compliance tools (such as platers' calculators for metal finishers); pollution prevention techniques and case studies; and links and lists of useful contacts in state environmental agencies and elsewhere.

In addition, several of the Centers are experimenting with other Web resources that their member companies would find helpful. These include:

- Vendor listings and directories on the Web sites.
- Environmental management software and benchmarking tools that can be downloaded from the Internet.
- "Expert help desk" features that allow a small business person to type in compliance questions and be guided to information that can help.
- "Virtual shops" that allow a user to click on any facet of an operation and see what regulations apply.
- Online access to relevant state regulations.

To meet the needs of its customers, the centers each have a slightly different emphasis and offer different features. For example:

- **The National Metal Finishing Resource Center** allows its Web site users to search technical databases for abstracts, full-text articles, and reports; search a Vendor Directory, for over 300 suppliers of metal finishing equipment and services; and use on-line calculators to determine flow requirements for rinsing, coating weights, costs for plating jobs, etc.
- **The Printers National Environmental Assistance Center** offers satellite and on-location training, "best-in-class" pollution prevention videoconferences, two e-mail discussion groups on technical and regulatory issues, and compliance guides for state regulations. Over 1,800 viewers participated in PNEAC's *Green and Profitable Printing* national videoconference that was downlinked to 28 states and Canada.
- **The National Agriculture Compliance Assistance Center** directs its communications efforts primarily at agricultural information providers — including federal and state agencies, land grant universities, trade associations, industry representatives, product and service providers, farm worker associations, environmental advocacy groups, and the agricultural press and trade journals — who ultimately convey information to farmers and farm workers.
- **CCAR-GreenLink®**, the Automotive Compliance Information Assistance Center, has developed new materials of use to the automotive service industry, such as:

- A consolidated screening checklist that can be used as a self-assessment tool
- Environmental curriculum modules that walk shop owners and technicians through statutes, regulations, and health and environmental issues for each auto service activity.
- The **Printed Wiring Board Resource Center** offers a State Regulations Locator, with air, water and hazardous waste regulations hyperlinked for each state. A Recordkeeping and Reporting Requirements Database, containing detailed entries on over 1,100 Federal and Texas regulations, is available for downloading. A unique guide provides pollution prevention information for each of the major process steps for multi layer board manufacturing.

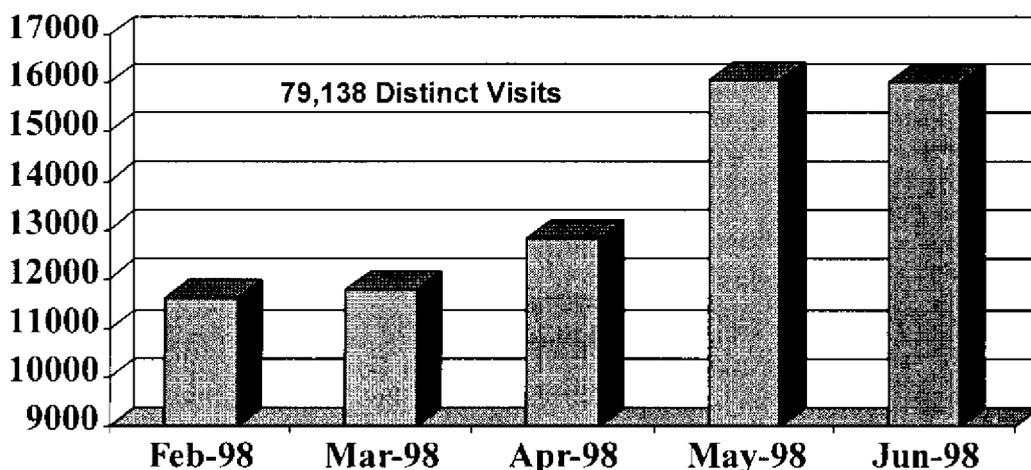
Because many small business do not yet have access to the Internet, all of the Centers offer their materials through a 1-800 fax-back system.

#### 4 MEASURING EFFECTIVENESS

EPA is funding a number of efforts to measure the effectiveness of the Compliance Assistance Centers. An online survey attached to each center's Web site was launched in the summer of 1998, with results forthcoming by the end of this summer. A regional nonprofit group, the New England Waste Management Officials Association (NEWMOA), will be conducting an independent assessment of how the centers are meeting the needs of technical assistance providers, while another group will assess the centers from the perspective of small businesses.

Several preliminary indicators show that the centers are being widely used and are beginning to have an effect. Table 1 shows the number of visits to the centers' Web sites and projections for future visits. Although it is sometimes difficult to determine whether visitors to a Web site are staying long enough to obtain information, it is clear that the numbers of visits have been steadily rising, and are expected to reach 250,000 per year when the nine centers are up and running.

### 1998 Compliance Assistance Center Site Visits



#### 4.1 Survey of Users of Metal Finishing Resource Center

A 1996 survey of users of the National Metal Finishing Resource Center found that the most popular features of the Web sites were the technical database — visited by over 60% of users — followed by the conferences (e-mail discussion groups) and regulatory information. Users included engineers/consultants, shop management, and shop owners, followed by vendors and technical assistance providers. Respondents claimed that the National Metal Finishing Resource Center helped them find process or technical information (45%), find regulatory information (30%), and find a product or service (25%). Indeed, while the most common result of using the Resource Center was making contact with a vendor (32%), about 25% of respondents indicated that they altered or replaced a process as a result of information obtained from the Center.

#### 4.2 Baseline Survey of Automotive Service Industry

A baseline survey of the automotive service industry undertaken in 1997 by EPA and the Coordinating Committee For Automotive Repair (CCAR®) provides useful information about the level of compliance within the industry with environmental regulations. In all, 440 shops, selected at random, were included in the study. The survey evaluated four categories of shops: new car dealers, franchise shops, independent automotive service shops and independent auto body repair shops. The level of compliance was calculated based on the number of activities conducted at the shop divided by the number of correct or positive responses to the questions. The percentage calculated became the level of compliance. Thus, if an auto shop conducted four activities and all four activities were marked correct or positive, the level of compliance for that shop would be rated as 100%.

According to the survey results, only 28% of franchises and auto service shops scored a "B" grade (above 80%) in this compliance report card. Auto body shops had worse scores -- only 15% scored a B grade -- while new car dealers fared much better, with 61% scoring above 80% (although the sample of 23 new car dealers in the survey was too small to be statistically valid). The results of this baseline survey indicate the need for the Automotive Compliance Information Assistance Center and its services. The study will be repeated in 1999 to see if there have been positive effects from CCAR-GreenLink and other organizations on the compliance of automotive service and repair shops.

#### 4.3 Printers

The most comprehensive evaluation work to date has involved the Printers National Environmental Assistance Center. Participants in the Assistance Center's 1996 satellite videoconference reported making numerous waste reduction changes on the shop floor as a result of the videoconference, particularly in the areas of ink wastes, recycling of paper and plastic wastes, blanket or roller cleaners, and alcohol usage in fountain solutions.

More recently, a questionnaire on environmental issues received 28 responses from general printers, flexographic printers, and lithographic printers. All types of printers identified "air permitting and compliance tracking" as their Number 1 problem, followed by "knowledge of state and local air, water, and hazardous waste regulations" and "hazardous waste management." Among the changes reported most likely to have been made by printers in recent years to address environmental compliance requirements are changes in materials, such as using less hazardous cleaning solvents, reduced silver in wastewater, and hiring a licensed hauler for hazardous wastes.

Printers responding to the survey indicated that the three tools that would be most helpful to them in achieving compliance would be:

- Clear state-specific information on compliance requirements according to their operations.
- Clear information on federal compliance requirements.
- Checklists for self-assessment of compliance or pollution options.

These responses lead us to believe that more widespread use of the Compliance Assistance Center for the printing industry will improve compliance and environmental performance.

## 5 CONCLUSION

While the Compliance Assistance Centers discussed are a communications vehicle that focus on federal environmental regulations in the United States, much of the information could be of use to foreign nations. In fact, almost 13% of the Centers users are International Users. EPA is encouraged by this widespread use of the Centers and would be interested in pursuing ways to further increase the visibility of the Centers program abroad.

Over time, EPA hopes to see the Compliance Assistance Centers create a seamless flow of information within the small business and technical assistance community and between technical assistance providers and small businesses. A long-term goal is to have the existing centers become self-sustaining models for other industry centers. Ultimately, compliance assistance centers should help make environmental compliance and pollution prevention an established part of small business operations.

### **Compliance Assistance Centers: How to Reach Them**

#### *Metal Finishing:*

**National Metal Finishing Resource Center**  
[www.nmfrc.org](http://www.nmfrc.org) 1-800-AT-NMFRC

#### *Automotive Service and Repair:*

**CCAR-Greenlink®: the Automotive Compliance Information Assistance Center**  
[www.ccar-greenlink.org](http://www.ccar-greenlink.org) 1-888-GRN-LINK (476-5465)

#### *Printing:*

**Printer's National Compliance Assistance Center**  
[www.pneac.org](http://www.pneac.org) 1-888-US PNEAC (1-888-877-6322)

#### *Agriculture:*

**National Agriculture Compliance Assistance Center**  
[www.epa.gov/oeca/ag/](http://www.epa.gov/oeca/ag/) 1-888-663-2155 or 913-551-7207

#### *Printed Wiring Boards:*

**Printed Wiring Board Resource Center**  
[www.pwbrc.org](http://www.pwbrc.org)

Access to all Centers: <http://www.epa.gov/epahome/business.htm>



## **WORKSHOP 4E THE SCIENCE IN ENFORCEMENT: SETTING UP AND FINANCING LABORATORIES; ENSURING THE INTEGRITY OF SAMPLING AND DATA ANALYSIS; SCIENTIFIC SUPPORT FOR ENFORCEMENT**

Successful enforcement rests on sound science for its credibility and successful resolution of violations and resultant damage to the environment. This workshop will be directed toward developing a firm basis for understanding the science of enforcement, that is, the need for scientific support and data management

Papers and workshop discussions will address the following issues:

- Identification of scientific issues and support required for compliance monitoring and enforcement response.
- Defining the needs for laboratory support.
- Laboratory certification and auditing programs to assure quality of data and analysis.
- Need for and how programs acquire supplemental scientific support for environmental assessments associated with enforcement cases: successes and failures.
- Distinguishing needs for forensics laboratory support for criminal cases and laboratory support for civil enforcement cases.
- Creative means of financing and managing needs for laboratory support: opportunities for regional cooperation, mobile laboratories, purchasing support from multi-purpose laboratories/third parties.

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See related papers from other International Workshop and Conference Proceedings:

1. Pesticide Export and Import Enforcement Programs in the United States, *Hofmann, A. and Musgrove, C.*, Volume 1, Utrecht, The Netherlands, 1990, Pages 237-245
2. U.S. Experience and Differences Between Civil and Criminal Investigations and Use of Central Elite Force to Supplement Local Inspectors, *Gipe, D. and Wills, C.*, Volume 1, Budapest, Hungary, 1992, Pages 445-452
3. Synopsis of UNEP Manual on Institution Building, Volume 1, Chiang Mai, Thailand, Page 275-279



## **WORKSHOPS 4F-4J TAILORED STRATEGIES FOR ENVIRONMENTAL COMPLIANCE AND ENFORCEMENT**

- 4F Government/Municipal/Military Compliance and Enforcement Strategies**
- 4G Small and Medium Enterprises Compliance and Enforcement Strategies**
- 4H Mobile Source Compliance Strategies and Enforcement**
- 4I Non-Point Source Compliance and Enforcement Strategies**
- 4J Geographic or Resource-based Compliance and Enforcement Strategies**

Although the principles and frameworks for developing environmental compliance and enforcement programs and strategies apply to all types of sources and situations, to be most effective they must still be tailored to the nature of the regulated community, laws and customs of a particular situation. Conference planners define capacity building broadly to include this set of workshops for participants to be able to focus their discussions on different strategies for addressing several unique categories of pollution sources. For example:

- Military installations often pose problems of restricted access for environmental inspectors or may not be subject to the same levels of scrutiny or the same types of sanctions despite the fact that they can be significant violators of environmental requirements with substantial risk to public health and the environment. Government owned or operated facilities have different cost and financial motivations because they are non-profit entities than do private enterprises which affects the choice and effectiveness of sanctions.
- Small and medium sized enterprises are often too numerous to inspect, lack the resources for pollution control, and/or dedicated management staff for environmental management that may be found in larger enterprises.
- Because mobile sources are by definition mobile, monitoring compliance and responding to violations of required controls on automobiles, trucks, trains, airplanes, ships and the like, pose opportunities for unique solutions for how and when to inspect, monitor compliance and even how to know who is in the inventory of controlled sources. Many nations are first establishing inspection and maintenance (I/M) programs for automobiles and this is an opportunity to speak about enforcing those program requirements.

- Non-point sources of pollution are often controlled by best management practice requirements, and do not always demonstrate the kind of problem for which there is environmental concern such as those that occur only after heavy rains, droughts.
- Geographic or resource based strategies such as those needed to prevent illegal logging or settlements on national forests or reserves or poaching of wildlife pose still other types of challenges given the size and terrain of many such locations and inability to establish well defined borders for such controls. Other requirements for ecosystem protection also lack well defined boundaries to clearly demarcate where requirements must be adhered to, etc.

For each group of source categories, papers and workshop discussions will address the following issues:

- Particular challenges or problems posed by designing effective compliance strategies and enforcement responses.
- Institutional requirements and design requirements for the program that would help in compliance promotion, compliance monitoring, enforcement.
- Particular training or inspection approaches useful in trying to detect violations and compliance problems.
- How those challenges might be overcome.

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1. Law Enforcement on Military Sites in the Netherlands, *Huisman, Fred* ..... 597
  2. Waste Reuse: Legislation and Enforcement in China, *Wang, X.J.* ..... 603
  3. The Overview of Water Pollution Control in the Huaihe River Basin, *Qiuchi Shi* .... 613
  4. See also Achieving Ecosystem Protection Through Environmental Compliance and Enforcement, *Bircher, Nancy (Volume 2)*
  5. See also Enforcement and Encouragement: An Investigation in the Brick and Roofingtile Industry, *Schoenmakers, John M.J.* ..... 307

*See also workshop 4D: Setting up and Managing Compliance Assistance Programs and Information Outreach on Regulatory Requirement*

*See also workshop 5E: Collaborative Targeting of Enforcement on an International Scale*

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See related papers from other International Workshop and Conference Proceedings:

*Enforcing the Law at Government Owned or Operated Facilities (e.g., Military, National, State or Provincial, Municipal)*

1. Innovative Multi-media Compliance, Enforcement and Pollution Prevention Approaches to Environmental Compliance at Federal Facilities in the United States of America, *Cheatham, R.B., Edward, J.R., Frank, W.H., and Satterfield, R.J.*, Volume 1, Chiang Mai, Thailand, 1996, Pages 341 - 377

2. Enforcement of Environmental Laws at Government-Owned Facilities: Some Theoretical and Practical Considerations, *Lowry, E.F.*, Volume 1, Oaxaca, Mexico, 1994, Pages 475- 483
3. Summary of Workshop: Enforcement at Government-Owned or -Operated Facilities, *Stahl, M., Facilitator, DeLong, A., Rapporteur*, Volume 2, Oaxaca, Mexico, 1994, Pages 189 - 191
4. Enforcement of Canadian Laws of Environmental Protection as applied to Federal Facilities, *Cuillierier, P.*, Volume 1, Budapest, Hungary, 1992, Pages 445 - 452
5. Enforcing the Law at Government Owned or Operated Facilities, *Homonnay, A.*, Volume 1, Budapest, Hungary, 1992, Pages 465 - 469
6. The U.S. Environmental Protection Agency's Integrated Compliance by the Federal Government, *McCall, T.*, Volume 1, Budapest, Hungary, 1992, Pages 471 - 489

*Small and Medium Size Source (Business) Compliance Strategies*

1. The Compliance Incentive Experience in Santa Rosa, California, *Garn, W.J., Grimsrud, M.I. and Paige, D.C.*, Volume 1, Oaxaca, Mexico, 1994, Pages 529 - 549
2. Small Business Compliance, the Role of Local Communities, *Schaap, H.* Volume 1, Utrecht, The Netherlands, 1990, Pages 87 - 101

*Non-Point Source Compliance Strategies and Enforcement of Requirements Related to Agricultural Practices, Soil Runoff, Etc.*

1. Potassium and Nitrate Pollution of Surface Water in the Catchment Area of the "Blankaert" Water Production Centre in Flanders (Belgium), *Baert, R., Devos, M. and Loontjens, R.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 625 - 633
2. Enforcement of Rules and Regulations Concerning the Production and Application of Animal Manure in the Netherlands, *Bergkamp, R. M.*, Volume 1, Oaxaca, Mexico, 1994, Pages 223 - 230

*Geographic or Resource-Based Compliance and Enforcement Strategies (e.g., To Protect Watersheds, Forests, Wetlands, Drinking Water Supplies)*

1. Compliance and Enforcement Programs on Residual Waters, Case Study: Costa Rica's Grande de Tarcoles River, *Gonzalez Salazar, M.A.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 104 - 106
2. Environmental Compliance and Enforcement: A Case of Nepal, *Oli, K.P.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 755 - 776
3. Enforcement and Compliance Programs in Central America, *Cordero, P.M.*, Volume 1, Chiang Mai, Thailand, 1996, Pages 169 - 203
4. Potassium and Nitrate Pollution of Surface Water in the Catchment Area of the "Blankaert" Water Production Centre in Flanders (Belgium), *Loontjens, R.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 635 - 642

5. Protecting Drinking Water Quality Through the Clean Water Act and the Safe Drinking Water Act *Devlin, B.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 643 - 653
6. Summary of Workshop: Creating Enforceable Permit Programs and Requirements: Discussion Focus on Water Pollution and Contamination of Drinking Water Supplies, *Crerar, L., and van Erkelens, P., Facilitator and Rapporteur*, Volume 2, Chiang Mai, Thailand, 1996, Pages 611 - 612
7. The Enforcement of Drinking Water Quality in The Netherlands, *Lijmbach-Hendriks, J.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 625 - 633
8. The Pollution of Surface Waters Act in the Netherlands: A Story of Successful Enforcement, *van Erkelens, P. and Olman, M.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 617 - 623
9. The Enforcement of the Pollution of Surface Waters Act in the Netherlands, *van Dijk, G.R.M.*, Volume 1, Oaxaca, Mexico, 1994, Pages 265 - 268
10. The Great Lakes Enforcement Strategy: Using Enforcement Resources to Maximize Risk Reduction and Environmental Restoration in the Great Lakes Basin, *Peterson, L.*, Volume 1, Oaxaca, Mexico, 1994, Pages 181 - 196
11. The Caribbean Environmental Programme as a Network for the Caribbean Region, *Szauer Umana, M.T.*, Volume 1, Oaxaca, Mexico, 1994, Pages 331 - 333
12. Deforestation in Protected Areas: Case Study of Haitises National Park, *Marizan, G.R.*, Volume 1, Oaxaca, Mexico, 1994, Pages 253 - 260
13. Enforcement of Compliance Requirements at OMAI Gold Mines Limited - Guyana, *Nkofi, K.*, Volume 1, Oaxaca, Mexico, 1994, Pages 19 - 204
14. Enforcement of the "Pollution of Surface Water Act" in the Netherlands, 1970 to 1994, *Plate, F.*, Volume 1, Oaxaca, Mexico, 1994, Pages 239 - 241
15. Response to Regulations for Disposal of Offensive Matter in Barbados, West Indies, *Archer, A.B.*, Volume 1, Oaxaca, Mexico, 1994, Pages 145 - 159
16. Social-Economic Problems Experienced in Compliance and Enforcement in Tanzania, *Masilingi, W.M.K.*, Volume 2, Oaxaca, Mexico, 1994, Pages 63 - 73
17. Ocean Pollution-Protection of the Seas, *van Dijk, R.* Volume 1, Utrecht, The Netherlands, 1990, Pages 283 - 296

**LAW ENFORCEMENT ON MILITARY SITES IN THE NETHERLANDS**

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**SUMMARY**

In the Netherlands the Ministry of Defence has about 300 sites on which to carry out its essential activities. For about 150 military sites (1/1/1998) there is a municipal competence to hand out permits and to carry out law-enforcement. The other 150 sites have a special importance in respect to the security of the country. These sites are called 'classified-sites'. This paper deals with the law-enforcement toward these sites for which the Minister of the Environment is the competent authority to hand out permits and to carry out law-enforcement. Most information about permits, procedures and results of law-enforcement is not made public because of confidentiality. Because of the involvement of two Ministries and confidentiality, law-enforcement on these sites has a specific approach. This paper presents some background information, some special topics of the approach, and some results.

**1 SOME INFORMATION ABOUT MILITARY SITES**

The military sites that are under the authority of the Minister of the Environment are important in the main task of the Ministry of Defense. The Dutch Environmental Management Act deals with the types of sites shown in figure 1. The number of sites within the Netherlands are also mentioned.

NAME/TYPE OF MILITARY SITE	NUMBER OF SITES (1998)
NAVAL BASE	1
AIR BASE	11
KASERNE	14
FUEL TRANSPORT AND STORAGE	14
AMMUNITION STORAGE	38
COMMUNICATION AND COMMAND CENTRE	27
SHOOTING AREAS	22
RAILWAY	8
SPECIAL CATEGORY*	15
TOTAL	150

\* sites that were placed under the jurisdiction of the Minister of the Environment on special request of the Minister of Defense

**Figure 1 Sites dealt with in the Dutch Environmental Management Act**

During the last five years, the number of sites residing under the jurisdiction of the Minister of the Environment has become less (from 250 to 150) because of a change in the authority of municipalities.

## **2 LAW-ENFORCEMENT UNTIL 1995**

### **2.1 Law-enforcement on military sites**

Since the seventies there has been (some) law-enforcement towards the military sites. In the beginning there were about 250 sites and there was just one person to write or prepare permits and one person to carry out law-enforcement. Both persons were screened by the Department of National Security Service because of the confidentiality of the information to be used. To make this workable, having just 2 persons for 250 sites, there was an agreement between the two Ministries that the Ministry of Defence would attach the necessary regulations to the application for a permit. In this way, permitting could take place after a brief check and thereby could be done by one person.

Law-enforcement by one person for so many sites was mainly carried out by the higher management within the Ministry of Defence not residing on the sites but at department level. The sites were visited infrequently as, for instance, when severe incidents had occurred.

### **2.2 Dutch policy on permitting and law-enforcement**

In that time the municipalities and provinces hardly renewed permits and frequently did not inspect the sites. In the year 1989 the Dutch government decided that within a period of about five years the practice of permitting and law-enforcement had to reach a justifiable level. In this respect permitting and law-enforcement towards the military sites which fell under the jurisdiction of the Minister of the Environment herself were also examined.

Several investigations took place to get a good view of the environmental situation on the sites, the contents of the permits and the number of employees needed to be able to carry out permitting and law-enforcement activities on the same level as the municipalities and provinces were supposed to undertake.

### **2.3 Results of the investigations on military sites**

In the years 1994 and 1995 investigations took place on all 220 sites at that time residing under the Minister of the Environment. A checklist with about 250 questions was used to make an inventory of the presence of the facilities and measures taken in conformity with the permit, the present situation and organizational measures in respect to the implementation of an environmental management system.

The results can be summarized as follows. The environmental situation was poor and clearly not at the necessary level. The main issues were inadequate protective measures in the field of soil pollution and insufficient care in handling dangerous substances. A lot of activities were encountered that were not mentioned in the permit (and therefore illegal) and an implementation process for an environmental management system in many cases was not noticeable.

Looking at these results and the complexity of the activities taking place on several sites it was concluded that it was a necessity to expand the number of employees needed to take care of permitting and law-enforcement activities at the Ministry of the Environment. It was decided that permitting capacity should be expanded from 1 to 3 employees and that enforcement capacity should expand from 1.5 to 6-7 employees.

**3 NEW APPROACH**

**3.1 Standard procedures**

With the use of the renewed insight in the environmental situation on the military sites, standardized procedures were adopted for law-enforcement. Normally in the Netherlands there is a 2-step approach when non-compliance is found. The first step is an official warning-letter towards the management of the site. The second step can be a fine or closing down of the specific activity in cases where one has not obeyed the demands mentioned in the warning letter. Both steps are reported to the public-prosecutor who can take legal steps.

In the case of law-enforcement on military sites there is a 3-step approach. In the first step the non-compliance is mentioned in writing and a time schedule is given to end the non-compliance. If one doesn't reach these demands, the 2-step approach (warning, closing down/fine) as mentioned is followed. The explanation why the Ministry of Defence is given more possibilities to end the non-compliance is caused by the fact that the Minister of Defence is also responsible for the Dutch environmental policy and may be expected to show a good self-regulation.

**3.2 Law-enforcement in the period 1996-1997**

In this period all the military sites (1997: 176) were inspected focusing on the following aspects:

- Measures for preventing soil contamination, in storage-facilities and working areas.
- Activities without adequate permits.
- Compliance on using of CFC's, cooling and cleaning substances.
- Disposal of asbestos.
- The use of cadmium.
- Adequate measures on using environmental substances.

The results of the project in 1996 and 1997 were:

<u>Activity</u>	<u>1996</u>	<u>1997</u>
Site visits	80	96
Second visits		70
Enforcement letters	65	150
Warning letters	10	5
Complaints*	15	25
Advise on licenses	18	20

\*mainly on noise

In two cases successful enforcement actions were taken and one shooting range was closed.

Because the permits were very old, about one third were older than 30 years, there were not many prescriptions in most permits that could be used for adequate law-enforcement. That is why non-compliance was approached with the use of care-prescriptions as mentioned in several environmental Acts (Environmental Management Act, Soil Prevention Act, Act on Dangerous Substances).

Subsequently, steps were also taken to get the permitting authority and the Department of Defence to renew several permits.

The conclusion is that most of the military sites show non-compliance on most of the inspection-items. Because of the law-enforcement letters, mostly using the first step of the 3-step approach, the attention of the military sector is drawn towards compliance and environmental care to prevent non-compliance. What hurts the military sector most is operational damage, negative publicity and possible political questions on environmental aspects in the military sector.

To Summarize: the attention of the military sector has been drawn toward environmental protection and implementation of environmental care is actually now taking place.

### 3.3 Law-enforcement from 1998

Starting with the years before a strategy was developed to help (force) the military sector by means of law-enforcement to reach an acceptable level of environmental protection, several steps were taken to stress the importance of implementing environmental care-systems and self-regulation.

#### 3.3.1 Prioritizing of the sites

The different sites were prioritized based on environmental importance. Important sites are visited every year, less important sites every two years and unimportant sites every five years. An overview is shown in Figure 2.

NAME/TYPE OF MILITARY SITE	NUMBER OF SITES	TOTAL WORKLOAD FOR ONE INSPECTION (DAYS)	FREQUENCY OF INSPECTION (INSPECTIONS/ YEAR)*
NAVAL BASE	1	30	1
AIR BASES	11	6	1
KASERNE	14	4	1
FUEL TRANSPORT AND STORAGE	14	3	0.5
AMMUNITION STORAGE	38	3	0.5
COMMUNICATION AND COMMAND CENTRE	27	2	0.2
SHOOTING AREAS	22	3	0.2
RAILWAY	8	3	0.2
SPECIAL CATEGORY**	15	4	0.5
TOTAL	150		

\* a frequency of 0.2 means that 20% of the number of sites in this category will be inspected in one specific year

\*\* sites that were placed under the jurisdiction of the Minister of the Environment on special request of the Minister of Defense

**Figure 2 An overview of site visits**

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### 3.3.2 Standardization of law-enforcement

The inspections took place using checklists/guidelines on specific items. Several subjects were chosen to look at, for instance 15 questions are asked on underground fuel-storage tanks.

Also new items are introduced like waste disposal and some old items are withdrawn because of a good level of compliance (like CFC's).

### 3.3.3 Projects

Some projects are introduced to inspect some sites on higher detail. An example is the inspection on storage facilities of dangerous substances like chemicals. The information gathered is used to get a view on the quality of the present (and mostly recent-build) facilities. In this way the inspectorate and the Ministry of Defence get information on the overall quality of new build facilities and the level of environmental performance. This information is meant for the higher management level of the Inspectorate and the Ministry of Defence and can be used for strategic planning. Of course non-compliance is identified for the sites, drawing attention to the law-enforcer using the 3-step approach mentioned above.

### 3.3.4 Permits on headlines

The Inspectorate in an experiment on a military site to develop a goal-oriented permit, focused on the main activities also initiated and is participating in having implemented an environmental management system. Subsequently an altered approach for the law-enforcement will be developed.

### 3.4 Covenant

The policy and permitting authorities of the Ministry of Environment are negotiating with the Ministry of Defence to draw up a covenant to set environmental goals with a time schedule and yearly reports. This can accelerate implementation of self-regulation within the Ministry of Defence and her sites.

## 4 CONCLUSIONS

The military sector will take responsibility towards the environment especially when it is important for the continuity of military operations. Adequate law-enforcement is very important to keep the attention of the military sites on environmental issues. Due to the political status of the military sector and the organizational structure of the military sector the implementation of more self regulation, for instance environmental care systems, have a high potential to reach higher performance and could justify a different approach to law-enforcement. Within The Netherlands this change is accelerated by the introduction of more goal oriented permits and a different approach of law-enforcement. To be fully implemented and integrated in the organization and the thinking of people this change will take several years to fully reach an acceptable level.



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## WASTE REUSE: LEGISLATION AND ENFORCEMENT IN CHINA

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### SUMMARY

This paper provides a brief background on the current situation of waste reuse in China and an overview of waste reuse legislation and enforcement. The existing problem, and enforcement institutions as well, their current capacities and the necessity to improve enforcement mechanisms and processes are discussed.

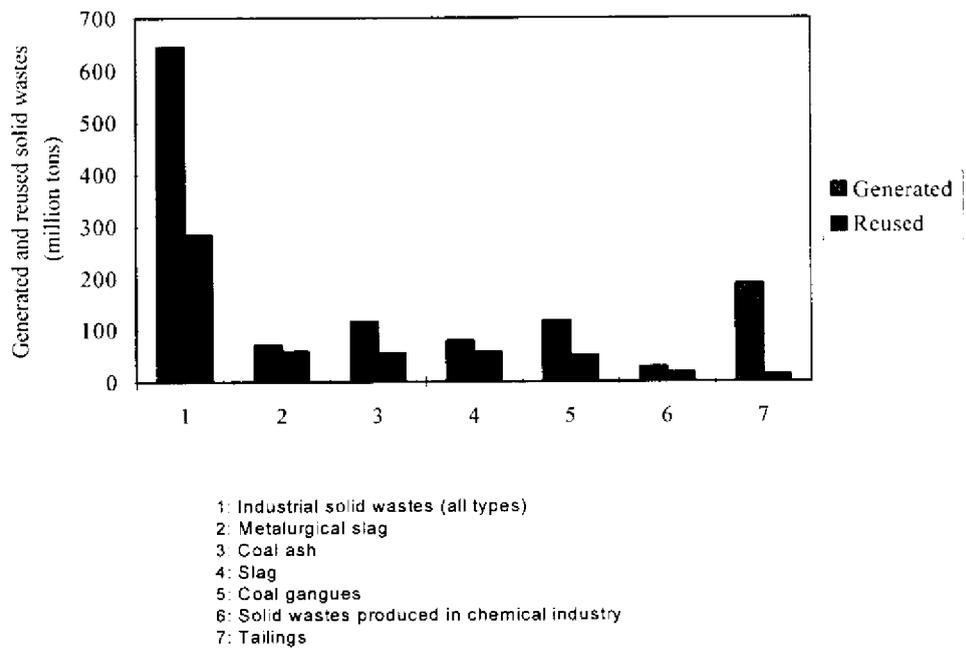
### 1 BACKGROUND

Since the late 1970's, China's economy has grown at an average rate of over 8 percent per annum. It is estimated that the rapid growth will be sustained over the coming years. The impressive development record has resulted in significant increases in the economic strength of the country and living standards of the general public. However, the rapid economic growth puts severe pressure on the environment and natural resources.

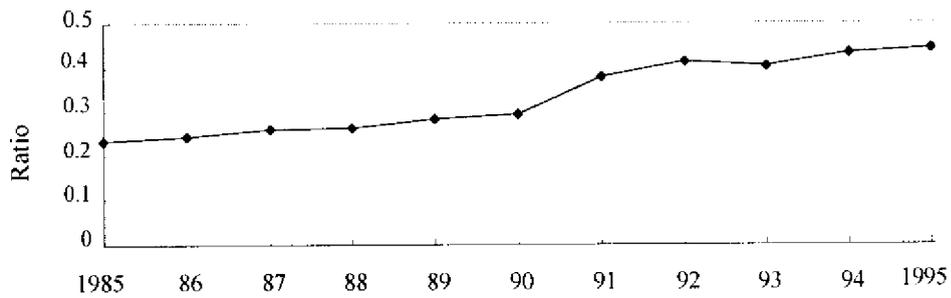
It has been pointed out that, in comparison, China's environmental policy and legal infrastructure is more advanced than many other developing countries.<sup>1</sup> Due to poor enforcement, however, the legal system has not played a fully suitable role.

Waste reuse was identified as early as the 1950's as one of the important resource utilization policies for China, when the environmental problem was not widely understood. Since then, a comprehensive waste reuse system has been established for both industrial and domestic wastes. As for domestic waste, a high percentage of used paper, beverage packaging and other household wastes were collected and reused/recycled in most urban areas. As for industrial and commercial wastes, the policy was also partly successful, although it was not as remarkable as in the domestic waste arena. For instance, most of the cities in northern China suffer water shortages resulting in often tremendous economic losses. Under these circumstances, wastewater reuse has widely been carried out as one of the key parts of water utilization policy in these cities, and has played an significant role in large cities like Tianjin, Qingdao and Dalian. In recent years, with the recognition of the importance in both resource conservation and environmental protection, waste reuse has been given increasing more attention by all levels of governments and by the public. We should especially emphasize that with the progress of economic reform, economic incentives have played the most important role in the whole process of waste collection, disposal and reuse/recycling.

Nevertheless, due to the rapid growth of the economy and waste generation (both industrial and domestic), only a very low percentage of wastes have been disposed of in a way that posed no threat to the future environment. Although the reuse and recycling rate were increased and the total amount of solid waste generated kept almost unchanged in recent years (Figures 1, 2 and 3), enterprises dumped a large amount of industrial wastes directly into lakes or streams. A large amount of untreated wastes dumped at the fringes of cities have already threatened the groundwater quality on a wide scale.



**Figure 1** Generated and reused industrial solid wastes (1995)  
**Source:** China Environmental Protection Yearbook, 1996 **Author:** X.J. Wang



**Figure 2** Changes in ratio of reused and generated solid waste  
**Source:** China Statistical Yearbook, 1996 **Author:** X.J. Wang

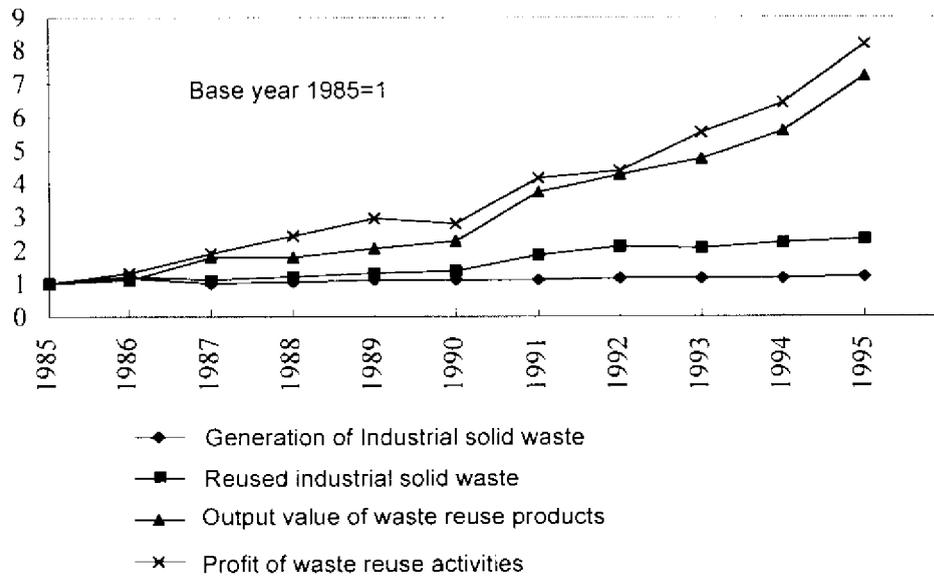


Figure 3 Variations of generated and reused industrial solid wastes  
Source: China Statistical Yearbook, 1996 Author: X.J. Wang

In China's laws and regulations, waste reuse is embedded in the wider coverage of policies and strategies for resource utilization. According to the definition given by the State Economic and Trade Committee (SETC), comprehensive resource utilization consists of the following three factors: (1) the exploitation and utilization of intermixed minerals; (2) the reuse/recycling of solid waste, waste water, gas, heat and pressure generated through production processes; (3) the recovery of waste materials generated in social production and consumption.<sup>2</sup>

Since waste reuse is closely interrelated with waste generation and disposal activities, relevant waste disposal legislation and enforcement must also be addressed in the discussion.

## 2 LEGISLATION IN WASTE DISPOSAL AND REUSE

Although China has not formulated a separate waste reuse/recycle law, relevant stipulations are to be found in a number of existing environmental, resource, and economic laws and regulations. As early as 1973, in the "Stipulations in Protecting and Improving the Environment", comprehensive resource utilization was identified as one of the major tasks of environmental and resource protection. The Environmental Protection Law of China promulgated in 1979 restated this aim that comprehensive resource utilization is one of the major task of environmental protection.

More recently, China has adopted new environmental and resource protection laws and regulations that have concrete provisions related to comprehensive resource utilization. In these laws and regulations, direct regulation through command and control measures play an important role. Incentive-based and more market oriented measures like taxes and levies are gradually growing in importance. Part of the important economic stipulations in current laws and regulations are:

- Tax reduction, which is awarded to the companies whose products appeared in the "Comprehensive Resource Utilization List" issued by the government.
- The products produced through comprehensive utilization processes are to be exempted from the product taxation for a certain period.
- The wastes that could not be reused or recycled by the enterprises in which the wastes are generated should be offered free to other enterprises for reuse or recycling.
- The imported equipment used in comprehensive resource utilization should get favorable treatment with respect to customs duties and foreign exchange arrangements.
- Waste reuse projects that have no economic benefit to the enterprise are to be supported by the government. The enterprise should be given favorable treatment through loans from business banks, and the deadline of payment of the loan can be postponed for a period.

The Law of the People's Republic of China on the Prevention and Control of Solid Waste Pollution was adopted in 1995 and enacted on April 1, 1996. Its Article 4 encourages comprehensive utilization of resources, and recovery and rational utilization of solid waste. It seeks the adoption of economic and technical policies and measures favorable for the comprehensive utilization of solid waste. Articles 17 and 18 ask that industrial products be packaged so as to be easy to recycle, dispose and assimilate in the environment. Product producers, sellers and users should recover and utilize the product packages and containers that are recoverable and utilizable. For example, the State encourages its scientific research units and production units to research and produce large plastic sheeting for high-value agricultural crops that is easy to recycle, dispose of or assimilate into the environment. A unit or individual that uses such agricultural sheeting should take measures, such as recovery and utilization, to prevent or reduce the environmental pollution by such coverage. Article 38 of this law requires the relevant departments of a city government to make overall planning and rational arrangements on purchasing stations in order to promote the recovery and utilization of discarded materials.

Provisions related to waste reuse can also be found in other laws and regulations, such as the Marine Environmental Protection Law, Water Pollution Prevention and Control Law, Atmospheric Pollution Prevention and Control Law, and the Mineral Resource Law, among others. However, most of the waste reuse provisions in these laws are quite general and lack stipulations for enforcement. For example, Article 11 of the amended Water Pollution Prevention and Control Law stipulates that the relevant departments of the State Council and local people's governments at all levels make a rational plan for the industrial distribution, conduct rectification and technical transformation for enterprises that have caused water pollution, adopt measures for prevention and control in a comprehensive way, raise the rate

of water recycle, use resources in an integrated way, and reduce the discharge of wastewater and pollutants. However, no incentives or disincentives were mandated for wastewater reuse activities in this Law.

Similar waste disposal and reuse policies can be found in important government documents, such as the China Environmental Protection Action Plan<sup>3</sup> and the Agenda 21 for Environmental Protection in China<sup>4</sup>.

As mentioned above, up to now, there has not been a comprehensive and separate law dealing with the waste reuse issue specifically. In recent years, the State Economic and Trade Committee was quite active in stimulating the development of a comprehensive resource utilization legal framework. Some preliminary studies have been carried out. It is expected that such a law could be worked out and implemented in the near future.

Besides legislation at the national level, waste disposal and reuse regulations are increasingly being proposed and implemented on regional levels. More and more provinces and major cities have enacted their own specific provisions. That said, the related liability and arbitration for environmental damages caused by waste disposal are still not very advanced, both in national and local levels.

### 3 ENFORCEMENT ISSUES

Without credible enforcement mechanisms, environmental legislation cannot fulfill its mission properly. Enforcement has widely been identified as a weakness in many countries, especially those that are developing or in transition. The enforcement of environmental and resource legislation is currently weak when it comes to dealing with China's environmental damage. It has to be pointed out that China's environmental policy and legislation system is complex. The complexity of the system adds to the difficulties in compliance and enforcement. Furthermore, in the transition period, the legal systems in economy, society and many other fields are under tremendous adjustment. The legal provisions in environmental and resource protection are sometimes overlapping or contradictory, thereby adding more difficulties to the enforcement of these laws and regulations. As has been shown in the newly promulgated laws, efforts have been made to make new legislation reflect the needs of comprehensive resource utilization, environmental protection, as well as the need for dynamic economic reform processes.

Since the late 1970's, China has established vast networks of governmental institutions at the national, provincial, municipal, county, township and village enterprise levels to address environmental problems and the comprehensive resource utilization issues related to them. This structure is responsible for implementing relevant policies and legislation. Both the National Environmental Protection Agency (NEPA) and the State Economic and Trade Committee (SETC) have played important roles in waste environmental and reuse fields. The Committee has a special responsibility for renewable resources, including energy, and is mandated to oversee all aspects relating to the reuse of waste.

Because of limited public involvement, China's environmental institutions have assumed the major role of environmental pressure groups - viewing themselves as a legitimate counterbalance to strong industrial interests. In recent years, the media and public also have paid increasing attention to environment and resource protection, which have put an increasing pressure on the polluter and resource waster.

In 1993, China established the Environmental and Natural Resources Committee within the National People's Congress (EPC/NPC). Since its establishment, the pace of legislation has been speeded up, especially since the Solid Waste Pollution Prevention and Control Law has been implemented in April 1, 1996, as noted earlier. The Committee has been playing a very important role in supervising the enforcement of relevant laws and regulations. Every year, groups organized by the EPC have traveled around the country to check and supervise compliance and enforcement of the laws.

The major, admittedly overlapping and interrelated problems persisting in the enforcement of waste reuse legislation are:

- The current environmental monitoring and administration infrastructure is highly fragmented. For example, in environmental protection and most other sectors, most of the actions take place in local areas. The majority of China's environmental officials work in provincial, municipal or county-level Environmental Protection Bureaus (EPBs) or in environmental divisions within province-level ministries and state-owned enterprises. It is true that they work in close relation to the relevant institutions at the national level. Ideally, this also makes it easier to fit environmental control strategies to widely differing realities across the country. Environmental Protection Bureaus are operating as independent entities in negotiations with companies. Nevertheless, in general, the provincial, municipal and county governments are more interested in economic growth, which might work to increase pressure on the Bureaus to lessen their environmental duties. Moreover, in some areas, due to the significant weakness of environmental interests in the local government, the Bureaus' voices are often quite weak as regional governments and enterprises fight to gain their economic growth targets.
- Central institutions like the National Environmental Protection Agency and EPC provide relatively weak supervision in local areas due to the huge territory and diversity of the country. Allegations of corruption among local Environmental Protection Bureau officials have been identified in some areas, especially among lower-level clerks responsible for inspecting sites and collecting waste disposal fees and fines. Environmental regulation and Environmental Protection Bureaus's advice were sometimes ignored.
- Waste disposal and reuse are not only environmental issues, but also resource and economic ones. There is a lack of coordination among government agencies in all levels. The State Economic and Trade Committee has traditionally taken responsibility for promoting waste reuse, while the National Environmental Protection Agency is responsible for environmental monitoring and administration. Responsibilities of other units are not as clear. Article 10 of the Solid Waste Pollution Prevention and Control Law sets the duties for solid waste disposal supervision and management of the related government departments. As a case in point, the competent departments of construction administration under the State Council and the competent department of environmental and sanitary administration of the local people's governments at or above the county level are responsible for the supervision and management work of clearing, collection, storage, transport and disposal of urban household refuse. The competent departments of environmental protection administration

under the State Council should conduct unified supervision and management of the national work of prevention and control of solid waste pollution. On the one hand, the relevant departments under the State Council should supervise and manage the prevention and control of solid waste pollution within their scope of official duty. On the other hand, local governments and environmental protection agencies were also given comparable responsibilities for the prevention and control of waste pollution. Thus, there remains insufficient clarity over the division of responsibilities of state and local government, environmental protection agencies, industry and individuals in such pollution management and control areas. Added to this problem are the implementation difficulties arising from frequent institution reforms.

- In European countries, permit, examination and other management instruments have been and are extensively applied in waste collection, disposal and reuse fields. However, in China, we lack such a management regime. Few effective management instruments are applied and enforcement has been limited.
- Since a large number of provisions can be identified in very different legislation and policies governing very different scales and sectors, it was widely agreed that overlaps and even contradictions have added the difficulties in the compliance and enforcement. For example, before the Solid Waste Pollution Prevention and Control legislation, there were no laws or regulations that clearly stipulated what enterprises and institutions have the responsibility to construct facilities and sites for storing or disposing industrial solid wastes which they generate and cannot or temporarily cannot be utilized. This is one of the key factors resulting in the low reuse/recycle rate of solid waste.
- In the country's transitional period, contradictions of planning and market economy have existed everywhere. For example, under central planning system, enterprises are administrated within certain sectors. An enterprise usually cannot engage in production activities outside its own field. Yet many waste reuse and recycling activities are beyond one industrial sector. As a result, a large amount of industrial wastes have been disposed of although they might be reused by enterprises in other sectors. In recent years, although central planning continued to play important role in the most critical sectors of China's economy, the process generally has become more reliant on indirect policy instruments, e.g., the interest rate. It is expected that with development of the market economy system, such problems will gradually disappear.
- Legal liability is extremely important for compliance and enforcement. There are, however, clearly not enough legal liability regulations and stipulations in current waste reuse and disposal legislation. Moreover, a number of the existing articles are hard to implement. For example, there is lacking of specific stipulations for penalizing the institutions and individuals who cause new pollution brought up by waste reuse activities.
- Although in recent years, the media and public have paid more and more attention on environment and resource protection, generally speaking, the public involvement of waste reuse and disposal has been far from perfect. There is still a long way to go.

#### 4 RECOMMENDATIONS

Although economic reform has significantly improved the efficiencies of resource utilization and waste reuse, it is clear that the pressures on environment and resources have been increasing in recent years, due to the rapid growth of the economy. More efforts are necessary to solve these problems. Among the legislation and enforcement dimensions, the latter must be paid more attention. All aspects of enforcement, from economic incentives to administrative action, supervision, court action, imposition of a fine and public involvement, should be undertaken more efficiently. Major recommendations are summarized below:

- Experiences in China and abroad demonstrate that, in many cases, waste reuse could achieve economic benefit. The adoption of economic incentives could significantly increase the interest of industry and individuals involved in waste reuse activities. It is necessary, thus, that more economic incentives, like tax reduction, should be adopted in the future for promoting waste reuse activities.
- To be effective, waste reuse legislation must aim at achievable targets. It should be enforced through administrative, civil and criminal measures. One of the effective enforcement tools is criminal prosecution. Those behind serious pollution events caused by unreasonable waste disposal and the violation of the related laws should be subject to criminal punishment. Criminal penalties should be applied not only against the offender, but against potential violators.
- We should always prevent the damage of waste disposal before seeking to punish the offender. The enforcement of preventive measures should be among the top priorities. For most of the environmental issues related to waste disposal, it is almost impossible to compensate for the loss after the hazardous event. Therefore, steps must be taken to prevent the occurrence of damage, in addition to punishing the offender and to imposing fines when no other alternative is available.
- The steps of formulating the Comprehensive Resource Utilization Law should be speeded up. It is clear that China's waste reuse policies and regulations, especially economic incentives, have frequently been changed over the last ten years. This has had negative consequences, since industry has not been able to follow stable guidelines. Accordingly, it is necessary to streamline relevant provisions in a number of regulations into the above mentioned Comprehensive Resource Utilization Law. Detailed regulations and technical policies in specific fields like the reuse/recycle of plastic waste, metal waste, paper waste, etc. should also be formulated.
- In current laws and regulations, the stipulations governing inspection and licensing on waste disposal and reuse are not enough. Close supervision is also required to ensure strict compliance with legal stipulations. Inspection and surveillance are essential for performing the National Environmental Protection Agency's and EPC's roles. Due to the weak enforcement of laws and regulations at the local level, there is a strong case for the central environmental institutions to delegate more responsibility to regional and local representatives in order to enable the central institutions to fulfill the environmental watchdog role it has over the entire country. They should check and supervise the enforcement of waste reuse laws and regulations, check and supervise the steps which

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governments in all levels have taken, and check and supervise the cases related to waste reuse. It is necessary for these institutions to establish and enhance their ability in supervision and management. Capacity-building at all levels of environmental and resource agencies is badly needed.

- Since the State Economic and Trade Committee and other related industrial departments have played important roles in waste reuse management and policy making, it is clear that the Committee's responsibilities in these fields should be enhanced. Especially, its role and relations with the National Environmental Protection Agency and other industrial and other sectors should be clarified. The responsibilities of each institution should be clearly defined in relevant laws and regulations.
- The local authorities should have their own responsibilities in the inspection arena. It is also necessary to improve the cooperation and coordination among the various bodies in order to avoid duplication and improve the efficiency.
- In order for supervision to be effective, the personnel in all the institutions must be trained to have the necessary knowledge and qualifications.
- It is suggested that a extensive monitoring system of waste pollution and reuse/recycle should be established. A unified monitoring standard and regulation should be formulated, though area-specific implementation would be required.
- As part of the efforts to strengthen the enforcement of waste reuse related laws and regulations, it is essential to increase the consciousness of the public in the significance of waste reuse, provide them with relevant technical data, legal tools and necessary facilities. Citizens play the important roles by making complaints against offenders, as well as involved in the waste reuse procedure themselves. Media also should be encouraged to put pressure on wasteful enterprises.

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## THE OVERVIEW OF WATER POLLUTION CONTROL IN THE HUIHE RIVER BASIN

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### SUMMARY

This paper describes the development of a pollution control program for the Huaihe river basin. The characteristics of the basin are examined and the on-set of pollution problems discussed. The paper then describes the design and implementation of the Regulations and the issuance of control aims. Finally, some results are presented.

### 1 OUTLINE OF THE HUIHE RIVER BASIN

The Huaihe river basin is situated in north China between Yangzi River and Yellow River. For a long time in its history, it had been an area of great disaster, low productivity and heavy turbulence. The current basin area totals up to 270,000 km<sup>2</sup> across four provinces of Henan, Anhui, Jiangsu, and Shandong, 34 regions and 182 counties. The total population density equals 520 people per km<sup>2</sup>. The basin has the most arable land - 740 mu per km<sup>2</sup> - of any other large basin area in China.

The basin borders on the Huang Sea in the east, Mt. Funiu, Tong Bai, Dabie and Yimeng on the Southwest and Northeast. The broad Huaihe plain between mountains and sea, the area of which takes up 2/3 of the total basin area, acts as the production base of commodity grain, cotton, and oil in China.

The Huaihe basin is divided by the boundary of the old Yellow river bed into two hydrographic nets of Huaihe and Yishusi, with the area of 190,000 km<sup>2</sup> respectively. The Grand Canal and Huaishu river are passing through the basin.

The basin rises in Mt. Tongbai of Henan province, passes eastwards through the province of Henan, Anhui, Jiangsu and finally enters the Yangzi river at Sanjiangying with the total length of 1,000 km and total drop of 200 meters. The upper reach is from the Honghe entrance, 360 km long, 78 meters of drop and the catchment area of 30,600 km<sup>2</sup>. The lower reach is from the Hangs Lake to the Sanjiangying, with the area of 164,600 km<sup>2</sup> and length of 150 km.

The main natural social and economic characteristics in the Huaihe River Basin include the following:

- a. The distribution of rainfall varies greatly in space and time. The disasters of flooding and drought take place very frequently. The Huaihe River Basin is located between rich rainfall in the south and the dry area in the north. The cumulative mean rainfall totals up to 880 mm per year. The distribution in space and time is very special. It seldom rains in winter and autumn, and the rainfall from June to September always makes up 70%-80% of annual rainfall. The rainfall in bumper years always equals to 5 times that of dry years. Average rainfall in the north along Yellow River is about 600-700 mm for the annual

runoff, creating a dry region short of water in the Basin. But in Mt. Dabie in the south and Mt. Funiu in the west, the area is rich in water resources, with a mean annual rainfall of up to 600-700 mm and 900-1000 mm respectively. Heavy floods or droughts appear very often in the Basin and there are always successive heavy rain or drought years. Floods and droughts often take turns in one year with floods in the south but droughts in the north.

Flooding in the Huaihe River Basin usually results from a big storm. The scope of rainfall sometimes covers the whole basin.

- b. The Yellow River overflow, makes the disaster and control tasks more difficult. The Yellow River is in flood stage for a long time and competes with Huaihe for water resources.
- c. There are a lot of rivers in the Huaihe River Basin crossing several provinces. Consequently, the water conflicts are great and make the Huaihe river control work more complex.  
The topography is low and plain in the Huaihe River Region. The conflicts between upper and down river are very aggressive.
- d. Conditions of resources are so good that economic development potential is very promising. The total arable area totals up to 200 million mu<sup>3</sup>, while the average is 450 mu<sup>3</sup>, both of which are more than in the north. So, the use of the plant stem provides a base for developing paper mills in the future in this Basin.

Generally speaking, flood and drought control are the most important tasks. Water shortage in the Huaihe River Basin is increasingly serious because of the pressure of economic development. The gap between water supply and demand is bigger and bigger now.

Water usage by the agricultural and industrial sectors, both people and livestock are as follows: water in medium dry years totals 50 billion cubic meters, with a water shortage of 4 billion cubic meters. In one very dry year, the water shortage rises up to 10 billion cubic meters.

## **2 WATER POLLUTION CONTROL SITUATION IN THE HUIHE RIVER BASIN**

There was no water pollution in the 1950's. However in the 1960's pollution began to be a problem and in the 1970's heavy water pollution resulted from more industrial waste water and discharges of agricultural chemical and fertilizer with the development of industrial and farming production. Watersheds have lost their value. Many cities were threatened by pollution and the lack of safe drinking water had become an emergency.

Pollution in the Huaihe River basin had began to create serious problems at the end of the 1980's, threatening the safety of drinking water in the urban and rural areas along the Huaihe River. The water supply was cut off for a week in 1994 and 1995 because of a sudden pollution episode which had a very negative impact on production and peoples' lives. In 1995, the Chinese Government was determined to control pollution starting with the Huaihe River Basin.

## 2.1 Transitional Regulation of the Huaihe River Basin Pollution Control

Regulations were designed and announced in 1995. It was the first regulation about river basin affairs approved by the state council. The aims of water pollution control included in the Regulation are as follows:

- Discharge of all industrial pollutants are to be within the national discharge standards before 1997;
- The quality of water in main river parts, and some main reaches of the river to conform to the regulation before 2000. The Huaihe River Basin will be clean again.

That was the first time in the history of Chinese legislation that control aims were issued.

The responsibilities of the Lead Group for River Basin Protection were stipulated in the regulation. The Lead Group was established in 1994, consisting of the National Environmental Protection Authority and the Ministry of Water Resources both acting as lead members; the concerned departments of the state council and local governments in Huaihe river Basin became the member units of the group. The group is responsible for coordinating the problems of water resource conservative and water pollution control, supervising and checking water pollution control work and carrying out other charges appointed by the State council.

The duties of Local governments were also defined in the Regulation. All the responsibilities are assigned by the State Council to insure sound coordination.

The Basin Water Resources Protection Bureau was placed in charge of sectional water quality control under the regulations and four main floodgate dams were to be dispatched and managed by the Basin committee. The limits of basin authority were strengthened from the aspects of water quantity and quality.

The regulations also stipulated that the total amount of pollutants be controlled in the entire Basin, and forbid any new, heavily polluting enterprises to be built in the Huaihe River Basin. So the concerned governmental departments can supervise and manage the pollution control in accordance with the legislation.

The three years of practical experience with the Huaihe River work has tested that Regulation.

## 2.2 According to the regulation, the Huaihe River Basin Water Pollution Control Program and 95 Plan is designed.

The State Council gave an official blessing to this Program, which provides the specific standard for pollutant discharge until 1997. The maximum permitted COD discharges are less than 890,200 tons, the distribution of which among four provinces is also clearly stipulated. Until the year of 2000, the maximum discharge amount is no more than 368,000 tons, a set of preferred projects are listed and it is announced that some small-scale polluting plants are to be closed before June 1996. The polluting discharges are to be cut off 10% in 1995, 15% in 1996 are based on the data of 1995.

### 3 RESULTS

The Huaihe River Basin pollution controls are spot checked. Plants within the Huaihe River Basin have been inspected three times by the leadership of Songjian. This measure promoted the process of pollution control. Through inspection and mass-media average, those plants which discharge the pollutants with no profits have been forced to shut down and began to search for the new opportunities of economic growth.

From the point of view of these measures and effects, Huaihe pollution control is one of the more successful examples in Chinese water pollution control. There are, however, many questions from the local public and plants on the process of the Huaihe River Basin pollution control. Here is a brief introduction:

- a. New pollution resources have been identified when controlling old pollution. It points to insufficient law enforcement to control new pollution sources.
- b. New economic growth points should be found when plants close. So some township enterprise can transfer from the past producing form of heavy pollution and low benefits. In this aspect, there is a lack of advanced technical knowledge and application in China.
- c. Basin management has not really been carried out. Because the conflicts among departments in the management system of China, they have not played a great role. The authority of basin departments needs to be strengthened.
- d. Public participation is not deep enough. At present, the problems of rural areas are influenced by local and neighboring areas. However, public participation is limited by the conflicts among regions.

## THEME #5

### INTERNATIONAL COOPERATION/TRANSBOUNDARY COMPLIANCE AND ENFORCEMENT ISSUES

International cooperation has become an essential element of most environmental protection and enforcement programs due to: 1) Globalization of trade raising the needs for both fairness and sustainability, assuring that the benefits of free trade are not eroded by unacceptable environmental and related social costs, 2) shared environmental resources whose quality is affected by the ability of border states to achieve the environmental benefits and protections of regulatory compliance, 3) patterns of pollution, illegal waste and illegal chemical transport that cross many borders, and 4) the seemingly exponential growth of criminal activity which seeks to take advantage of both perceived and actual weaknesses in environmental enforcement internationally to avoid legitimate costs of environmental protection.

The discussions will use as a point of departure results of consultations on enforcement undertaken at the direction of G-8 environmental leaders on problems and initiatives to address illegal trade in CFC and hazardous waste, results of experience in international cooperation in environmental enforcement through bilateral and multilateral networks such as IMPEL in the European Union, the CEC in North America, and INTERPOL on a global basis. Discussions will build on papers and results of workshop discussions at the Third and Fourth International Conferences. Discussions will also benefit from the "Potential Projects List" commissioned by the Executive Planning Committee to promote global and regional networking. This document lists and contains descriptions and results of actual and potential projects for international cooperation in networking, capacity building and enforcement cooperation. Discussions can also draw upon the technical support document prepared for the Fourth International Conference on "Transboundary Illegal Trade in Potentially Hazardous (Waste, Pesticides, Ozone Depleting) Substances".

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#### Theme #5 Workshops:

- 5 A *Illegal Transboundary Shipment of (Hazardous) Waste*
- 5 B *Compliance with International Environmental Agreements: Focusing on Montreal Protocol and CITES: Illegal Shipments of CFC and Other Ozone Depleting Substances and Illegal Trade in Endangered Species*
- 5 C *Illegal Shipments of Dangerous Chemicals Including Pesticides*
- 5 D *International Enforcement Cooperation to Protect Shared Resources and Prevent Transboundary Pollution*
- 5 E *Collaborative Targeting of Enforcement on an International Scale*



## WORKSHOP 5A ILLEGAL TRANSBOUNDARY SHIPMENT OF (HAZARDOUS) WASTE

This topic has been addressed at previous international conferences, has been monitored by the Basel Secretariat within UNEP, and specifically reviewed in a consultation of enforcement officials commissioned by the G-8 environment leaders. The INECE wishes to make progress at this Fifth International Conference workshop by defining specific measures that enforcement officials around the globe believe are needed to create a more effective deterrent to put a stop to illegal activities in the shipment of hazardous waste and household waste that is mischaracterized or contaminated with hazardous waste.

Papers and workshop discussions will address the following issues:

- Ways violators are circumventing provisions of the Basel convention and other laws governing the legal shipment of waste and how violators are being detected.
- How procedures and other requirements could be better communicated, understood and followed.
- How illegal activities are identified and the experience of enforcement personnel in defining the information that is needed to identify such violators.
- Responses taken to address violators and why, and how effective they have been.
- The need for formal and informal lines of communication and the nature of information and to whom it must be shared among law enforcement personnel, customs officials, environmental managers and environmental enforcers domestically.
- Types of bilateral and multilateral international cooperation and information sharing and whether they have been useful. The level of cooperation and information sharing between and among national enforcement organizations necessary to support effective enforcement.
- Design and implementation of waste tracking systems for transboundary shipments and linkages of domestic systems to those of other nations.
- Recommendations for initiatives to fill gaps, identify the institutions and actions needed to facilitate effective enforcement and overcome particular problem areas in enforcing these types of requirements

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## **CHINA'S CONTROL OVER ILLEGAL SHIPMENTS: LEGISLATION AND ENFORCEMENT**

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### **SUMMARY**

In view of the serious situation of illegally importing waste from other countries, the State Council of China issued the "Emergency Notice on the Firm Control Over the Diversion of Overseas Waste to the People's Republic of China" on November 7, 1995. An emergency notice is the most important legal provision in Chinese management over importation of waste products. Recently, in light of the policy over waste import — "careful in management, strict in approval, quantity control and reasonable in structure" — the State Environmental Protection Administration and other departments successively formulated and promulgated the legal provisions and criteria about the importation of waste, which have perfected the procedures of ratifying and checking waste import, and cracked down on the illegal import of "foreign waste." The importation of waste has become legally regulated and the diversion of "foreign waste" to China has been placed under effective control. Meanwhile, the collection and recycling of waste has boosted economic development and strengthened the awareness of the Chinese people to environmental protection.

### **1 FORMULATE LEGAL PROVISIONS AND CRITERIA ON THE WASTE IMPORT AND STRICTLY ENFORCE THEM**

In order to carry out the spirit of the "Emergency Notice" by the State Council and include the importation of waste into the legal administration according to the "Law of the People's Republic of China on the Prevention and Control of Solid Waste Pollution," the State Environmental Protection Administration, together with the Ministry of Foreign Trade and Economic Cooperation, the General Administration of Customs, the State Administration for Industry and Commerce, the State Administration for the Inspection of Import and Export Commodities, formulated and issued the "Temporary Provisions of the Management of the Waste Import and Environmental Protection," the "Catalogue of the State-Confined Import Waste as the Raw Material," the "Supplementary Regulations to the Temporary Provisions of the Management of the Waste Import and Environmental Protection" and the "Notice of Augmenting the Catalogue of State-Confined Import Waste as Raw Material." The State Administration for the Inspection of Import and Export Commodities issued the "Notice of Inspecting Waste Import and the Administrative Measures of Examining Import Wastes Before Shipment." The State Environmental Protection Administration, in coordination with the Supreme People's Court, formulated and issued the "Explanations about the Relative Laws Applicable to Try Criminal Cases of Illegally Importing Waste." With the approval of the State Bureau of Technological Supervision, the State Environmental Protection Administration formulated and issued the "Control Criteria of Import Waste and Environmental Protection" (trial). Totalling 14, the criteria regulate the control index of radioactive pollution and the effect on the environment from import waste.

The formulation and promulgation of the above provisions and criteria provides a legal basis for regulating waste import and is widely welcomed by enterprises at home and abroad. Among others, the International Recycling Bureau and the Hong Kong Administration of Environmental Protection have asked for China's relative legal provisions and criteria. They said that those who wanted to transport "foreign waste" to China were just a few illegal merchants and most of the import waste was recycled resources. Nevertheless, they vow to obey the laws and do business according to the Chinese legal provisions. Since the above provisions were issued, no case of illegal import of "foreign waste" has been found.

## **2 PERFECT THE PROCEDURES OF RATIFYING AND CHECKING THE IMPORTATION OF WASTE**

According to the above provisions of waste import management, the State Environmental Protection Administration has regulated strict approval procedures for waste import. Units that apply to import waste must fill in application forms, procure an evaluation from a certified environmental risk appraiser, and get regional, city, and provincial officials to inspect their facilities for recycling the import waste as well as pollution prevention and treatment measures. When they meet the demands, they can submit their applications to the State Environmental Protection Administration for approval. This set of procedures, from risk appraisal to three-level ratification, assure the strict control of waste import. The process of recycling waste should be under the supervision and administration of the local departments of environmental protection and pollution treatment measures should be carried out to make sure the recycling of waste produces no harm to the environment. The State Administration for the Inspection of Import and Export regulates the monitoring before the overseas shipment in addition to the legal inspection of the import waste. Customs will allow import waste to pass after checking the approval certificate issued by the State Environmental Protection Administration and the waste inspection certificate issued by the State Administration for the Inspection of Import and Export Commodities.

The departments of environmental protection, commodities inspection, customs and foreign trade perform their own duties, exercise their powers within the framework of the law, coordinate with each other and guard the State in the case of the illegal import of "foreign waste." For example, the Department of the Commodities inspection at Tianjin Port found radioactive polluting material in a shipment of import waste from the United States and immediately circulated a notice to the Department of Environmental Protection. The Department of Environmental Protection instantly made the decision to turn back the import waste and transport them outside. In the process of checking the waste import, the Department of Foreign Trade suspected that some unit had falsified the photocopy of the import waste approval certificate and immediately circulated a notice to the State Environmental Protection Administration. The Administration instantly took measures and avoided the incident of illegally importing "foreign waste."

## **3 STRENGTHEN THE CRACKDOWN ON THE ILLEGAL IMPORTATION OF "FOREIGN WASTE"**

In early 1996, exposure by the media of several incidents in which "foreign waste" was illegally imported into China caused a great sensation at home and abroad. Authorities took action aimed at letting the world know that China is not the dumping ground for the waste of developed countries. At present, some developed countries have gradually diverted "foreign waste" planned for China to Southeast Asia, India, the People's Democratic Republic of Korea,

and so on. According to information from the Hong Kong Administration of Environmental Protection, 200 tons of "foreign waste" from the United States were seized in Hong Kong in July, 1996; 480 tons of "foreign waste" came in two batches to Hong Kong in August; 700 tons of "foreign wastes" from Europe were seized in Hong Kong in November of the same year. These shipments, which the importers had planned to divert to mainland China through Hong Kong, were seized by the Hong Kong authorities. The Hong Kong Administration of Environmental Protection is contacting the relevant countries to return the "foreign waste" to the exporting countries. After the waste iron and steel polluted by radioactivity was found in Tianjin, the American Embassy in China offered to contact the State Environmental Protection Administration, showing a willingness to cooperate in returning the waste. This shows that China's provisions about the waste import has played an important role in the effective control of the diversion of "foreign waste" to China.

#### **4 IMPLEMENT THE ADMINISTRATIVE MEASURES OF LIMITING THE TOTAL AMOUNT OF WASTE IMPORT**

These new programs and requirements also control the types and quantities of imported recycled waste. The State Planning and Development Commission and other relevant departments made an investigation of the types and quantities of past shipments of imported waste. According to the demand for the raw material necessitated by economic development, they solicited opinions of the relevant industrial departments and regulated the types and quantities of the imported waste. The catalogue issued by the General Administration of Customs of the People's Republic of China lists 13 categories and more than 100 types of the imported waste products. The import and export of these waste products are traded as commodities in the international community. In making the list of the recycled wastes, China listed only the 8 categories and 20+ types of material that China needs to import, such as waste iron and steel, paper, bronze, aluminum, cotton, timber and plastic scrap and so on. China needs to import about 10 million tons of wastes of various types every year. According to the principle of quantity control, in 1996 China ratified the total importation of 9.67 million tons of waste; this includes: 3.2 million tons of waste iron and steel, 2 million tons of waste paper, 1.8 million tons of waste bronze, one million tons of waste aluminum, 160,000 tons of plastic scrap, 210,000 tons of waste cotton and 1.3 million tons of waste wire and cable, electric machinery and hardware. Due to price fluctuation on the international market, the actual import is less than the ratified amount.

#### **5 FUTURE PLAN FOR THE CONTROL OF ILLEGAL SHIPMENTS OF WASTE**

In summary, China's experience with waste import approval has been a gradual perfecting of each provision and regulation on waste import. In the future, we will further strengthen contact and cooperation among all the relevant Departments and make good cooperative efforts in the future approval and management of waste import. This includes undertaking some of the following actions:

- Set up a database on the importation of waste and carry out the dynamic management of the import waste by means of computer.
- Check and register the enterprises that import, deal in, and process the waste. Certified enterprises can be ratified to import the waste; those that do not satisfy the demands will no longer be approved to import the waste.

- Further research the catalogue of the State-confined recycled import waste and according to domestic practical need, gradually revise, supplement and perfect the catalogue of the import waste.
- Strictly enforce the legal provisions and severely punish those who play favoritism and commit irregularities in enforcing the provisions about the waste import administration.

## **HONG KONG'S EXPERIENCE IN CONTROL OF ILLEGAL SHIPMENT OF WASTE**

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### **SUMMARY**

Hong Kong's geographical location and free port status have made it a major entry point for the Asia-Pacific region. Huge volumes of cargo including waste materials pass through Hong Kong everyday. This paper outlines the nature and extent of Hong Kong's waste trade with the overseas countries.

To safeguard public health and prevent environmental damage due to illegal shipment of hazardous or non-recyclable wastes, and to fulfill the international obligations under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Hong Kong Environmental Protection Department (EPD) implemented in September 1996 a comprehensive legal framework to control waste shipments. The import and export of hazardous or non-recyclable waste without prior permission of the EPD is an offence under the legal framework.

Since the implementation of the control, the EPD has intercepted a number of illegal waste shipments from overseas countries. This paper outlines the modus operandi of these illegal shipments. It also summarizes the liaison efforts between Hong Kong and overseas countries in stopping illegal shipments. These efforts include:

- exchange of information on suspicious recyclers and impending waste shipments;
- interception and inspection of dubious waste shipments; and
- collaboration in the management of illegal waste shipments.

The close interaction between relevant parties will help to achieve effective enforcement of international and local laws on waste shipments to deter illegal waste trafficking.

### **1 INTRODUCTION**

The Hong Kong Special Administrative Region is situated at the southern tip of the Guangdong Province of China and is ideally positioned at the centre of East Asia. Being a free port with good deep-water harbor facilities, Hong Kong is not only one of the busiest entry points for the Asia-Pacific region, but also one of the most efficient container ports in the world. The port container throughput reached 14.5 million TEUs (twenty-foot equivalent units) in 1997.

Over the last decade, the transboundary movements of waste have increased significantly, largely as a result of international trading of waste for recycling purposes. In Hong Kong, over 5 million tons of waste materials were moved into and out of the territory in 1997 (Figures 1a and b). The majority of these waste materials were recyclable non-hazardous wastes such as plastic waste, metal waste and scrap paper destined for recycling in Hong Kong or the nearby region. The substantial volume of waste import, export and re-export activities are driven mainly by the growing manufacturing and industrial activities in the southern China in the past years and their increased demand for recovered scrap materials as secondary and inexpensive raw materials.

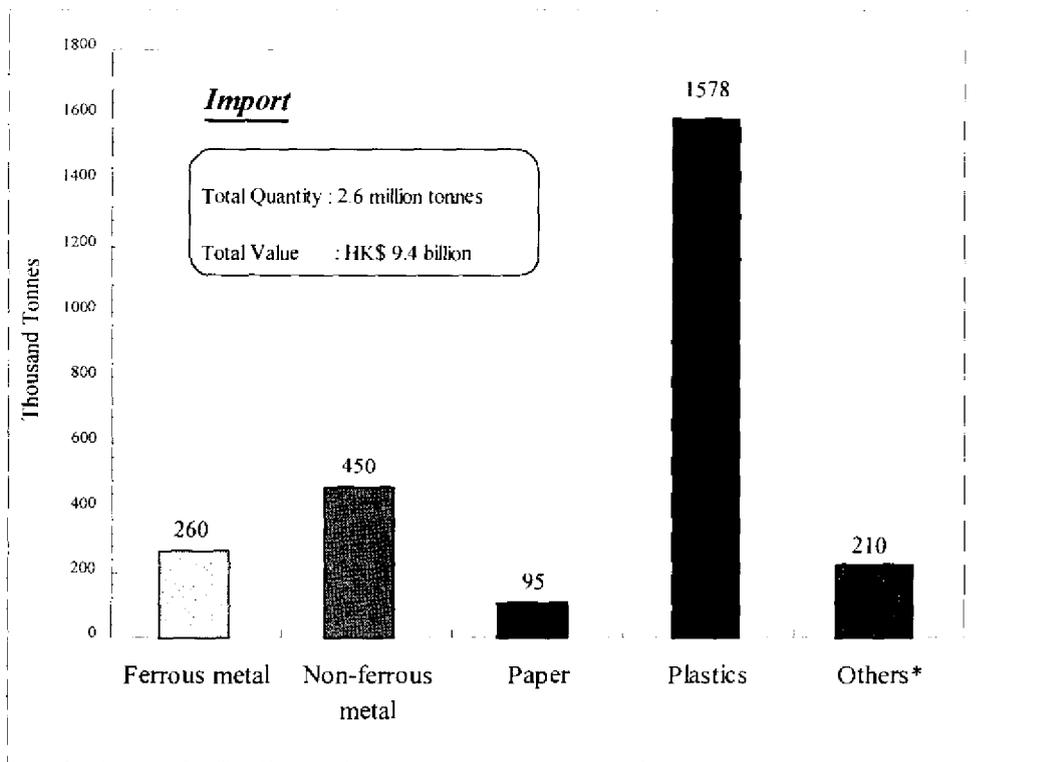
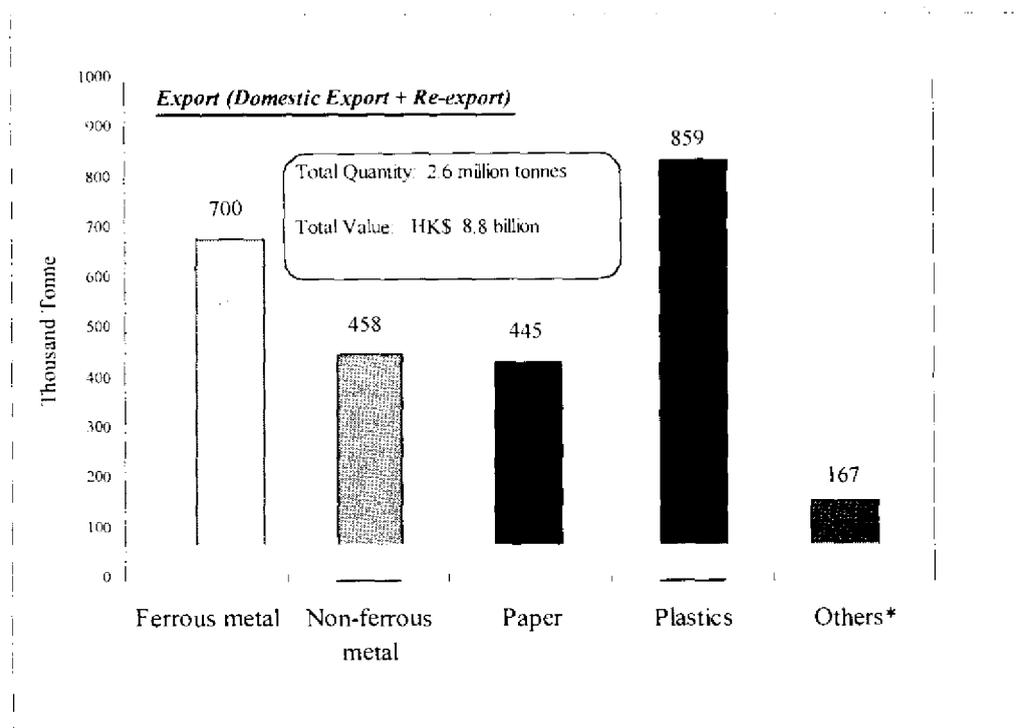


Figure 1a Waste Trade Statistics of Hong Kong in 1997 (Import)



**Figure 1b Waste Trade Statistics of Hong Kong in 1997 (Domestic Export + Re-Export)**

Whilst it is unquestionable that an effective recovery of useful scrap materials on a global scale will contribute towards the conservation of raw materials and sustainable development, the potential environmental implications of these activities also have to be addressed.

## 2 IMPLICATIONS OF WASTE IMPORT AND EXPORT ACTIVITIES

In the late 1980s, wastes which were considered valuable enough to be reclaimed were treated as tradable commodities and exported to other countries as raw materials. As these activities were trade-oriented at the outset, potential environmental implications were usually neglected because the trade system did not ensure the recycling of the wastes in an environmentally sound manner.

There were highly publicized incidents involving 'trading' and subsequent dumping of non-recyclable, contaminated or hazardous waste under the guise of recycling. These sham recycling activities were to some extent attributed to (a) the escalating waste disposal costs

in some developed countries due to their stringent environmental standards; and (b) the less stringent technical and regulatory infrastructure in some importing countries. These incidents have triggered international concerns over transboundary movements of waste and the associated adverse effects upon public health and the environment.

### **3 THE BASEL CONVENTION**

The increased global concerns had led to the conclusion of the Basel Convention on the Control of Transboundary Movements of Wastes and their Disposal (the Basel Convention) in 1989. The Basel Convention aims to protect public health and the environment against the adverse effects of hazardous waste by minimizing waste generation and movements and introducing a system of advanced notification and consent for transboundary movement of waste. It requires the Convention parties to implement domestic legislation to prevent illegal waste traffic through local enforcement measures. It also promotes cooperation amongst the parties to achieve environmentally sound management of waste and prevention of illegal traffic.

The Basel Convention has been applicable to Hong Kong since late 1995. It now applies to Hong Kong as a special administrative region of China which is a Convention party. The Hong Kong Environmental Protection Department (EPD) was designated as the competent authority under the Convention to enforce the control on import, export and transit of waste in the Hong Kong Special Administrative Region.

### **4 LEGISLATIVE CONTROL FRAMEWORK**

The control of waste import and export in Hong Kong is effected under the Waste Disposal Ordinance (WDO), Laws of Hong Kong Chapter 354, with the the Environmental Protection Department designated as the enforcement authority. The control scheme, which enables Hong Kong to fulfill its international obligations under the Basel Convention, came into operation on 1 September 1996.

Under the Waste Disposal Ordinance, any import and export of prescribed hazardous, non-recyclable and contaminated waste for whatsoever purpose; and import and export of other waste for a purpose other than recycling must be authorized by the Environmental Protection Department through a permit. A person who commits a first offence could be fined a maximum of up to HK\$200,000 plus a 6 month prison term and up to HK\$500,000 plus a 2 year prison term for a subsequent offence.

### **5 ENFORCEMENT CONTROL**

#### **5.1 Modus operandi**

The implementation of an effective enforcement control program is essential in preventing and deterring illegal waste trafficking. The Environmental Protection Department monitors closely the waste import and export activities based upon the waste trade pattern and the modus operandi of past illegal shipments.

In general, waste is shipped from developed countries such as the USA, Japan, and The Netherlands through Hong Kong into the Mainland China (Figure 2). In this regard, the emphasis on the control of the movements of wastes has been directed toward the supervision of the flow of wastes from these particular countries to Hong Kong.

Of those illegal shipments originated from overseas countries and intercepted in Hong Kong in the past 2 years, the wastes involved are mainly contaminated waste (i.e. wastes that have been mixed with hazardous substances) or non-recyclable waste. These shipments were often declared as non-hazardous scraps (e.g. 'mixed metal scraps' and 'plastic scraps') and imported by small trading firms in Hong Kong with no waste recycling facility. These shipments are generally exported by small agents, rather than the original waste generators, in overseas countries. Prior to their arrival in Hong Kong, some of these shipments changed hands several times. In certain cases, difficulties were encountered by the overseas authorities in ascertaining the place of origin of the shipments and the original exporter of the waste.

## 5.2 The Control Program

The control program encompasses the detection of illegal activities, investigation, management of the intercepted cargo and legal action:

- a) Interception and Inspection - through intelligence received from various local and overseas sources, dubious waste shipments are intercepted for inspection at key control points such as container terminals.
- b) Investigation - upon the detection of illegal shipments (i.e. waste shipments without the prior approval of the Environmental Protection Department), further investigation will be conducted to determine the parties responsible for the import activities. Collection of evidence could be conducted locally and in overseas countries concerned.
- c) Management of Illegal Shipments - illegal waste shipments must be returned back to the place of origin in accordance with the requirements of the Basel Convention. The importer and the shipping company involved would normally be responsible for arranging the return shipment.
- d) Legal Action - upon the collection of sufficient evidence to prove that an act of illegal waste import has been committed and identification of the parties responsible for the import, legal action will be taken.

Waste interception, inspection and investigation are the key components which will be continuously adjusted and fine-tuned in response to changes in the patterns of the waste trade and illegal waste trafficking.

## 5.3 Partnership in Enforcement

The Environmental Protection Department works with local and international authorities in the enforcement of controls on transboundary movements of waste. In Hong Kong, the Environmental Protection Department works very closely with the Customs and Excise Department in the detection, interception and inspection of dubious waste shipments at the key control points. Internationally, it collaborates with overseas competent authorities in the detection and investigation of illegal waste trafficking and the management of the waste

until it is safely returned back to the place of origin. The following sections focus on the enforcement efforts that the Environmental Protection Department undertakes in cooperation with overseas competent authorities.

## **6 PREVENTION AND DETECTION OF ILLEGAL WASTE SHIPMENTS**

### **6.1 Interception of Waste Shipments**

The Environmental Protection Department detects illegal waste shipments through review of information contained in the shipping manifests. Through experience gained from past enforcement, selection criteria have been developed based on the following:

- a) Records of an Importer - the targets are Hong Kong consignees with no local recycling facility or a record of poor waste trading practices (e.g. lack of detailed waste specifications, contractual liability arrangements, etc.).
- b) Exporter - the targets are companies previously involved in other illegal or problematic shipments and those companies provided by overseas control authorities.
- c) Waste Description - the targets are waste shipments with an obscure waste description such as 'mixed scrap' or 'second hand scrap'. Certain common waste descriptions are also found to be problematic, examples include 'mixed metal scrap', 'computer scrap' and 'sludges'.

Waste shipments meeting one or more of the criteria would be selected for inspection. Random inspection of all kinds of waste shipments will also be conducted to achieve comprehensive control.

### **6.2 Exchange of Information with Overseas Enforcement Authorities**

The Environmental Protection Department has been liaising with the competent authorities of the major waste trade partners to share operational experience and to fine-tune the criteria for selecting waste shipment for inspection and defining the acceptability of waste. The Environmental Protection Department will continue to update the criteria based on experience gained in enforcement.

Due to the heavy sea cargo traffic at many international ports and the time consuming tasks for screening shipping information and conducting inspection, dubious waste shipments may sometimes escape inspection at the states of export prior to their departure. In this regard, the Environmental Protection Department has made arrangements with some competent authorities including the Dutch and Belgian authorities that under such circumstances, they would provide information on the name of vessel, the container-number(s), and the date of departure in order to arrange interception of the waste shipment upon its arrival in Hong Kong. This is beneficial to both authorities as it allows extra time to scrutinise shipping information and to coordinate the necessary enforcement activities.

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## **7 MANAGEMENT OF ILLEGAL WASTE SHIPMENTS**

Upon interception of an illegal shipment of hazardous or contaminated waste, the waste importer would be required to make arrangement to return the waste back to the country of origin as soon as possible. In this regard, the Environmental Protection Department would liaise with the competent authorities of the states of export and transit to facilitate early return of the waste in accordance with requirements of the Basel Convention.

In order to expedite the arrangement to return the waste shipment, the Environmental Protection Department would transmit to the competent authorities information on the shipment details, shipping documents and the types of waste intercepted. In addition, particulars on the exporter and the waste generator obtained from the local importer would also be provided to facilitate the identification of the parties involved at the country of export. Since 1996, the Environmental Protection Department has liaised with the overseas competent authorities in returning illegal waste shipments on over 10 occasions. The success in this effort results in no stranding of illegal waste shipment in Hong Kong.

## **8 DISCUSSION**

Since the commencement of the comprehensive control on import and export of waste in September 1996, the Environmental Protection Department has brought over 30 convictions. In the same period, the Environmental Protection Department has returned over 10 shipments back to their places of origin.

In order to strictly control the transboundary movements of waste, the Environmental Protection Department will continue to strengthen its ties with overseas competent authorities. This kind of close interaction will help to promote waste importers and exporters to exercise self-discipline, hence resulting in lower incidence of illegal waste shipments.

## **9 ACKNOWLEDGMENTS**

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**WORKSHOP 5B**  
**COMPLIANCE WITH INTERNATIONAL ENVIRONMENTAL**  
**AGREEMENTS: FOCUSING ON MONTREAL PROTOCOL**  
**AND CITES: ILLEGAL SHIPMENTS OF CFC AND OTHER**  
**OZONE DEPLETING SUBSTANCES AND ILLEGAL TRADE**  
**IN ENDANGERED SPECIES**

Nations of the world have "thought globally" and now are needing to "act locally" to meet the goals of international environmental agreements on such important issues as protection of the ozone layer, endangered species and other vital concerns. This workshop will focus on those agreements which pose a compliance challenge in trying to stem the tide and illegal trade of valuable product whose potential for environmental harm is not felt locally and is therefore more difficult to deter. This topic has been addressed at previous international conferences, has been monitored by the Montreal Protocol Secretariat within UNEP, and specifically reviewed in a consultation of enforcement officials commissioned by the G-8 environment leaders. The INECE partnership wishes to make progress at this Fifth International Conference workshop by defining specific measures that enforcement officials around the globe believe are needed to create a more effective deterrent.

Papers are solicited on the broad topic of compliance with international environmental agreements but to focus workshop discussions, they will address the following issues:

- The goals of Chlorofluorohydrocarbon (CFC) reduction along with other ozone depleting substances and particular challenges control and reduction of CFCs in the marketplace pose to enforcement programs given the nature of the market and regulated community.
- Types of programs countries have adopted to enforce CFCs in the marketplace, successes and failures, design of requirements to ensure enforceability, promotion of compliance, compliance monitoring and inspection activities, enforcement response, and levels of government involvement including licensing of facilities and control and tracking of production, reuse, sale and disposal.
- Review of other existing international environmental agreements and their implications for domestic and international enforcement
- Experiences in enforcement of international environmental agreements, successes and failures
- Ways violators are circumventing provisions of the Ocean Dumping, CITES conventions and or other such agreements and how violators are being detected.
- The experience of enforcement personnel in the information that is needed to identify such violators and what level of cooperation and information sharing is needed between and among national enforcement organizations to satisfy current needs for effective enforcement

- The need for formal and informal lines of communication about what to whom among law enforcement personnel, customs officials, environmental managers and environmental enforcers domestically and internationally.
- Informal recommendations for initiatives to fill gaps, identifying the institutions and actions needed.

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1	Enforcement of International Environmental Agreements, e.g., Hazardous Waste and Ozone Depleting Substances, <i>Boekel, Cees</i> ..... 639
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See related papers from other International Workshop and Conference Proceedings:

*Montreal Protocol: Enforcement of CFC and Related Requirements*

1. Challenge of Enforcing the Montreal Protocol on Protection of Stratospheric Ozone, *Mitoff, S. and Seitz, J.*, Volume 1, Utrecht, The Netherlands, 1990, Pages 275 - 281
2. Enforcement of the CFC Regulations in the Netherlands, *Kesselaar, F.H. and Tijink, G.A.H.*, Volume 1, Oaxaca, Mexico, 1994, Pages 429 - 436
3. Evaluation of Three Years Enforcement of the Chlorofluorocarbons (CFC) Regulations in The Netherlands, *Cornet, J.P. and Tijink, G.A.H.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 747 - 752
4. Regulations to Implement Montreal Protocol: Guatemala Country Program, *Del Valle, J.M. and Figuerora, H.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 741 - 746
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*Enforcing Domestic Programs, Implementing International Agreements*

1. UNEP's Role in Capacity Building in Environmental Law, *Kaniaru, D., Kurukulasuriya, L.*, Volume 1, Chiang Mai, Thailand, 1996, Pg. 243 - 253

2. Upgrading of Environmental Laws in France as Part of the Requirements by the EEC, *Kromarek, P.*, Volume 2, Budapest, Hungary, 1992, Pg. 31 - 35
3. An Overview of Enforcement and Compliance Mechanisms in International Environmental Agreements, *Hajost, S., Shea, Q.*, Volume 1, Utrecht, The Netherlands, 1990, Pg. 249 - 273
4. Challenge of Enforcing the Montreal Protocol on Protection of Stratospheric Ozone, *Mitoff, S., Seitz, J.*, Volume 1, Utrecht, The Netherlands, 1990, Pg. 275 - 281
5. Ocean Pollution-Protection of the Seas, *van Dijk, R.*, Volume 1, Utrecht, The Netherlands, 1990, Pg. 283 - 296
6. The Basel Convention and its Enforcement, *Rummel-Bulska, I.*, Volume 1, Utrecht, The Netherlands, 1990, Pg. 313 - 320
7. The Example of the Chemical Weapons Convention, *Haar, B.T.*, Volume 1, Utrecht, The Netherlands, 1990, Pg. 321 - 334
8. The U.S. Environmental Protection Agency Efforts to Control Ocean Dumping, *Ciuppek, R., Davies, T.*, Volume 1, Utrecht, The Netherlands, 1990, Pg. 297 - 302



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## **ENFORCEMENT OF INTERNATIONAL ENVIRONMENTAL AGREEMENTS, E.G., HAZARDOUS WASTE AND OZONE DEPLETING SUBSTANCES**

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### **SUMMARY**

This article presents a vision and recommendations for increased cooperation in the enforcement of international environmental agreements, particularly those relating to Hazardous Waste and Ozone Depleting Substances.

This vision is partly derived from our own experiences in the Netherlands in recent years in cooperating in the enforcement of regulations in this area within Europe in particular. In addition, use has been made of previously presented results on the enforcement of other (non-environmental) international agreements.

A structure is presented for enforcement cooperation on these environmental regulations, and recommendations are made for its three component parts, namely the joint enforcement strategy, cooperation on its implementation, and the provision of information.

### **1 INTRODUCTION**

Enforcement is still one of the most relevant steps in the implementation of environmental policy. Particularly for international environmental agreements such as the Basle Convention (hazardous waste) and the Montreal Protocol (ozone depleting substances), where there are large-scale cross-border movements of the substances concerned, adequate enforcement still proves to be an essential precondition to achieve the desired compliance with these agreements.

The subject has already received a great deal of attention at the last four international conferences on environmental enforcement. The necessary steps in the right direction have since been taken, but at the same time it can also be noted that an adequate level of enforcement has not yet been achieved worldwide.

This article attempts to show what positive developments have been achieved and what weak links, as seen from a Dutch viewpoint, there still are in the enforcement system. Thus the question is how the effectiveness and efficiency of the enforcement of these environmental agreements can be further improved and particularly how the cooperation between the relevant official bodies in different countries can be reinforced to achieve this.

In order to answer this question, a comparison has also been made with enforcement in some other (non-environmental) international agreements. The article investigates what can be learned from these for the enforcement of the Basle Convention and the Montreal Protocol.

First of all, a structure is given for enforcement cooperation. This enforcement strategy is used throughout as a frame of reference for the present actual situation and the desired situation as regards the enforcement of regulations on hazardous waste and ozone depleting substances.

## **2 STRUCTURE FOR COOPERATION IN ENVIRONMENTAL LAW ENFORCEMENT**

In the Netherlands, where a large number of partners are involved in the enforcement of environmental legislation, the Ministers for Housing, Spatial Planning and the Environment, Transport, Public Works and Water Management, and Justice presented a structure to parliament last year for improving cooperation on environmental law enforcement<sup>1</sup>.

This structure, based on practical experiences in recent years, is made up of three component parts:

### **2.1 The joint enforcement strategy**

It is important that the enforcement partners determine a joint strategy. This relates for instance to the following matters:

- the enforcement objectives to be aimed at jointly (priorities, intended compliance behavior)
- the use made of the enforcement instruments (criteria for sanctions, administrative or criminal sanctions).

### **2.2 Structural cooperation on implementation**

It is very important to have a properly formalized structural international cooperation in the sphere of enforcement of environmental agreements. This is the only way to enforce rules on internationally linked issues such as hazardous waste and ozone depleting substances. Here the question of the different areas of competence regarding the various links in the chain (companies, transport) is also a major factor.

In addition, both qualitative aspects (such as knowledge, expertise) and quantitative aspects (such as the efficient deployment of government resources in enforcement) call for coordination.

This applies to the following areas:

- the joint programming
- the arrangements for the distribution of tasks among the partners
- the guidance and control of implementation
- the deployment of manpower (quality, quantity)
- the buildup of expertise (education, training courses).

### **2.3 Provision of information**

The third point in the structure is the provision of information and communication between the authorities involved in the enforcement. This is crucially important, particularly in the case of internationally linked issues as mentioned above. This applies to the following areas:

- the method of exchanging information
- the establishment of separate and joint information centres and databases

- arrangements for reporting on (joint or separate) implementation by the participating enforcement bodies.

### **3 THE ENFORCEMENT OF OTHER INTERNATIONAL (ENVIRONMENTAL) AGREEMENTS**

At the previous International Conferences on Environmental Enforcement and elsewhere reports have been presented on experiences with the enforcement of other international agreements. These may provide useful examples for enforcing environmental agreements such as the Basie Convention and the Montreal Protocol.

#### **3.1 The EU Directive on the notification of new substances**

Under EU Directive 92/32/EEC, new chemical substances must be registered with the government before they are marketed. The objective is to give Member States the possibility to assess the risks of the registered substance for human beings and the environment and where necessary to introduce measures to reduce this risk. It emerged that in practice there were major divergences in the way Member States were enforcing the Directive. For that reason, a first European enforcement project for the Notification of New Substances (NONS) was implemented in 1995 and 1996.<sup>2</sup>

As a first step, a manual was prepared in advance by an EU working party to support the enforcing authorities in their enforcement activities in this area. A second project within this framework (SENSE: Solid Enforcement of Substances in Europe) was carried out in 1996 and 1997 to further improve the European enforcement network.

Practically all the EU countries participated in both projects. The object of the projects was to share enforcement experiences and promote the exchange of information. This was achieved by carrying out coordinated inspections of a selected group of companies in the relevant countries. The inspections applied a standardized working method based on the manual, and joint training courses and educational programs were provided. The positive outcome of this project has been:

- the creation of a European enforcement network
- the exchange and building up of knowledge and experience
- the raising of the information level.

#### **3.2 The Chemical Weapons Convention<sup>3</sup>**

The central objective of the Chemical Weapons Convention is a total ban on the development, production, storage, transport and use of chemical weapons. The most important inspection objects under this agreement are chemical companies which produce chemical weapons or have the capacity to do so.

The following aspects of the approach taken to enforcement are instructive for our comparison:

- The inspections under this agreement are carried out by inspection teams from the Technical Secretariat of the CW convention.

- A verification regime has been developed to supervise compliance, and under it the chemical substances and companies are divided into three risk classes. For considerations of efficiency, the regular inspections focus on the highest-risk classes.
- In addition to the regular inspections, random inspections are also carried out on chemical companies which are not on the lists.
- All the inspections are carried out according to a predetermined inspection protocol (control procedures).
- The control procedures were first tested in practice, also for the purpose of strengthening the political will (by "showing that it works").
- It was pointed out that up till then it had been difficult for political reasons to reach a jointly (internationally) agreed sanctions policy, despite its necessity for an effective enforcement.

Accordingly another effective method of sanction in these cases is the publication of the results of the inspection, that is, the use of publicity and public opinion (making violations known publicly).

### 3.3. Ocean dumping<sup>4</sup>

The International Convention for the Prevention of Pollution from Ships (MARPOL) prohibits the dumping of hazardous substances, waste and other materials into the sea from ships. The problem in achieving compliance with this agreement is that it is very costly for ships to deliver their waste, sludge, washing water etc. to collection installations legally. There was a great temptation to carry out illegal dumping. Enforcement of MARPOL is running successfully in Western European waters thanks to the following approach:

- An agreement was reached between European countries making it possible to carry out regular inspections on ships regarding the provision made for waste prevention (as laid down in MARPOL); in other words, not just detecting illegal behavior after the event but preventative inspections too.
- Harmonized inspection procedures have been agreed in this context.
- A manual with technical and legal information has been produced to aid the detection and legal prosecution of violations.
- Ships suspected of violations are subject to intensive inspection on arrival in harbor, involving a considerable period of immobilization for the ship (and therefore high costs); inspections of this kind are then given wide publicity in the shipping press. This approach has a very preventive effect.

## 4 EXPERIENCE OF ENFORCEMENT WITH REGARD TO HAZARDOUS WASTE AND OZONE DEPLETING SUBSTANCES

In summary, the essence of the regulations on the import, export and transit of hazardous waste and on the trade in ozone depleting substances (CFCs) is that movement of these substances is permitted only with the written permission of the competent authorities in all the countries concerned (import country, export country, and for hazardous waste also

transit country). These notification documents must accompany the transport. This inspection regime with notifications from the participating countries is the cornerstone of the enforcement of the relevant international agreements.

Practical experiences (problem areas, developments) relating to the enforcement of these regulations, particularly in Europe, and the cooperation involved are presented from the Dutch viewpoint.

These experiences are illustrated with two examples from enforcement practice (see annexes 1 and 2) and are placed within the frame of reference of the enforcement structure as described in section 2.

#### 4.1 Problem areas

The enforcement of cross-border movements involving hazardous waste and CFCs is being made more difficult by a number of problem areas. These include:

##### 4.1.1 Enforcement strategy

There are still major differences in interpretation between the different countries on the definition of (hazardous) waste (the categorization of hazardous substances) and on the question of base materials or waste materials. Thus it may be the case that a particular waste material falls into different categories in different countries, with different notification documents. The secretariat of the Basle Convention does, however, play a facilitating role in response to questions regarding the lists with the various categories of waste. At the moment an OECD working party is also dealing with the operational issue of the classes of waste materials and base materials. As for the Montreal Protocol, it appears that here too the participating countries have implemented this agreement in different manners in their national regulations. What is more, the last EU country only included this agreement in its own legislation this year.

An international enforcement strategy, in the sense of harmonized agreements on the sanctions regime (dependent for instance on the nature of the violations), is still widely lacking. Sanctions under administrative or criminal law may be applied, but publication of the violation and other ways in which the violator can be affected commercially are also very effective. The agreements themselves certainly include an inspection regime, but make no provision for a regime of sanctions for violations. The individual countries have widely varying legislation for this purpose, involving both administrative and criminal law.

In the Netherlands itself, an enforcement strategy is used both for regulations on hazardous waste and for CFCs. For instance, an enforcement protocol has been drawn up for checks on compliance with the CFC Decree (the Dutch regulations based on the Montreal Protocol), with operational targets for the compliance by the relevant target groups.<sup>5</sup> For considerations of efficiency, this operational target is not automatically set at 100%. Certainly the target to be achieved for the target group "trade in CFCs" is 100%, but for instance it is set at 80% for users of refrigeration systems. Trade plays a crucial role in the chain and therefore has a high inspection priority. In addition, sanctions policy in the case of violations has been established, partly in consultation with the Public Prosecutions Department.

##### 4.1.2 Cooperation on implementation

International cooperation is essential in the case of cross-border movements of hazardous waste and CFCs. Particularly for the detection of illegalities, it has proved effective to look closely at the whole chain from the disposer or producer over the transport to the

processor. A problem area in this chain supervision, particularly with hazardous waste, is that different authorities (with different powers) are involved with the different links in the chain in the various countries. This calls for agreements, at least working agreements, on mutual arrangements and the controlling role; i.e. arrangements on the coordination of the enforcement, preferably in the form of joint chain supervisory activities planned in advance.

Checks on compliance are often still carried out on an ad hoc basis between the various competent bodies in the different countries, rather than as agreed programs aimed for instance at specific flows of waste materials. Particularly for the detection of illegalities, not only the supervisory bodies for transport should be involved, but also the authorities responsible for supervising and licensing the company disposing of the waste and the receiving company. They have an important role in drawing problems to the attention of the authority which is competent for the movement of waste and CFCs in countries where this is a different authority (as is the case in the Netherlands, where the provinces and municipalities are the competent authorities for environmental licensing of companies, whereas the Inspectorate for the Environment is responsible for the transport of waste and trade in CFCs).

Thus in "chain supervision" of this kind, not only inspection of the notification documents but also physical checks are called for (checks on transport, and for instance company visits with technical and administrative inspections). For the transport link in the chain, it is necessary to make working arrangements with the customs, police and port authorities.

In the Netherlands, specific arrangements in the form of voluntary agreements have been made for instance with customs on their deployment, education and training and the provision of information in respect of cross-border movements of hazardous waste and CFCs.

#### 4.1.3. Provision of information

Communication and the provision of information remains a problem area in the inspection of international transport chains and trade in waste and CFCs, where a large number of official bodies are involved. In the Netherlands, a permanent reporting centre for enforcement information on hazardous waste and CFCs has been set up by the Inspectorate for the Environment. Within the EU, each Member State has recorded the address and appropriate body for its reporting centre for hazardous waste with the European Commission (DG XI). This remains a problem area at the global level, as these details are not known for many countries or it is unclear what the body's actual status is. In practice, as far as the Netherlands is concerned its embassies in such countries perform a useful facilitating role in these cases. To provide the communication and information facilities necessary for adequate enforcement, it would be useful to have central reporting and coordination agencies in each country together with a global centre, all with a clearly defined status and role.

Such reporting centres should collect information on companies, material flows, processing options and capacities for hazardous waste and CFCs in the individual countries. Apart from the launching of ad hoc enforcement campaigns, other possible applications for such information would be carrying out analyses and detecting trends. The resulting directed enforcement programs can improve effectiveness (enforcement campaigns aimed at selected target groups or links in the transportation chain for hazardous waste and CFCs). The secretariats of the Basle Convention and the Montreal Protocol could fulfil this expanded function internationally.

## 4.2 Developments

Due to the fact that illegalities are still being discovered in the transport of hazardous waste, a number of pilot projects have been organized in the EU in recent years in the context of IMPEL (Implementation and Enforcement of Environmental Law). The IMPEL network was set up to harmonize the enforcement of European environmental legislation. These Transfrontier Shipment (TFS) projects were launched in the EU in 1992 with the aim of learning to cooperate despite differences in organization, culture and language to achieve a more permanent network.<sup>6</sup> All the EU Member States now participate in these TFS projects. The projects are implemented by monitoring selected waste flows, visiting companies and carrying out transport inspections in a coordinated manner. The TFS projects represent a considerable strengthening of the European enforcement network for hazardous waste. Cooperation with the police and customs has been organized and improved in many countries. The secretariat of the Basle Convention is also involved, so that the link to worldwide activities is in place.

Aside from the fact that there is a platform for structural consultation and coordination on hazardous waste in the EU context (TFS: Standing Committee 2, IMPEL's Cluster 3) the following results of the projects for implementation practice are worth mentioning:

- awareness of the powers, responsibilities and contact persons in the various countries has been obtained
- awareness of the differences in interpreting the regulations has been obtained
- a manual of joint procedures on international enforcement projects has been produced
- a database of information on specific waste flows and relevant companies has been set up
- a multi-year program for enforcement activities has been drawn up.

In this context, work will continue in 1998 on the following activities, among others:

- the development of a European enforcement strategy
- the development of an electronic data network for exchanging information, and
- the establishment of new projects such as checks on the transport of hazardous waste in harbors along the Rhine, Main and Danube.

Reports mainly from southern Europe on the illegal trade in CFCs intended for air conditioning systems have led to consultations with representatives from all EU Member States being launched in 1998 on the initiative of the European Commission (DG XI). Here a structural enforcement network is still at a very early stage. The TFS projects can serve as an example for a coordinated approach to the enforcement of the Montreal Protocol in this case.

## 5 RECOMMENDATIONS

### 5.1 General

A large number of partners in different countries are involved in the enforcement of international rules for hazardous waste and ozone depleting substances. The effectiveness and efficiency of the enforcement can be improved by creating more structure in the cooperation between the various authorities. The three components of the enforcement

structure can serve as a basis here. For this purpose, it is recommended that specific joint enforcement projects should be carried out, targeted for instance at specific chains of waste materials and/or specific target groups. Particularly in the initial phase, it is advisable to carry out these projects within existing international cooperative associations or networks (such as is done for instance in the context of IMPEL in Europe). The above-mentioned components of the enforcement structure can then take their place within the specific projects. The experiences of enforcement of other international agreements described in section 3 support this recommendation.

## 5.2 Enforcement strategy

It is recommended that a joint enforcement strategy should be set up:

- Formulate joint enforcement priorities and targets for such areas as the enforcement objects and the desired level of compliance. These can be determined from previously collected and analyzed enforcement information on material flows and companies.
- Formulate a unified approach to violations of regulations in the various countries concerned. As well as prosecution under administrative or criminal law, other creative sanctions such as the returning of exported waste or the publicizing of violations can also be effective, for environmental protection reasons too.
- Make agreements on the uniform interpretation of the regulations in the various countries.

## 5.3 Cooperation on implementation

It is recommended that the joint enforcement of international environmental agreements should be organized more systematically:

- Choose specific inspection projects which are relevant for all the countries involved.
- By preference, set up multi-year programs for enforcement activities.
- Do not focus efforts to detect illegalities solely on transport, but also check the companies in the chain (companies producing, disposing of, processing and/or using hazardous waste and CFCs) by carrying out technical and administrative inspections.
- Make working arrangements with the competent authorities in the chain in respect of their deployment and activities.
- Arrange for education and training for the relevant competent authorities in both the technical and legal/administrative areas.
- Set up harmonized inspection procedures (manual) and test them first in practice.

## 5.4 Information provision

The following steps are recommended to improve the collection and exchange of information still further:

- 
- Set up central reporting and information agencies in each country (and internationally for some information) for activities involving hazardous waste and CFCs.
  - As well as formal information such as the required notifications of trade in and export of hazardous waste and CFCs, enforcement information on material flows, companies and processing capacities in the individual countries should also be collected in these central reporting agencies.
  - In addition to its use in individual cases, this information can also be used to gain insight into material flows and trends for both enforcement and policy purposes.

#### ACKNOWLEDGMENTS

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#### ENDNOTES

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## **ANNEX 1**

### **CASE STUDY: ILLEGAL TRADE IN CFC-11**

#### **1 SITUATION**

In an administrative inspection of a chemical company early in 1998, the Inspectorate for the Environment established that 20 tonnes of CFC-11 had been supplied illegally to a company in eastern Europe in 1997. Under the CFC Decree (the Dutch statutory regulation under the Montreal Protocol) the manufacture and use of and trade in CFCs is prohibited, except for a number of special applications by the purchaser.

The company concerned in the east European country was using the CFC as a propellant in spray cans with medication for asthma sufferers (inhalers). Under the Montreal Protocol and the CFC Decree, such transactions have to be reported to and approved by the competent authorities in both the supplying and receiving countries.

Investigation showed that the Dutch company did not have approval from the Ministry of Housing, Spatial Planning and the Environment to manufacture or supply the CFC. No application for such approval had been submitted. If it had been, the Dutch Ministry would have had to present the application to the European Commission (DG XI). As the delivery was to a country outside the EU, the secretariat of the Montreal Protocol would also have been required to check the delivery against an agreed quota and give its assent. This application should also have been accompanied by a declaration of assent from the east European country showing that it had been checked there under the exception rule for a specific application. Further investigation brought to light the fact that the Dutch company did actually have a declaration of assent from the recipient country. This had previously been used for an application to manufacture and deliver the CFC which the Dutch company had submitted to the Dutch environmental ministry. However this previous application had been turned down by the UNEP Secretariat. Despite this previous refusal the delivery was still made subsequently. According to the company, it was made from old stocks; in other words, no more was produced. The company thought that this was permissible.

Despite the fact that the required documents were not present for the delivery from the Netherlands to the east European country, the batch was transported across the borders and processed. Criminal action is being taken against the Dutch company.

#### **2 LESSONS FOR THE ENFORCEMENT STRUCTURE**

##### **2.1 Enforcement strategy**

Formally, both companies have violated the Montreal Protocol. There are no agreements on the sanctions against the two companies between the two enforcement bodies or countries concerned.

##### **2.2 Cooperation on implementation**

Inspection of all three stages in the chain of manufacture/sale, transport and use/processing is necessary, particularly to detect illegalities:

- inspection by the competent authority in the country of manufacture and/or sale (administrative inspection)

- inspection in the receiving company, also covering the assessment of the "exception rule" for the use of CFCs (physical and administrative inspection)
- inspection at the borders regarding transport of CFCs (physical and administrative inspection); working agreements with customs are indispensable for this purpose.

### 2.3 Provision of information

It is essential to have exchange of information between the competent authorities of the supplier country and the recipient country, if necessary via a central reporting and information agency. For instance, information on the UNEP Secretariat's rejection of the application for delivery is relevant in this case.

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## **ANNEX 2**

### **CASE STUDY: ILLEGAL EXPORT OF HAZARDOUS WASTE**

#### **1 SITUATION**

In 1996, the Inspectorate for the Environment received a report from Dutch customs on eight containers of chemical products imported from the Far East and bound for Greece. When checking the paperwork, customs officers had noticed that the stated value (800 US dollars) was very low in comparison to the description of the cargo. This gave rise to the suspicion that it was waste, in which case the international regulations for shipping waste materials were not being complied with. Further investigation by the Inspectorate for the Environment showed that since 1992 containers with polluted chemicals had been transported mainly from the Far East and from North and South America to a Dutch company.

This company, which manufactures and sells chemicals, also cleaned containers which had been used for transporting products to customers. The residues from the cleaning were stored in separate containers which were transported to Greece for processing along with the containers from abroad.

A total of 380 tonnes of hazardous waste from the Netherlands was involved. Export activities of this kind fall under the Basle Convention and the EU Waste Shipment Regulation (EVOA). Under these regulations, reports from the competent authorities in the countries of origin, destination and transit should have been present. However there were no reports. The company considered that this was a secondary raw material and not a waste material.

In Greece, lead was reclaimed from the waste to be used there for weighting rope (for example for fishing nets). Contacts between the Dutch and Greek authorities showed that those concerned were completely unaware of the import of this waste and the activities of the company there. The companies involved had no licenses to process waste of this kind.

The Dutch company was prosecuted under criminal law, resulting in an agreed fine of NLG 250,000 and the obligation to take back 300 tonnes of metal waste from the Greek company for legal processing.

#### **2 LESSONS FOR THE ENFORCEMENT STRUCTURE**

##### **1 Enforcement strategy**

Through a transaction settlement with the Public Prosecution Department, the Dutch company was punished with a fine and also with the requirement to take back the waste. The latter is a very effective sanction, also from the point of view of environmental protection.

##### **2 Cooperation on implementation**

The function of the customs as eyes and ears is very important for the detection of illegalities in the transport of hazardous waste. Customs officers need to have sufficient expertise in this area to be able to recognize illegalities. Inspections carried out on the exporting or importing companies by the appropriate authority could have brought these illegal waste activities and transports to light much earlier.

##### **3 Provision of information**

It would be useful for such enforcement information on these worldwide waste flows and on the relevant companies in a number of countries, to be entered in a central database.

## WORKSHOP 5C ILLEGAL SHIPMENTS OF DANGEROUS CHEMICALS INCLUDING PESTICIDES

Much attention has been paid to enforcement of international environmental agreements and related domestic requirements governing the shipment of hazardous waste. Less attention has been paid to issues related to enforcement of requirements related to import and export of dangerous chemicals, including pesticides, that may not qualify as hazardous waste under international conventions or perhaps are mischaracterized so as not covered by those conventions. Such materials thought to be raw materials, recycled and product which are dangerous. Such may be the case with pesticides, with recycled scrap metal which contains radioactive substances, etc. Discussions can draw upon the technical support document prepared for the Fourth International Conference on "Transboundary Illegal Trade in Potentially Hazardous (Waste, Pesticides, Ozone Depleting) Substances" as well as several papers written for the Fourth International Conference Proceedings. While there may be some overlap with discussions held under workshop 5A, this workshop has a different focus.

Papers and workshop discussions will address the following issues:

- Kinds of controls that countries have adopted in regard to import and export of dangerous chemicals that are regulated outside of the framework of the Basel Convention.
- Status of compliance with such requirements and kinds of problems encountered in gaining compliance.
- How nations are ensuring they know of shipments with potential environmental hazards.
- Enforcement successes and failures and what factors contributed to success or failure.
- Identification of actions nations may be able to take to enhance the exchange of information and successful detection and enforcement against illegal shipments.

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1	Solid Enforcement of New Substances in Europe (SENSE), <i>Spelt, C.</i> .....	653
2.	See also The North American Agreement for Environmental Cooperation: A Regional Framework for Effective Environmental Enforcement, <i>Duncan, Linda F.</i> .....	707

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See related papers from other International Workshop and Conference Proceedings:

1. Pesticide Export and Import Enforcement Programs in the United States, *Hofmann, A. and Musgrove, C.*, Volume 1, Utrecht, The Netherlands, 1990, Pages 237 - 245



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## **SOLID ENFORCEMENT OF NEW SUBSTANCES IN EUROPE (SENSE)**

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### **SUMMARY**

The second European enforcement project on EU directives 92/32 EEC and 67/548 EEC (notification of new chemicals) was carried out in 1996 and 1997. In total about two thousand substances were checked at 100 companies all over Europe. Most common trespassing of the directives occurred in the field of Safety Data Sheets (lacking or incorrect over 30%), labeling, and classification. Various measures have been taken. Only 5% of the new chemicals were not notified which is an improvement compared to the first enforcement project which had a rate of 37%. However, incorrect labeling remains a problem.

### **1 INTRODUCTION**

The objective of the European Union's (EU) effort to harmonize notification procedures for new substances (EU directives 92/32/EEC and 67/548/EEC) is to obtain reliable data about new chemical substances before they are placed on the market (as a substance or in a preparation). This enables Member States to evaluate the associated risk of the notified substance on the public and the environment and, if necessary, to consider measures for risk reduction. In practice, there appeared to be substantial differences in the way the Directive was enforced in Member States. For this reason, a European enforcement project on the Notification of New Substances: NONS was carried out, starting in January 1995 and ending in June 1996. All Member States (except Luxembourg) and Norway participated in the project; Italy participated as an observer.

To further strengthen and expand the European enforcement network, a second enforcement project has been carried out, focusing again on Directive 92/32/EEC. The same countries participated as in NONS. The project, called SENSE (Solid Enforcement of New Substances in Europe) started in September 1996 and ended in December 1997.

### **2 OUTCOME: SUBSTANCES CHECKED**

In total, 1,905 substances were checked at 100 companies within the framework of the SENSE project. Of the total number of 1,905 substances checked, 1,805 (95%) could be identified. Finally, 100 substances (5%) could not be identified.

Of the 1,905 substances checked, 1,572 (83%) were existing and 233 (12%) were new and therefore were required to be notified. Only 11 of these 233 new substances (5%) were not notified.

The classification and labeling of dangerous substances was checked as well. Of the 1,805 substances checked and identified, 513 (28%) were on Annex 1. Of these 513 substances, 386 (75%) were correctly classified and 295 (58%) were correctly labeled.

For 1,252 of the 1,905 substances checked (66%), material safety data sheets were available. A check of these data sheets showed that 80% (1,004 of these 1,252) were correct.

There were 38 samples taken of substances checked within the framework of the SENSE Project. Only 14 of these samples have been analyzed; 12 of them (86%) are in correspondence with the information provided by the company.

### **3 OUTCOME: COMPANIES INSPECTED**

The SENSE Project found that 32 of the 100 companies inspected (32%) were not working according to Directive 92/32/EEC. The violations included:

- marketing new, not notified substances;
- marketing quantities of new, notified substances not according to the notification;
- no or incorrect, labeling and safety data sheets; and/or
- no or insufficient internal control.

More than 600 requests for information and 200 warnings were sent to the inspected companies. These mainly concerned the identification of chemical substances and the improvement of company records, classification and labeling, and safety data sheets. As a result of the follow up actions, the number of substances that could not be identified decreased by 569 (from 669 directly after the company inspection to 100 after follow up). This is 30% of all the 1,905 substances checked. In 8 cases, the production/import of a substance was forbidden. Two such selected substances were notified by a sole representative. Because more importers in more Member States were involved, these inspections gave the opportunity to gain experience with coordinated enforcement actions on a European scale. The inspections made clear that most of the companies inspected did not even know that they were covered by a sole representative.

### **4 CONCLUSIONS**

A comparison of the results of the SENSE project with those of the NONS project leads to the conclusion that the compliance with Directive 92/32/EEC by companies seems to have improved. Despite the apparent improvement, it can be concluded that compliance by companies should still further improve in order to further reduce the risks for public health and the environment. Besides, the SENSE project made clear that companies can still not always provide the controlling authorities with the data necessary to establish the chemical identity of substances.

However, most of the companies inspected were very cooperative and endorsed the project goals (as was the case in the NONS project).

Thanks to the experiences gained with company inspections in the NONS project, inspectors were more familiar with the enforcement of Directive 92/32/EEC. This resulted in a more efficient and effective way of working in the SENSE project.

The SENSE project has certainly consolidated and strengthened the existing European NONS network. New inspectors were trained and information was exchanged in a large number of bilateral contacts.

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## 5 RECOMMENDATIONS

### 5.1 To companies

The SENSE project made clear that, as in the NONS project, the identification of chemical substances is often difficult and time consuming. Safety of employees and customers would be greater and inspections could be more efficient and effective if substances were adequately labeled and if companies would have an adequate recording system, enabling them to identify what they supply. In particular, the classification and labeling of dyestuffs needs and is an area which is capable of improvement.

### 5.2 To Inspectorates

With regard to future inspections of companies a balance should be found between 'fast checks' and 'in-depth checks.' Inspections can be more efficient if inspectors are supported by technical facilities, such as a computerized version of European Inventory of Existing Chemical Substances/European List of New Chemical Substances that can be used 'on the site.'

Working on a project-basis proved to be successful. To emphasize the advantages and results of the project approach, a leaflet will be drafted and disseminated in which the NONS and SENSE experiences will be summarized (project approached, results and reasons for success).

There is a need for an 'on going' European enforcement structure for new substances. Collaboration with any initiatives on existing substances is considered to be fruitful. Some Member States consider that, ultimately, there should be a common network for all chemicals. However, in the meantime, to ensure a clear focus for the enforcement networks, separate identities should be retained for any new and existing substances. In view of the success of the NONS and SENSE projects, the existing substances network should be encouraged to adopt similar approaches.

The participants of the SENSE Project agreed to hold a further meeting of the network immediately after the first meeting of the existing substances Project. A proposal is now being prepared. This first meeting will probably take place in March 1998.

### 5.3 To the European Commission

One of the recommendations of the NONS project was that consideration be given to clarifying the need for a requirement in national legislation in future amendments to relevant EU Directives. This is important to allow legal steps to be taken against companies who do not provide data necessary to identify chemical substances. This recommendation still stands after the results of the SENSE project. The 'ongoing' European enforcement structure on new substances should be supported by the European Commission (directly and through IMPEL - The Implementation and Enforcement of Environmental Law network), thus ensuing a coordinated approach and enlarging the 'status' of the European network.

In view of its interest in the environmental aspects of this work, IMPEL will be informed of the outcome of the SENSE project and any further initiatives. It is also recommended that IMPEL consider adopting similar project approaches for any enforcement initiatives on environmental legislation that fall within their purview.



## WORKSHOP 5D INTERNATIONAL ENFORCEMENT COOPERATION TO PROTECT SHARED RESOURCES AND PREVENT TRANSBOUNDARY POLLUTION

Many national borders follow along the course of important natural water bodies or other natural features and resources. Efforts to protect these environments are either supported or undermined by the actions of other nations. Several examples around the world illustrate how countries have embarked upon major efforts to define common goals for the quality of these resources, to harmonize management and regulatory approaches. Consistent with each nation's sovereign rights a few of these efforts have followed through to actually coordinate enforcement priorities, sharing of information, cooperative inspections, and resolution of enforcement actions. This workshop will focus on the initiation and implementation of enforcement cooperation to protect shared resources and prevent transboundary pollution. Papers and workshop discussions will address the following issues:

- Identification of where cooperative enforcement has been undertaken.
- The context within which these activities were planned and carried out and what factors led to the commitment to undertake these kinds of activities, in other words, what the prerequisites were and whether there needs to be a broader program of common goals for the resource before enforcement cooperation could be considered.
- Options considered, reasons for the type of cooperation selected. Discussion should address issues considered such as confidentiality, rights to access, different environmental regulatory requirements and/or legal systems, resources, access to foreign courts.
- Results and effectiveness of cooperative enforcement. What is its promise and challenges that must be overcome for it to be more effective. What are its limitations.

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1.	Development of Cooperation Between Central Asian Countries in Solving Ecological Problems of the Aral Sea, <i>Mironenkov, A. P.</i> .....	659
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*See also Workshop 4J: Geographic or Resource-based Compliance and Enforcement Strategies*

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See related papers from other International Workshop and Conference Proceedings:

1. Enforcement and Compliance Programs in Central America, *Cordero, P.M.*, Volume 1, Chiang Mai, Thailand, 1996, Page 169 - 203
2. The Caribbean Environmental Programme as a Network for the Caribbean Region, *Szauer Umana, M.T.*, Volume 1, Oaxaca, Mexico, 1994, Page 331 - 333
3. The Great Lakes Enforcement Strategy: Using Enforcement Resources to Maximize Risk Reduction and Environmental Restoration in the Great Lakes Basin, *Peterson, L.*, Volume 1, Oaxaca, Mexico, 1994, Page 181 - 196
4. Ocean Pollution-Protection of the Seas, *van Dijk, R.*, Volume 1, Utrecht, The Netherlands, 1990, Page 283 - 296

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## **DEVELOPMENT OF COOPERATION BETWEEN CENTRAL ASIAN COUNTRIES IN SOLVING ECOLOGICAL PROBLEMS OF THE ARAL SEA**

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### **SUMMARY**

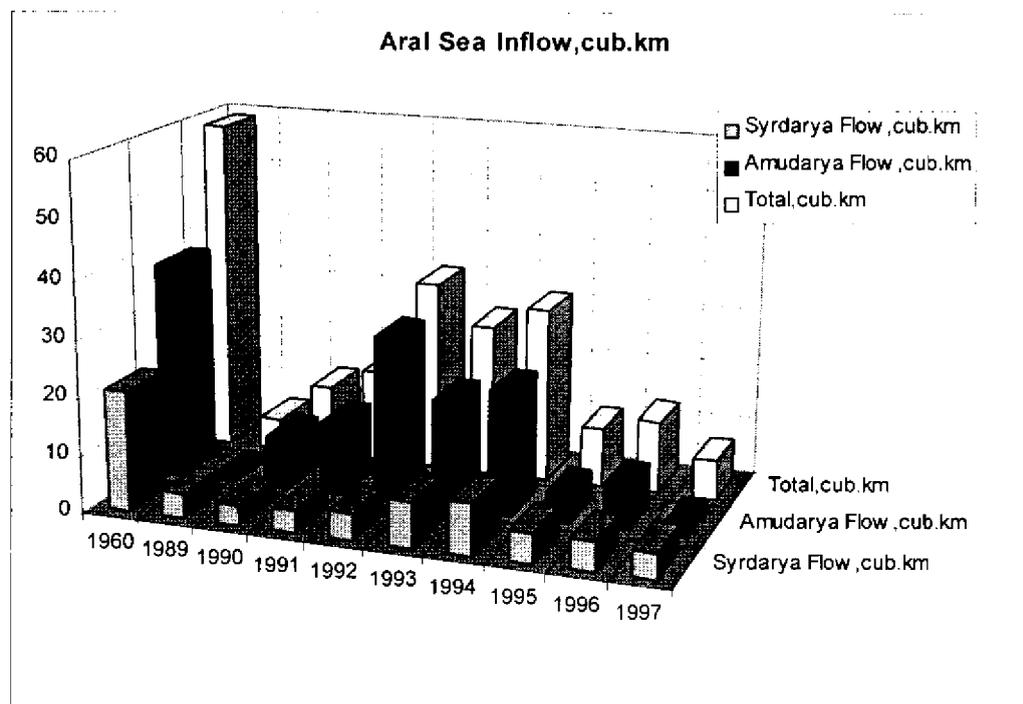
The paper describes the activities of the new independent states of Central Asia which emerged as a result of the collapse of the Soviet Union to address catastrophic consequences to the drainage of the Aral Sea. It also describes how ways were found to reconcile the positions and interests of the countries of the region in achieving a political consensus about the aims and methods of solving common problems of improvement of the ecology in the sea basin.

### **1 INTRODUCTION**

Before the sixties the Aral sea was the fourth largest reservoir of fresh water by size on the planet with the area of water surface of 66 thousand square meters. Its level was 53,4 m and the natural fluctuations of its level for many years were evaluated at the amplitude 1,5 – 2,0 m and were defined by the natural climate changes within its basin. The economic and political interests of the former Soviet Union and the practices of social policy to distribute labor between the republics of the Soviet Union required independent provision of cotton of the country. As a result a monocultural agricultural complex has developed in the Aral Sea basin on the basis of the irrigation of arable farming and agrarian orientation of the economy. Only for the period of 1970 through 1995, once the area of the irrigated land in the region has been increased from 4,6 up to 7,96 million hectares and the consumption of water for the irrigation from 68,4 cub. km. up to 110 cub. km. The average – multi -year drainage of the rivers of the basin of 104 cub. meters the consumption of water with the returning drainage, was 117 cub. km, (see figure 1) in addition to this 94 % of the water used for irrigation. At the same time the appropriate infrastructure to grow and refine the cotton was created. Up to 70 % of the Gross Domestic Product of Uzbekistan is tied up in the agricultural sector, the major part of which is cotton growing.

### **2 ECOLOGICAL CONSEQUENCES OF THE ECONOMIC POLICY**

The Aral sea has not become an exception from the common rules of development of ecological catastrophes. As in all other cases known in the world practice, it has evolved through all the stages. During its initial stage in the sixties-seventies it was thought to be an insignificant ecological transformation, but in the course of the expanding irrigated areas and of unreturnable water consumption, the size of the sea was becoming more and more threatened until its changed character was irreversible.



**Figure 1 Aral Sea Inflow, cub.km**

Already in the beginning of the eighties the tributary of the water into the Aral Sea from the rivers of Amudarya and Syrdarya had practically stopped. By the present time the sea has not received more than 1000 cub. km of water as a result of which its volume has decreased ( see figure 2 ) and the level has fallen by 18 m. (see figure 3). After the drainage of the Aral Sea its bottom has become exposed at the area of approximately 40 thousand sq. km (see figure 4,5), the surface with strongly salted soil is being intensively eroded by the winds. According to different evaluations, the total salt-dust removed from the dried sea bottom is 70-100 million tons annually. The shore line has moved back 60-80 km. The sea has lost its fish-economy, recreation and transport significance as well as smoothening effect on climate.

At the same time a rapid degradation and desertification process at the mouth ecosystems of Amudarya and Syrdarya rivers takes place. The social-economic conditions of the life of the population in the deltas of the rivers has been strained in connection with the worsening of the ecological situation and loss of the working places in the traditional areas of employment.

The cotton monopoly caused not only the break down of the ecological balance but also affected negatively the health of people. The pollution of the water sources with the fertilizers and with chemicals and their exhaustion has become one of the main reasons for the high level of illness amongst the population, especially in rural areas where 60 % of the citizens use water from the centralized sources of the water supply. Thus, the Aral crisis has become visible and sad evidence of the tragic consequences of the foolish economic policy

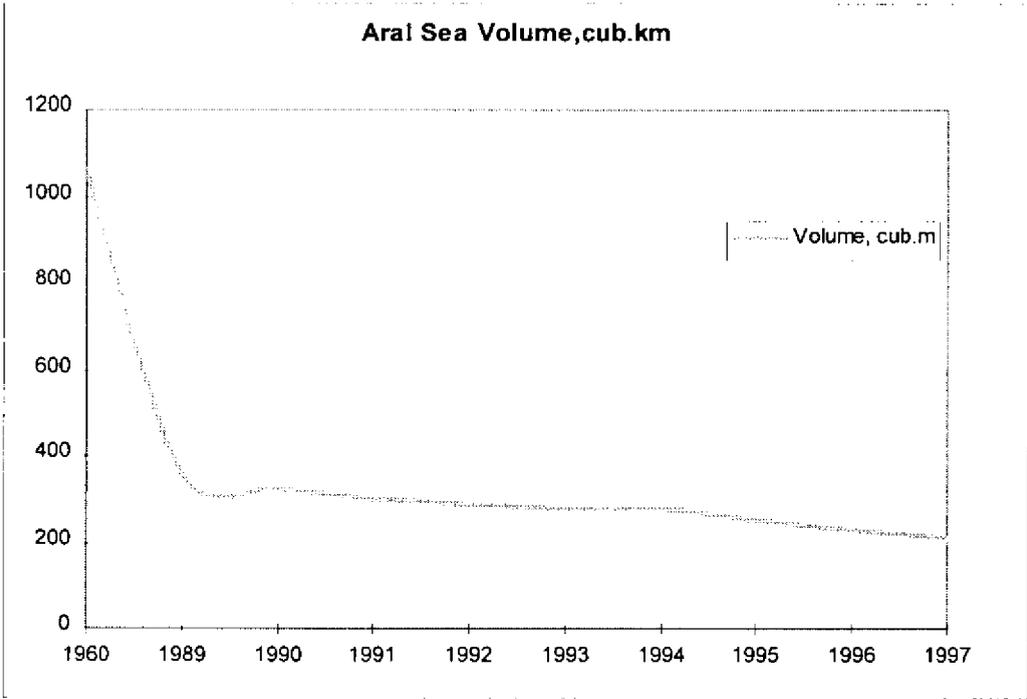


Figure 2

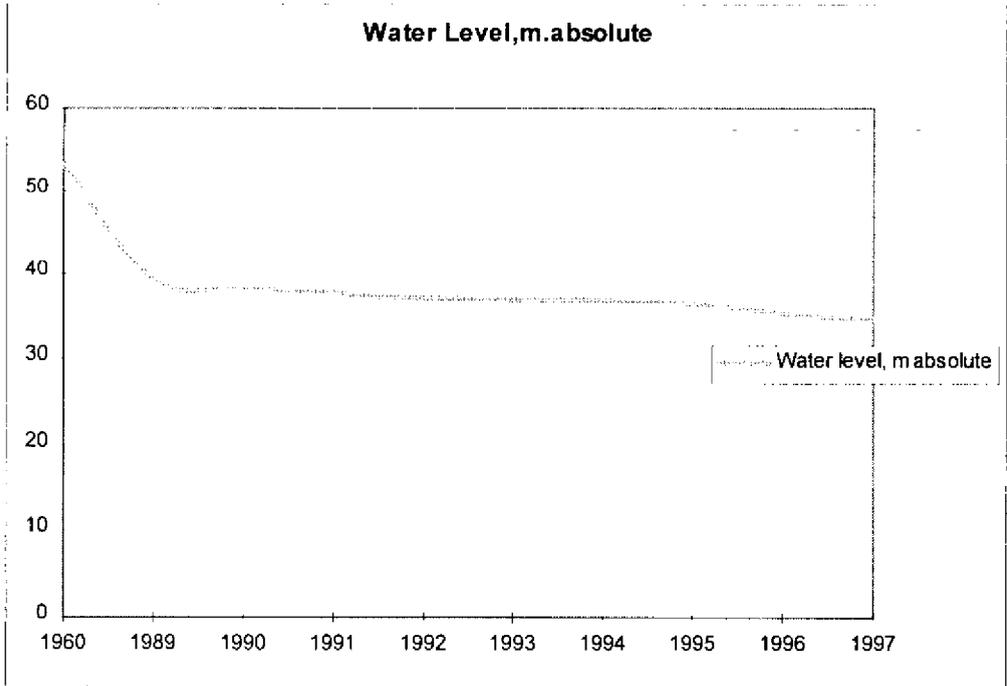
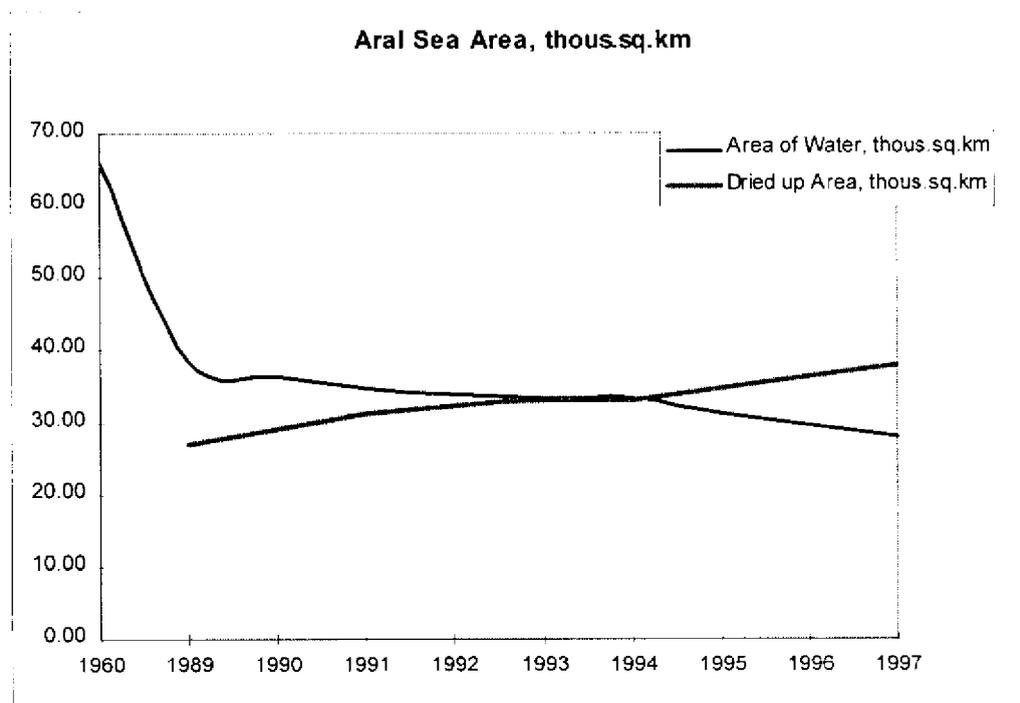


Figure 3



**Figure 4**

towards the environment and use of the natural resources. Its consequences have touched not only 35 million people of the Aral Sea basin, but also has an indirect influence on the neighboring countries.

### **3 ARAL CRISIS AND REGIONAL COOPERATION**

#### **3.1. First Steps**

First attempts to address the consequences of the Aral crisis and to restore the ecological balance in the Aral sea basin were undertaken at the end of the eighties. Large-scale creation of new irrigated lands has been prohibited in the region, and investments were assigned for the introduction of expensive water protection machinery and technologies.

Within the limits of the centralized planning economy each republic was subjected to strict limits for the use of water resources and received tasks for decreasing water consumption for irrigated arable farming. They have started wide-scale development projects and improving drinking water supply for the population.

However, in connection with the collapse of the Soviet Union the measures taken failed to bring the expected results. Besides this they had palliative character and were not directed to eliminate underlying reasons for the crisis which were hidden in the structural policy

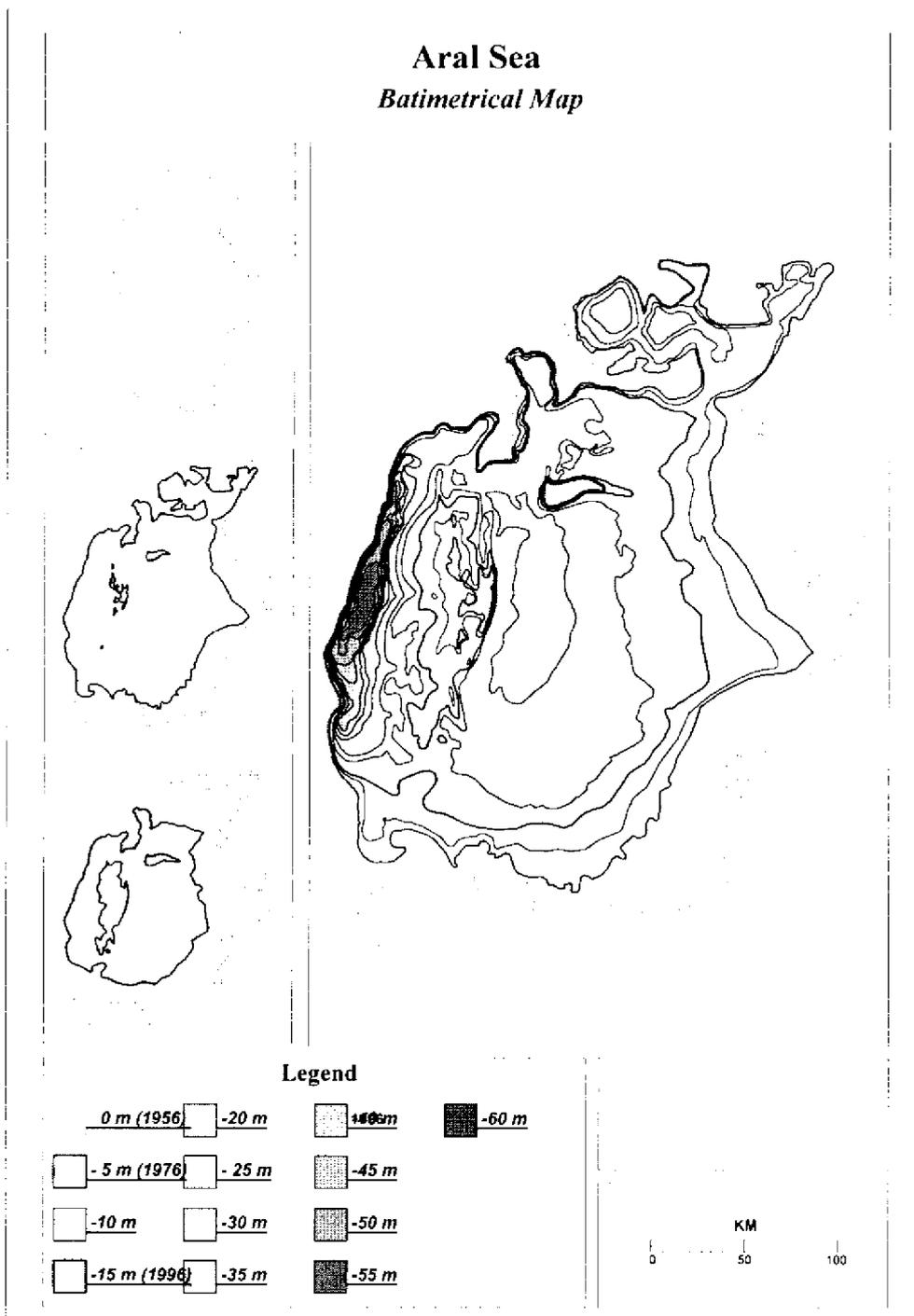


Figure 5

of the centralized state. Namely this policy required introduction of water-consuming monocultural agricultural economy and did not foresee any fundamental changes in the structure of the region economy.

### 3.2 Illusions and Reality

On the wave of increased public awareness and openness (glasnost) the scientists and the public actively discussed different options for solving the problem of restoring of the Aral sea:

- immediate harmonization of all the reservoirs and decreasing irrigated lands area ;
- transfer a number of drainages of the Siberian rivers in order to replenish the water resources of the Aral Sea basin ;
- replenishment of the sea by way of transfer of some water from the Caspian Sea or from the mouth of the Volga river ;
- widespread introduction of expensive and technically complicated drop irrigation systems.

### 3.3 Realization of the Problem in New Political Conditions

All projects mentioned above were far from the reality and , of course, were not realized. They did not take into consideration the existing demographic situation, structure of the economy or consequences of the decisions.

However in the course of the problem discussion process one indisputable conclusion has been reached – this problem can not be resolved immediately and with separate efforts by the countries of the region. The situation has been aggravated by the deep differences of the interests of the countries of the region after gaining independence. After the formation of 5 independent states in the Central Asia some problems with the concerted management of the resources of the trans-border rivers of the sea basin and setting the regime of their usage arose. It is quite clear that the interests of the Republic of Kirgizstan and the Republic of Tadjikistan which are located in the area of the rivers upper reaches in the zone of the water resources formation are far removed from the problem of the Aral sea while Uzbekistan, Kazakhstan and Turkmenistan are subjected to its direct influence. Besides this, there are water reservoirs of many years regulation in the territory of the first two countries which were built earlier for the interest of irrigation use, whereas the main irrigated areas are in the territory of the last three countries. This fact (circumstance) has created paradoxical approaches of the countries of the region to the regime of water reservoir usage.

Kirgizstan and Tadjikistan work out water supplies at the time of peak electricity consumption during the winter period and as a result the other countries feel the deficit of water at the time of watering of agricultural products. The accumulation of such contradictions served an additional stimulus for searching of the mutually accepted decisions to achieve the balance of political and economical interests, requirements of the environment perseverance.

### 3.4 Political Decisions

A meeting of the heads of the Central Asia countries in Kizeel-Ordee city (Kazakhstan) in March 1993 could be considered a first step toward organization of regional cooperation in resolving the problems of the Aral Sea. In the course of this meeting there was an Agreement

on joint actions for resolving the crisis of the Aral Sea. To realize this Agreement an Interstate Council the Aral Sea was set up along with an Aral Saving International Fund with their executing authorities.

### 3.5 From Politics to Practice

Practically at the same time the governments of the countries of the region have made a decision to set up an Interstate coordination for the water economy commission. The main function of which has become a definition of the limits of the water usage by the republics of the region from the transborder rivers. The Ministers of the Water Economy from all the countries of the region have become the members of this commission. The earlier principles of water division and proportions of the usage of the resources of the rivers were kept. The decisions taken by the commission are realized by the water economy associations "Amudarya" and "Syrdarya". The logical development of cooperation in the sphere of water economy activity is foreseen within the limits of the water-energy consortium which is being created now. The interests of the power industries will also be presented with the aim to achieve the balance of interests of the different branches of the economy in requirement for water.

During the second meeting of the heads of the countries in Nukus (Uzbekistan) in January 1994 a Concept for solving the Aral Sea problem and Aral Sea Region was approved and the Program of the Actual Actions for the Improvement of the ecological situation in the Aral Sea basin for the nearest 3-5 years was adopted taking into consideration the social-economical development of the region. For the first time in the history of the regional cooperation on problems of the economy and ecology have been united together by this decision, by its meaning it has become a first attempt to integrate the ecological priorities into the political and economical decisions on an intergovernmental level.

The program foresees resolving the following issues:

- effective use of water protection of the water resources in the sea basin;
- implementation common for the region, standardized systems of registration of water resources and their usage;
- improvement of the quality of water for the agricultural needs;
- working out events for the creation of the artificially irrigated ecological systems in the territory of the mouths of Amudarya and Syrdarya and on the plots of the dried bottom of the Aral Sea;
- realization of the interstate program "Clean water and health of the population: for the provision of the good-quality drinking water and improvement of the sanitary-epidemic situation;
- implementation of the automatic management system for the basins of Amudarya and Syrdarya rivers.

### 3.6 Transfer from the Regional to International Cooperation

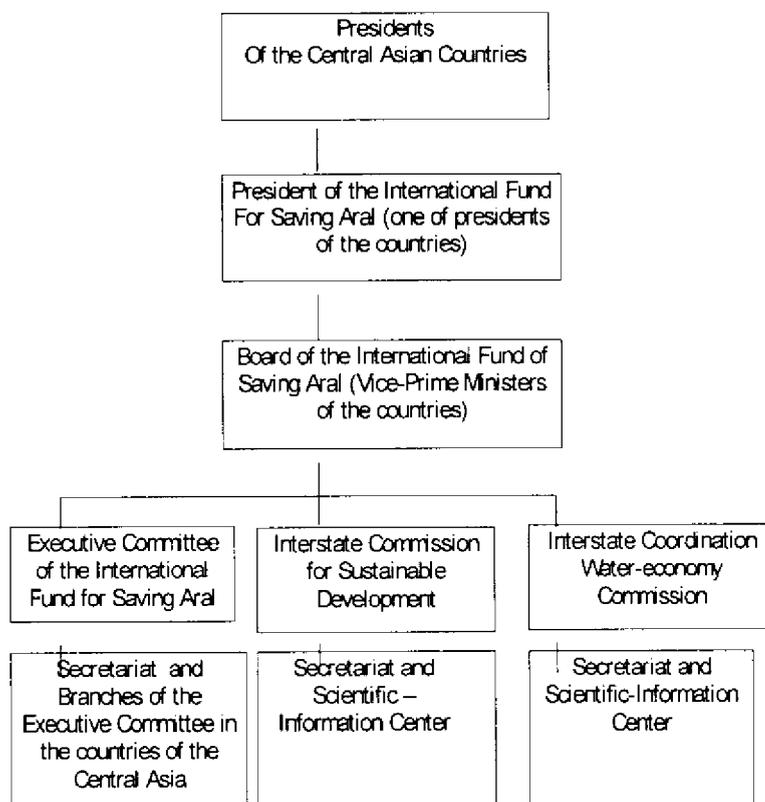
The big event and stimulus for the further development of the regional cooperation and has become an International Conference for Sustainable Development of the Aral Sea Basin under the auspices of UNDP which took place in 1995 in Nukus city. This meeting has meant a transfer to the new international level of cooperation and it was the first time public attention had been attracted to the problem of the Aral Sea.

An Nukus declaration was accepted by the heads of the Central Asia states based on the results of the conference confirmed the commitments of the countries to cooperate on the regional level on the basis of the mutual respect, neighborliness and resolve to continue working to overcome the consequences of the ecological crisis. There were measures defined for the development and realization of the strategy on sustainable development on the basis of full support of international conventions and treaties for these issues.

For these purposes it was recognized that it would be necessary to prepare an International Convention for Sustainable Development of the Aral Sea basin. The problems of the joint water use and unification of the ecological standards and the related legislation should be of priority significance in this Convention. At the same time there was taken a decision on development of the Interstate Commission for Sustainable Development.

These decisions created a normative basis for the organization and functioning of the interstate structures. However, with the development of cooperation the need for revisions has become evident. The Interstate council set up earlier for the problems of the Aral Sea and The International Fund for Saving Aral in fact duplicated each other, and in the course of their activities impeded the development of mutual programs, decreased the effectiveness of the use of state contributions for implementation and availability of donors.

Because of this at the regular meeting of the heads of the states in February 1997 in Alma-Ata, the Interstate Council was combined with The International Fund for Saving Aral. The President of Uzbekistan Mr. I. A. Karimov was elected as its President. Thus at the present time the following organization structure was formed for regional cooperation.



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#### **4 PERSPECTIVES ON COOPERATION**

Any new forms of organization for these joint activities within the region can not be final and flawless. We can not say that the development of regional cooperation for addressing the problems of the Aral Sea is going on smoothly but there is political consent, valuable experience of solving problems of multilateral and bilateral consent is being gained, making complicated decisions, diminishes conflicts, the potential of an interstate organization has been created. The mechanisms for cooperation are being worked out. In the near future the most important tasks for increasing of the effectiveness of regional cooperation are:

- Preparation and realization of the programs and main joint projects of regional significance
- Preparation of the international Convention for sustainable development in the Aral Sea basin and creation of the mechanisms for its realization;
- Organizations for interaction of international and national instruments for the achievement of mutual goals.
- Involving non-governmental and public organizations in regional cooperation

#### **5 CONCLUSION**

The Aral crisis by its scale has not only regional but also of global significance. The development of the crisis has been going over a generation and during the transition of the economies of the countries of the region, and we can not expect immediate restoration of the ecological balance in the basin of the Aral Sea. However, understanding of the profound and communal aspects of the problem, political consent and unification of the efforts of all the countries of the region lets us hope for the subsequent realization of planned practical actions and significant lessening of the ecological situation.



## **PROBLEMS OF TRANSBOUNDARY ENVIRONMENTAL IMPACT ASSESSMENT**

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### **SUMMARY**

Countries of the UN ECE (Eastern and Central Europe) region signed the Convention on Environmental Impact Assessment in a Transboundary Context in Espoo, Finland on February 25, 1991. The required number of ratifications was collected by the summer of 1997 putting the Convention into force. It is a very detailed piece of international regulation, but quite a few unresolved practical problems remain. Hungary is a small country with six similarly small-sized neighbors, which means that a significant percent of our projects have transboundary effects. This paper identifies some of the problems with implementation of the Convention. It provides an example of issues nations must face in addressing the growing number of environmental problems which cross national borders. First we discuss some general problems; later, we analyze ones emerging from the special procedures.

### **1 ACTIVITIES THAT ARE LIKELY TO CAUSE A SIGNIFICANT ADVERSE TRANSBOUNDARY IMPACT**

The term "activities that are likely to cause significant adverse transboundary impacts" is a central element of the Convention because it triggers the whole international negotiation process. A list of activities which will undergo the "Espoo Process," so named after the location of the drafting of the Convention, is contained in Appendix 1 of the Convention. However, the concept of distinguishing activities which are "likely to cause significant adverse transboundary impacts" is also part of the criteria for implementing the Convention. In the text of the Convention, the phrase seems to exercise a narrowing effect on the circle of activities listed in Appendix I of the Convention, i.e., the items of the list will undergo the Espoo Process only if they have significant adverse transboundary impact.

Appendix III of the Convention gives criteria to determine significant adverse impact, but it only refers to those cases in which Parties wish to extend the list of Appendix I. However, these criteria apply more generally, too. Appendix III proposes to consider the size of the activities ("proposed activities which are large for the type of the activity"), location ("proposed activities which are located in or close to an area of special environmental sensitivity or importance") and effects ("proposed activities with particularly complex and potentially adverse effects"). Interestingly enough Appendix III gives less weight to distance from the border, a criterion that was solely stressed in the Baaren meeting of the representatives of the Parties, especially dealing with this issue. The Baaren meeting concluded that size, sensitive areas and complexity are mostly subjective, while the distance from the border is the only trait which is entirely objective -- a number of kilometers. It is another problem altogether, that this "objective" measuring should be determined from type to type of the activities listed in Appendix I.

These criteria serve only in the initial step: parties entering the process. They can decide later on if, for a given case, the whole process of negotiations is unnecessary, even though the triggering criteria were met. Parties should consider at the beginning of the process whether the likely impacts are sufficiently significant to warrant continuation of the process over the longer term. Once they insist on the full negotiations in cases formally meeting the criteria but having less significant effects, the other Parties will tend to insist that the process be invoked for less significant impacts as well, so that the game brings loss of money, time and prestige for all of them.

### 1.1 Contact points

To begin the process, countries nominate a focal point. The issue of which body the countries will nominate as the focal point for exchanging information and leading the negotiations described in the Convention seems to be a clearly technical one; but it is interwoven with several deeper, more theoretical issues. The first is whether the process to carry out transboundary Environmental Impact Assessments (EIAs) is an administrative legal process or only an organizing task. If the activity takes place on our side, we are the "Party of Origin"; the decision about involving the other country, the "Affected Party," might easily be viewed merely as part of the administrative legal process dealing with fulfillment of EIA requirements such as those related to permitting of the given activity. But on the other hand, where we are the "Affected Party", there is no legal basis for an administrative law process: no client on Hungarian territory, no permit to be issued here, no substantial and procedural laws regulating the process to follow. This time the Affected Party is not an authority but rather a special client in an administrative case taking place on the other side of the border. Depending on the decision we make concerning the basic nature of the task, we will nominate an administrative body, a social institution or a hybrid contact point.

Deciding on the nature of the body to be granted the tasks of the contact point is not the only task: we must then decide which level of body should be chosen: local, regional or central-national. The subsidiarity principle would dictate the local or regional level: the local authority (or the local municipality) has first hand information about the concerned territories, population interests, and they are the closest to the border, too. They are also easy to reach and we can have the least bureaucracy when using this level. On the other hand, transboundary impact assessment cases might be very complicated, both professionally and politically. Besides, the contact point should have enough manpower to handle the information exchange and negotiation tasks quickly and effectively. Thirdly, if there is a joint body created by the Parties, as the Convention itself suggests, only the national level authorities will suit the body's needs. These viewpoints dictate the other solution: to grant it to the national level.

### 1.2 Sovereignty issues

The free flow of information to and from the country within which an activity is being undertaken and which may be adversely affected, is essential for an effective EIA process. Because of sovereignty issues, however, this information exchange may depend upon other parties to run smoothly.

- Theoretically, all the data concerning the territory and population of the Affected Party come from its contact point, as stipulated in Article 3, Point 6 of the Convention: "*An Affected Party shall at the request of the Party of Origin, provide the latter with reasonably obtainable information relating to the potentially*

*affected environment under the jurisdiction of the Affected Party, where such information is necessary for the preparation of the environmental impact assessment documentation. The information shall be furnished promptly and, as appropriate, through a joint body where one exists.*" A strong motivation for providing this information stems from the fact that, although the Affected Party cannot be forced to produce the required information, once failing to do so, it will have less basis for argument during the negotiations. In addition, although the authorities of the Party of Origin cannot undertake any official steps to control the information coming from the other side of the border, the investor himself may do so because according to international private law he or she is fully entitled to make a contract with a consulting firm or with an expert in the territory of the Affected Party. In this way the investor can gain any important data for its analysis. Naturally, this kind of proper collection of data first will serve the interests of the investor, who is preparing for negotiations with the Affected Party, and is striving to prove that the environmental impacts on its territory are bearable and/or might be mitigated and controlled effectively.

- In the other direction, it is also important for the Affected Party to find information from the territory of the Party of Origin. This first might be necessary when there is suspicion that there is an activity planned, initiated or even started, that would significantly affect our country's territory and population. This situation is, partly, handled by Article 3, Paragraph 7: "When a Party considers that it would be affected by a significant adverse transboundary impact of a proposed activity listed in Appendix I, and when no notification has taken place in accordance with paragraph 1 of this Article, the concerned Parties shall, at the request of the Affected Party, exchange sufficient information for the purposes of holding discussions on whether there is likely to be a significant adverse transboundary impact." If the dispute cannot be settled this way, parties will use an inquiry commission in accordance with Appendix IV or will choose another method to meet the same ends.
- What is not handled satisfactorily by the Convention is how the countries get into the position to initiate the aforementioned dispute, i.e., how they gain the basic information about the plans of activities on the territory of the Party of Origin. Fortunately, publicity, media, NGO's and environmental professionals of the countries are in a continuous, lively exchange of information, which makes it virtually impossible to keep a large investment plan a secret. In addition, it is not prohibited by international law, nor even can it be deemed as an unfriendly gesture towards neighbors, to scan the proper journals or to make cooperation agreements with our environmental NGOs operating close to the borders, asking them to whistleblow once there are signs of infringement of the Convention. The best solution is, however, when the Parties have a common standing body of their contact points which is empowered to search for "suspect" projects on a regular basis among the permitting authorities of both sides.

### 1.3 Cost bearing

In the transboundary environmental impact assessment cases there are several expensive procedural steps, on top of those generally emerging at solely the national level EIA. These include: a) translation of information concerning the impact area on the territory of the

Affected Party; b) translation of the short summary of the EIS (at least); c) translation of the comments on EIS; d) costs of participation of the public of the Affected Party in the public hearing(s) at the Party of Origin (travel, accommodation, interpretation); and d) negotiation costs, post project analysis costs, etc.

There are several principles that can be applied to help establish which parties should bear these costs:

- Follow direct or indirect references in the Convention. This principle should have priority. Unfortunately, there are no direct references to cost bearing in the Convention, although there are some which might be interpreted as indirect. For example, in Article 3, Paragraph 6, it seems quite reasonable to assume that Convention intends for the Affected Party to pay for the cost of collecting the reasonably obtainable information relating to the potentially affected environment. Article 4, Paragraph 2 hints at a common bearing of the expenses in saying: "the concerned parties shall arrange for distribution of the documentation."
- "Polluter Pays" principle. This general principle of environmental law seems also to be applicable in the special case of transboundary EIA. Some procedural steps, like post project analysis seem especially applicable.
- Cost control principle. It may be vital for the long term practical survival of the legal instrument of transboundary EIA that clients, municipalities or the authorities themselves should be sensitive to the cost implication of their actions. They should not dictate or create expensive procedural steps for the other party. For instance, if the comments made by the Affected Party must be translated by the Party of Origin, they should be careful not to produce a rather voluminous package of comments to be translated.
- Good neighbor principle. Some smaller amounts may not always have to be paid according to the other substantial principles, because it might easily happen that one Party wants to make positive gestures towards the other one.
- Unbalanced expenses principle. We have to consider that some tasks entail less expenses for one Party than for the other. Some translations, for instance, could be cheaper for one than for the other. It should be kept in mind that these comparative advantages should equalize each other in long run.
- "The investor's interest" principle. We just mentioned that in some cases it is the vested interest of the investor to collect data regarding the territory of the Affected Party. This collection of information is not mandatory, but once the investor volunteers to do it - serving his other own interests - it is natural that the expenses will be his/hers too.
- Constitutional, human rights principles. In some cases the use of the above principles would result in an unbalanced situation for the participants involved in the process. If so, then the general principles of equality of persons or the prohibition of differentiation according to citizenship or other bases will lead to different rules of cost-bearing.
- "Causa nocet domino." Finally, if no other principle works, in the last resort this Roman law principle must be activated: if none else can be charged, the person who actually spent the money or had other economic expenses shall him/herself bear the cost.

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## 2 PROBLEMS FROM THE VIEWPOINTS OF THE PARTY OF ORIGIN, WHERE THE ACTIVITY IS TAKING PLACE

### 2.1 Timing of notification of an Affected Party

Article 3, Paragraph 1 uses the term "*no later than when informing its own public about that proposed activity.*" However, in some EIA systems there is no fixed date when the public has to be informed about the project. Another time factor is that the notification itself has to be prepared properly, which itself takes considerable time. In addition, the entire process has to be retailored once the Affected Party wishes to participate. Taking all of these into account, it seems unavoidable to send (initiate) the notification immediately after the possible adverse significant transboundary effects turn up in the case.

### 2.2 The content of the notification

On the meeting of the undersignees of the Convention in Geneva in 1996, the Canadian delegation presented a detailed list of all possible elements of the notification. This list is based upon a survey of the legal practice of all Parties to the Convention, which means that no country uses the full list. The full list contains: a) a description of the activity (the investor, the technology, the aim and reasons of the activity, location, expected impacts, used materials, energy, emissions, waste, transboundary impacts, mitigation measures, timing, maps); b) the contact point and the decisive authorities; c) EIA process (timing, right of the clients, possible decisions, legal remedies, public participation); d) deadline for the response (between 10 days and 4 months), request of information on the impact area on the territory of the Affected Party; and e) deadline for comments.

### 2.3 The problem of a late start of the international EIA process

A late start may take place because of two reasons. The first is when no notification occurred and the Affected Party only later realizes that the given activity might have significant adverse transboundary impacts. In such cases, Article 3, Paragraph 7 applies, and the inquiry process may result in a decision that the international EIA process should take place. In such cases, the ongoing domestic EIA process should be suspended. If the case is already in the court phase, the court decision should consider the faulty decision of the administrative authority to fail to involve the Affected Party. In any later phase the EIA process would be restarted. If at the time the notification was sent, the Affected Party had decided not to participate but later on it changed its view and expressed its desire to participate. In such case the Article 3, Paragraph 7 inquiry process does not apply and all the possible consequences (suspension of the process, negative court decision and EIA process restart) are optional to the authorities.

### 2.4 Consultations

The Convention does not regulate the time deadline for the Affected Party to send its comments on the EIS. This seemingly allows the Party of Origin to tailor the deadline to its own procedural timing, so that it may request the Affected Party to send the comments before the EIA process is scheduled to finish according to the law of the Party of Origin.

It is also open in the Convention who shall initiate the consultations. However, it seems to be a logical interpretation that the Party of Origin should not be forced to initiate the consultations, because they serve first of all the interests of the Affected Party. There might be cases, however, where the Party of Origin also considers the consultations important.

Another important question is the composition of delegations to the consultations. It is to be avoided to refer to the authorities in the delegation as "representatives to the investor." Quite the opposite: it would be more realistic that the authorities of the two Parties (and the NGOs) speak on the same terms, rather than with the investor. It is another issue whether the investor should be obliged to participate in the consultations, although naturally it is in his/her interest.

## 2.5 Legal remedies for the affected party

Although the Convention only states that "*due account is taken of the outcome of the consultations,*" it should mean that the reasoning of the decision enlists the comments and all the answers of the authorities to them. Furthermore, we do not consider it unrealistic that, on a mutual basis, Parties allow each other (to each other's interested legal and natural persons) the right of appeal or other legal remedies. This in some respects ensues from an interpretation of Article 2, Par. 6: "*The Party of Origin shall provide, in accordance with the provisions of this Convention, an opportunity to the public in the areas likely to be affected to participate in relevant environmental impact assessment procedures regarding proposed activities and shall ensure that the opportunity provided to the public of the Affected Party is equivalent to that provided to the public of the Party of Origin.*"

## 3 PROBLEMS FROM THE VIEWPOINTS OF THE AFFECTED PARTY

### 3.1 Sending information about the affected area

Article 3, Paragraph 6 speaks about "*reasonably obtainable information*" implying that the Party of Origin might not be obliged to conduct research, measurement or other expensive steps. On the other hand, it could be in the interests of the Party of Origin, or, more specifically, in the interests of the concerned municipalities. For this reason, the Affected Party contact point should refer all the notifications to the concerned municipalities or, in special cases, to those economic groups who might be interested in transboundary environmental impacts (e.g., using the border river for their purposes and a certain derogation of its quality would harm their economic activity).

It is a different issue that the Affected Party is slightly more obligated to collect the relevant information about the affected area in those cases in which it initiated the inquiry process according to Article 3, paragraph 7. The text of the Convention states that "*the Parties shall exchange sufficient information for the purposes of holding discussions on whether there is likely to be a significant adverse transboundary impact*" seems to urge both Parties to produce substantial information about the impacts and about the affected areas.

### 3.2 Comments on the EIS

According to Article 4, Paragraph 2, the Party of Origin shall send the whole EIS documentation. This does not mean, naturally, that the Affected Party is obliged to translate the whole material, but it does not mean either that the Affected Party should do nothing. This

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can be seen from Article 3. Paragraph 8 which contains obligations to both Parties: "*The concerned Parties shall ensure that the public of the affected Party in the areas likely to be affected be informed of, and be provided with possibilities for making comments or objections on the proposed activity,...*"

Organizing the commenting process on the side of the Affected Party raises a national level constitutional issue in many countries: it is a widespread constitutional principle that foreign speaking clients must not suffer any harm from the fact that they do not speak the language of the administrative process, it is overlooked that the native citizens, who naturally speak the language of the administrative process, must not suffer harm from the fact that a part of the file is written in a foreign language. This loophole in our laws should be solved soon, as the cases with international elements become more frequent.

#### **4 CONCLUSIONS**

Many times it is said that environmental problems do not stop at the borders of the countries, yet international law and international private law is not well enough prepared to solve transboundary environmental issues. Many more multilateral and bilateral agreements are needed in this field until we reach a proper understanding of all the theoretical and practical problems of cooperation between two or more separate and different legal systems in solving environmental matters. The legal institution of transboundary environmental impact assessment and the Espoo Convention itself are good examples of how countries have tried to overcome this. These show a typical trait: we are at the beginning of a long development process in which the problems can already be seen, but life might still - and almost surely will - bring us a lot of surprises.



## WORKSHOP 5E COLLABORATIVE TARGETING OF ENFORCEMENT ON AN INTERNATIONAL SCALE

The purpose of targeting enforcement resources, such as inspection and enforcement response, is to ensure that scarce resources are employed for the greatest impact on short term compliance, longer term compliance through deterrence, and environmental results. This workshop will address the potential opportunities for international targeting schemes. Papers and workshop discussions will address the following issues:

- The potential purpose(s) of targeting enforcement internationally on particular economic sectors, pollutants, geographic areas, or types of violations.
- The advantages and disadvantages of international targeting schemes.
- For what types of activities and violations such schemes might be useful and what is the expected impact.
- How such targeting schemes might be developed.
  - Who should be involved;
  - What information would be needed;
  - How decisions might be made, consensus, presentation of analysis, etc.; and
  - How targeting can be communicated.
- What follow up activities should result from targeting and whether they should be tracked and communicated in some fashion.
- If this is a good idea, what forum should be used or developed to pilot the concept.

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1. The Role of National and Transnational Corporations in The African Mining Sector and the Environment - The Case of Non-Compliance and Enforcement, *Shannon, E. H* ..... 679
  2. Compliance and Enforcement of International Agreed Regulations in the International Shipping industry, *Ten Hoopen, Henk G. H. (MSc)* ..... 693

*See also Workshop 5A: Illegal Transboundary Shipment of (Hazardous) Waste*

*See also Workshop 5B: Compliance with International Environmental Agreements: Focusing on Montreal Protocol and CITES: Illegal Shipment of CFC and Other Ozone Depleting Substances and Illegal Trade in Endangered Species*

See related papers from other International Workshop and Conference Proceedings:

1. Emerging Networks of Environmental Enforcement and Compliance Cooperation in North America and the Western Hemisphere, *Herman, S.A. and Sperling, L.I.*, Volume 1, Chiang Mai, Thailand, 1996, Pages 139 - 156
2. A United States Perspective on Transboundary Investigations: Recent Cases and Essential Strategies for Interdiction of International Environmental Crime, *Devaney, E.E. and Penders, M.J.*, Volume 2, Chiang Mai, Thailand, 1996, Pages 662 - 672
3. The Caribbean Environmental Programme as a Network for the Caribbean Region, *Szauer Umana M.T.*, Volume 1, Oaxaca, Mexico, 1994, Pages 331 - 333
4. North American Trading Partners: Canada, United States, and Mexico as an Enforcement Network, *Fulton, S.C. and Sperling, L.I.*, Volume 1, Oaxaca, Mexico, 1994, Pages 343 - 363
5. The Enforcement Project on Transboundary Movements of Hazardous Waste Within Europe, *Kesselaar, H. and de Krom, R.*, Volume 1, Oaxaca, Mexico, 1994, Pages 365 - 371

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## THE ROLE OF NATIONAL AND TRANSNATIONAL CORPORATIONS IN THE AFRICAN MINING SECTOR AND THE ENVIRONMENT - THE CASE OF NONCOMPLIANCE AND ENFORCEMENT

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### 1 INTRODUCTION

Mining has and continues to play a major role in the economic sector of most developing countries, particularly Africa. Today, other than the agricultural sector, large and small scale mining still play a significant role in the overall socio-economic and physical infra-structural development of these countries.

The activities of transnational corporations have had major impacts on the economies and levels of employment of most African countries, through technology transfer and mining ventures. However, environmental damages have thus far been generally overlooked. This need to address environmental damages is receiving a tremendous amount of attention in light of attempts to include environmental considerations into every aspect of the socio-economic development plans and policies in African developing countries.

In view of the fact that transnational and national corporations will continue to play key roles in the development of developing countries, it is of primary importance that developing countries apply sufficient attention to the environmental aspects of mining activities undertaken by these Corporations.

Developing countries must improve and protect the quality of their environment (air, water, waste disposal, etc.) through appropriate legislation and effective monitoring of mining operations by government staff and technicians. These countries must also devote a fair share of their resources to the development of trained staff and skilled workers.

Because of the high level of expertise in environmental technology, which transnational corporations possess, combined with their managerial and financial resources, they must assist in the improvement of the technological skills of technicians of developing countries in environmental protection and monitoring.

transnational corporations must come to realize that environmental regulations must not only become a permanent part of the business climate of industrialized countries, but must also be a part of developing countries and that in the long run cooperation is more productive than opposition

As one of the studies of the United Nations Commission on transnational corporations points out: *"it is important to emphasize the limits of unilateral action in minimizing the detrimental effects on the health and environment of host countries."* In other words, cooperative efforts or bilateral efforts by both transnational corporations and governments of developing countries are absolutely necessary for the effectiveness of safeguarding the environment. Although some transnational corporations behave responsibly in one host country, they may perform the opposite in the other. In view of the above, certain measures may have to be taken at both the regional and international levels to control the behavior of transnational corporations.

First, mandatory environmental codes should be set by governments to control the behavior of these Corporations; second, funding agencies such as the World Bank, the African Development Bank and other lending institutions should link environmental considerations to the conditions for disbursing funds to the recipient; thirdly, the developing countries in cooperation with the appropriate UN agencies should develop a regional resource data bank on the environment, conduct periodic reviews of environmental legislation and assist government with an analysis of land use planning; and finally, host governments must recognize the major role of these Corporations and spare no moment in harnessing cooperation with them in the improvement of the environment.

In the developing countries the "polluter pays principle" must be employed for environmental damages. Under this principle producers of waste are liable to third parties without proof of fault for damage caused by their waste, until the waste is consigned to a third party licensed to dispose of it.

In order to make sure that the environment is secured environmental standards must be put into place. These standards must include general guidelines for the preparation of an environmental impact assessment; and detailed guidelines for the preparation of an environmental action plan or management plan for existing mines.

Mining of minerals in developing countries particularly African developing countries has often produced adverse impacts during the exploitation and processing phases. Attempts to control these impacts are now one of the most serious concerns of these countries. Despite many attempts the human and environmental costs of operations have often been great. Many developing countries are now paying the costs of tackling the environmental and health problems caused by adverse mining activities.

For new or expanded mining, however, the long experience of the impacts of mining and utilization can be drawn out to predict future impacts. Alternative development strategies, control and mitigation methods can then be evaluated in terms of their suitability and effectiveness in minimizing perceived impacts. Decisions can then be taken by policy makers or government and corporations based on these evaluations.

It is therefore, very important that environmental impact assessment be undertaken prior to the actual mining projects in developing countries and in particular, African developing countries. Any investor wishing to explore and eventually exploit mineral resources in developing countries should first provide a management plan to the State authorities for approval before mining operation commences. This will help to eliminate, or reduce adverse environmental impacts to acceptable levels.

## **2 TRANSNATIONAL CORPORATIONS AND THE ENVIRONMENT**

Interest about the nature of transnational Corporations activities in developing African countries does not come about because of their great involvement in the economic activities of these countries, but because transnational Corporations are involved in the most sensitive environmental sectors; mineral resources, agricultural development and the manufacturing of chemicals.

For example, in Liberia, all of the four former Iron Ore Mining Companies; Bong Mining Company, Liberian Mining Company, LAMCO Joint Venture Co., and National Iron Ore Company, were all operated by transnational corporations. These Corporations deposited their tailing directly into rivers, lakes and creeks. Environmental pollution has taken its course; brick-red coloration of the rivers as a result of iron oxide suspension has occurred, along with

massive destruction of flora and fauna. In the case of Ghana, another developing West African Nation, major environmental degradation has occurred as a result of dumping untreated wastes into adjacent waters. At the Southern Cross Gold Mines of Ghana, there is the presence of cyanide in the overflow and detoxification is entirely manual and not effective.

At the Ashanti Goldfields Corporation of Obuasi, Ghana, gaseous emissions fallout from the stack, dust dispersion, tailings, spillage, tailing dam decant liquor and various liquid effluents have over a long period of time produced widespread contamination in the Obuasi area and in the down river drainage. The effects of sulphur dioxide ( $\text{SO}_2$ ) and arsenic trioxide ( $\text{AsO}_3$ ) on vegetation are severe near the stack and at the higher elevations along the prevailing downwind directions.

Open pit operations in Ghana, Sierra Leone, Liberia and Guinea have caused extreme sedimentation in creek beds and high-suspended sediment concentrations in down stream drainages rendering the water of several villages and towns unfit for drinking and other domestic uses. River dredging as is practised in these countries has rendered the rivers highly turbid and unfit as a source of drinking water. In instances where gold recovery aboard the dredges is by mercury amalgamation, the dredges have been reported to have lost a large amount of mercury to adjacent rivers. Oil and grease are also lost to the rivers. In the Dunkwa Goldfields Limited, Ghana, it was reported that in November of 1990 the dredges were reportedly losing about 40 kilograms of mercury per month.

In Sierra Leone, the mining of bauxite, rutile, diamonds and gold by national and transnational Corporations have caused severe damage to the land. The large pits and trenches left as a result of small and large-scale mining have not been reclaimed and reforested.

The presence of transnational Corporations in environmentally sensitive industries, like mining in developing countries, particularly Africa, has drawn attention to their operations. It has also stirred the curiosity of many local environmental organizations already critical of transnational Corporation operations. These Corporations in the past have manipulated prices, sometimes impeding the development of local industries, and drained the host country of its meager foreign exchange. Most importantly, their poor mining practices have had an adverse effect on the environment. Most of these criticisms are based on evidence regarding the activities of transnational Corporations.

Sierra Leone and Guinea produce bauxite ore, but no aluminum products are manufactured. On the other hand, although Ghana manufactures aluminum products, most of its bauxite is exported. The same argument is given by the transnational Corporations as was given for not manufacturing finished products from Liberia's iron ore and raw rubber latex; the non-profitability of manufacturing aluminum products on the local market. This scenario applies to almost all developing African countries and a large percentage of other developing countries within the third world.

### **3 THE LACK OF COMPLIANCE AND ENFORCEMENT**

transnational corporations maintain different environmental standards and practices in their home and host countries. In transnational corporations home countries, there are strict environmental regulations and legislation which must be adhered to, otherwise they face serious penalties. For example, in the United States there are various environmental regulatory statutes like the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the Comprehensive Environmental Response Act, the Compensation and Liability Act and

many other secondary statutes which have been enacted to safeguard the environment for now and the future. These Acts were formulated by the Federal Government so as to create and maintain favorable conditions in the United States under which man and nature can coexist in productive harmony and fulfil the social, economic and other requirements of present and future generations. Other developed countries like Canada, England, Australia, Germany, etc., have stringent environmental regulations at home to safeguard their environment.

From the above account, it is obvious that transnational corporations have indulged in various types of environmental malpractices in the developing countries of Africa. However, one cannot place this type of environmental degradation entirely on transnational corporations. It is a fact that host countries are equally to be blamed for the degradation of the environment. It is not that developing countries do not have environmental laws to safeguard mining operations, the problem is developing countries, and in particular, African developing countries often fail to enforce environmental regulations and in some cases exempt some national and transnational corporations from these regulations.

At the national level, some developing African countries have comprehensive legislation and regulations on environmental protection as well as some form of supporting institutional infrastructure, like ministries, bureaus or agencies. For example, Ghana has a set of environmental regulatory systems which includes, minerals and Mining Laws, 1986, Mining regulations, 1970, Environmental Council Decree, 1974, Small-scale Gold Mining law, 1986 and the Mercury law, 1986. The People's Republic of Angola has a mining code with provisions to regulating the environment.

Another example out of Africa is The Philippines, a developing country. The Philippines has a very extensive set of environmental legislation, some of them dating as far back as the Spanish Colonial Period. The problem is that most of the national legislation or environmental protection laws are not strictly enforced, and supporting agencies of government are very weak. There is a general lack of political will and resources. In some instances, there is a degree of inadequate staff, while in some, the staff is poorly paid. For this reason, in agencies where there is a high percentage of engineers and other technical staff, a high turnover due to low pay is obvious. In many instances because of inadequate pay, local staff members are bribed and violators go unpunished or the punishment imposed is not severe enough to prevent a repeat of environmental pollution. For this reason, most transnational and national corporations find it cheaper to pollute rather than to prevent environmental degradation.

It would however be unfair to accuse transnational corporations alone for polluting the environment of the developing African countries. If transnational companies are guilty, so too are the local enterprises. Developing countries must make sure that legislation devised to protect degradation of the environment as a result of mining or whatever else must be respected by both local enterprises and transnational corporations. No one is going to take care of your home better than you would. If transnational corporations determine that laws are weak and poorly supervised, they definitely will capitalize on the weaknesses of enforcement.

Although some of the charges levied against transnational corporations for the degradation of the environment in developing countries, particularly African developing countries are true, it could also be said that in many instances transnational corporations have more merits than demerits with regards their record in environmental management than most of the local enterprises. There are several reasons why transnational corporations have to conform to government policies with regard to environmental measures.

Primarily, transnational corporations operating in developing countries are under greater scrutiny and more vulnerable to bad publicity and drastic actions as compared with local enterprises. Local enterprises may bypass government regulations and may be given several preferences with regards to the stringency with which environmental laws are imposed or implemented. Leonard Duerksen hypothesized that,

*"... a host government under public pressure to do something about industrial pollution is likely to clamp down first on a foreign industry."*

Canadian Bogosu Resources Ltd. of Bogosu, Ghana, a transnational corporation mining gold in Ghana was the first company in Ghana to prepare an Environmental Impact Assessment Report, even though both local and transnational companies by Ghana's environmental laws are supposed to prepare an Environmental Impact Assessment Report for all mining projects. Perhaps it was because Canadian Bogosu Resources Ltd. was just starting when that law was passed. Whatever the case may be, that was a good start. The Corporation's policy on environment, health and safety issues is the best of all operating mines in the country. Several streams previously used by villages as drinking water supplies have been rendered unfit by Canadian Bogosu Resources Ltd. because of high concentrations of suspended sediments eroded from the mine area. Most of the environmental commitments in the Environmental Impact Assessment have been honored with the only exception of perimeter bonds around waste dumps to trap sediments and the absence of partitioning compartments in the tailing dam. Suggestions have been made by the appropriate government environmental agency to improve the effectiveness of the perimeter bonds, and to construct partitioning compartments in the tailing dam. Canadian Bogosu Resources Ltd. is also paying special attention to ensure good relations with her workforce and local people.

Goldenrae Mining Company Ltd., of Kwabeng, Ghana, is another transnational corporation operating in Ghana that has exercised a general level of commitment to minimize the environmental effects of its operation and maximize harmony with the community. Goldenrae Mining Company Ltd. has on its staff a full time land management/environmental officer and a senior assistant. There has also been an overwhelming amount of support from management and senior professional staff, both Ghanaian and expatriate with regards to the guidelines guaranteeing the quality of the environment. The corporation's operations had been preceded by an Environmental Impact Assessment study. As a result of this assessment, numerous environmental beneficial features have been included in the project design, which is laudable. Almost all of the environmental commitments in the Environmental Impact Assessment had been honored or are in progress, with the only exception being the recycling of water from the settling pond and that has been earmarked.

Goldenrae Mining Company Ltd.'s philosophy, that mining is a temporary land use, is highly commendable and is unique among most mining companies in developing African countries. Goldenrae Mining Company Ltd. has attempted at all times to inform local residents and others concerned about their plans and policies. The company holds regular liaison meetings and has paid considerable attention to the recommendations made by the government. Although it is too early to say what long-term socio-economic impact the corporation will have on the local people, the test will be when the first rehabilitation work is completed and the land turned over to their owners.

On the other hand, most mining facilities used by local companies are archaic and run down, unprofitable and environmentally damaging. Safety seems to be remote in almost all of these areas.

Air pollution does not seem to be a major environmental factor in developing countries since major sources are few and are restricted to industrial enterprises. With the exception of some internal processing operations for example, emissions at Obuasi (Ashanti Goldfields Corporation), air pollution is a minor problem.

Air pollution is also restricted to mining industries in Liberia. Dust being emitted from the blasting and crushing of high and low grade iron ores have caused damage to vegetation, restricted land use and has posed a health risk to workers and inhabitants of the area. With little or no ear protection, this poses a serious risk.

In brief, transnational corporations are forced to abide by a series of environmental procedures for several reasons. One of those is publicity of disasters by transnational corporations. This single element has caused them to incur certain expenses, not for profit making, but to foster good relations with host governments. According to C.S. Pearson, a senior associate at the World Resources Institute, these Corporations, because of their resources, employ more professionally qualified managers and skilled workers as compared with local enterprises.

#### **4 SOME PREREQUISITES NECESSARY FOR COMPLIANCE AND ENFORCEMENT**

If developing countries must improve and protect the quality of their environment, they must firstly, appropriate a fair share of their resources for the development of trained staff and skilled workers. Secondly, they must be prepared to pay better salaries to prevent violations or evasions of legislation by some transnational corporations and national companies. If concern for this urgency is not taken seriously by developing countries, the Corporations, with their qualified personnel and superior resources, will generally outperform the local enterprises in host countries for a long time.

Thirdly, because of their high technology advantage, including environmental technology, these transnational corporations can develop the best technologies for their firms and are also in touch with other advanced technologies in other industrialized countries. Because of their high-tech capability in addition to their resources, they are able to incorporate environmental technology into their manufacturing facilities, which of course are more modern, better maintained, and more efficient in terms of environmental protection, as compared with local enterprises of developing countries. For example, a transnational corporation in Malaysia has taken the lead in minimizing pollution in recovery of their tin mineral by recycling the by-products. The corporation reuses the final discharge water from the treatment plant while the solids generated are used as landfills. By utilizing its technology to use waste in productive ways, the transnational corporation met its environmental objectives.

In summary, on the positive side, most transnational corporations have the technological advantage combined with managerial and financial resources, which can be utilized to attain the goal of environmental sustainability. Their experience and the global image, which they want to protect and advance, suggest that they are more willing than ever to be responsive to environmental protection efforts than most domestic enterprises in developing countries. transnational corporations have further come to realize that environmental regulations must not only become a permanent part of the business climate of industrialized countries, but must also be part of developing countries and that in the long run cooperation is more productive than opposition.

The joint program of the United States Agency for International Development (USAID) and the United States Industry sponsored by the World Environmental Centre, in which the United States firms provide technical assistance in industrial pollution control to developing countries, further indicates that international business sees merit in cooperation in the field of the environment.

Two decades ago, the environmental movement primarily consisted of activists whose objective was to pressure government for stricter regulation of environmental degradation. In the 1990s, however, concern for proper regulation of the environment both in the developed as well as in the developing countries is not limited to activists interested in regulation. Today's environmentalism finds its strength in the opinions and values of the floor, not the ceiling of acceptable corporate environmental behavior. Environmental values and regulations must be part of the corporate culture so that managers and employees will accept environmental responsibility as part of their everyday performance. This is true for all business and industry, but especially true for the mining industry.

## **5 EXAMPLES ON MINING REGULATORY SYSTEMS IN SOME AFRICAN COUNTRIES**

For example, the newly independent country of Namibia has drafted its first set of mining regulations which defines a very clear, yet flexible investment and mining environment to stimulate active local and foreign participation. The general approach is to encourage and foster a healthy mining industry within the public and private sectors and to promote mineral exploration, mining and local beneficiation of mineral products, for the benefit of the economy and all of the country's inhabitants with due regards to the environment.

The existing regulatory system of Ghana includes a Minerals and Mining law of 1986, Mining Regulations of 1970, Environmental Protection Council (now the Environmental Protection Agency - EPA) Decree of 1974, Small-Scale Mining law of 1989 and a Mercury law of 1989.

The Mineral and Mining law, Provisional National Defence Council (PNDC) Law 153 of 1986 defines conditions of mining leases, which include the proposed program that mining operations submitted by the proponent, takes proper account of environmental safety factors. In addition, the Mineral and Mining law specifies, under section 72 that the holder of a mineral right shall in the exercise of his rights have due regard for the effects of the mineral operations on the environment and shall take such steps as may be necessary to prevent the pollution of the environment as a result of such mineral operations. It specifies penalties for environmental degradation, which includes fines and imprisonment. It restricts prospecting near any water body, seeks to prevent water pollution, restricts the excessive grazing by animals, restricts the gathering of firewood and the cutting down of timber, ensures public safety and the safety and welfare of workers and prevents injury to persons or property by chemicals. In brief, the Minerals and Mining law of 1986 appears to be sufficient to deal with almost all-environmental impact issues.

The Mining Regulations, 1970 of Ghana has environmentally relevant provisions, which mandates that water containing poisonous or injurious chemical solutions must be effectively fenced off and warning signs erected. It further states that in no case may water containing any injurious matter in suspension or solution be permitted to escape without having been previously rendered innocuous. The regulations also include the following:

- That tailing used for filling worked out areas underground and the liquids draining therefrom, shall not contain a higher cyanide content than 0.005% expressed as cyanide of potassium.
- That ventilation in active underground workings shall be free from dangerous amounts of noxious impurities and shall contain sufficient oxygen to obviate danger to workers health.

The Environmental Protection Council Decree, 1974 of the existing regulatory system of Ghana was established to provide advisory services to the Ghanaian Government on all environmental matters. The Environmental Protection Council functions as a policy facilitator and coordinating body. Its principal functions are as follows:

- To advise government generally on all environmental matters relating to the social and economic life of Ghana.
- To coordinate the activities of all bodies concerned with environmental matters and to serve as a channel of communication between those bodies and the government.
- To conduct and promote investigations, studies, surveys, research and analysis, including the training of personnel, which relate to the improvement of Ghana's environment and the maintenance of a sound ecological system.
- To serve as the official national body for cooperating and liaising with national and international organizations on environmental matters.
- To undertake such studies and submit the reports and recommendations with respect to environmental matters as the government may request.
- To embark upon general environmental educational programs for the purpose of creating an enlightened public opinion regarding the environment and an awareness of the public's individual and collective role in its protection and improvement.
- To ensure the observance of proper safeguards in the planning and execution of all development projects including those already in existence, that are likely to interfere with the quality of the environment.

The Small-scale Gold Mining Law Regulation, 1986 requires licensed small-scale miners to observe good mining practices, health and safety rules and pay due regard to the protection of the environment. Penalties for not abiding by the small-scale gold regulation are punishable by fines and imprisonment of up to two years or both depending upon the gravity of the infraction.

The Mercury Regulation Law, 1986 controls the importation, sale and possession of mercury in Ghana. From an environmental perspective, the legislation requires that small-scale miners observe good mining practices in the use of mercury. Penalties include fines and imprisonment or both. The existing environmental regulatory system of Ghana requires an Environmental Impact Assessment. All new mining projects must submit an Environmental Impact Assessment, which must be approved before mining begins. This is commendable and it is hoped that all other African developing countries would adopt a similar pattern of environmental regulatory systems.

The draft mining code of the People's Republic of Angola (April 1, 1991), includes pertinent considerations for the maintenance and quality of the mining environment. Like the regulations of Ghana and other developing countries, the draft mining code includes environmental conduct of mining operations.

Though the draft mining code of Angola is detailed, however, it lacks an expanded section on mining and its environmental consequences. It is necessary that the Angolan draft resembles Ghana's mining regulations, which takes into consideration all aspects of environmental degradation and guidelines and penalties to safeguard such.

For example, the Republic of Sierra Leone has in its Bauxite Mineral Prospecting and Mining Supplementary Agreement (1987), Ratification Act 1998, the adoption and implementation of programs and measures approved by government for the effective reclamation of mined out areas by mining companies, and should endeavour in consultation with appropriate government agencies to undertake suitable agricultural projects within their mining leased areas in furtherance of government's Green Revolution Policy.

The Bauxite Mining Supplementary Agreement of Sierra Leone falls short of a more concrete environmental legislation. This agreement grants too much rights to the company which weakens the ability of the country to maintain its environment in a safe manner. The agreement and the Minerals Ordinance of Sierra Leone granted the Aluminum-Industrie-Aktien-Gesellschaft (Alusuisse) Bauxite Company the following rights:

- The right either within or outside the mining areas to dig, widen, and deepen channels in rivers, streams and water courses as may be necessary to permit or facilitate barge access to the washing plant;
- The right within the washing plant area to use the water and to return the same together with washing spoils to the river, stream or water course; provided that in so doing the company shall not discharge or permit to be discharged any poisonous or noxious matter in any natural water course; and
- To fell trees and clear the land to be mined.

Granting the company the right to discharge spoils from the washing plant to the rivers, streams or water course provided that in so doing the company shall not discharge or permit to be discharged any poisonous or noxious matter in any natural watercourse is gruesome. There is need for the development of very strong environmental regulations in Sierra Leone similar to the Clean Air and Water Act of the USA or the existing environmental regulatory system of Ghana. The violation of these laws must be punishable by fines or prison sentences or both. There must also be trained technicians for monitoring purposes.

In Liberia, most of the major rivers in close proximity to the iron mining companies are brick red as a result of spoils (iron tailings) being deposited into them. The iron ore mining companies of Liberia had in their agreements similar conditions as is stated in the Sierra Leone Bauxite Mining Agreement that *"the company may use the water and return same together with washing spoils to the river, stream or water course; provided that in so doing the company shall not discharge or permit to be discharged any poisonous or noxious matter in any natural water course."*

Unlike the regulation found in the Bauxite agreement between the Government of Sierra Leone and Suisse Aluminum Limited, concerning the dumping or wasting of spoils to the river, stream, or water course, the Mining Regulations, 1970 of Ghana states *"in no case may water containing any injurious matter in suspension or solution be permitted to escape without having been previously rendered innocuous. It states further that ?water containing injurious matter in suspension of solution should be fenced off and warning signs erected."*

These laws are enforced in Ghana under the existing Environmental Regulatory System, Section 72, which states that *"the holder of a mineral right shall in the exercise of his rights have due regard to the effects of the mineral operations on the environment and shall take such steps as may be necessary to prevent the pollution of the environment as a result of such mineral operations."* The infraction of this law by a mining company is punishable by a fine of up to Cedi 500,000 or two years imprisonment for the first conviction and up to Cedi 1,000,000 or up to four years imprisonment thereafter.

The Mining Regulation of Ghana, 1970 has environmentally relevant provisions, which are detailed, and comprehensive. These regulations should be used as blue print with minor inclusions and revisions for the developing countries of Africa.

## **6 THE NEED FOR COOPERATION BETWEEN TRANSNATIONAL CORPORATIONS AND AFRICAN COUNTRIES**

Most case studies undertaken by UNCTC, UNEP and individual consultants show that transnational corporations can and have played both negative and positive roles with regard to environmental management in African developing countries. What is necessary is a cordial relationship between the Corporations and local governments to improve the quality of the environment.

African countries must strengthen their regulatory framework for environmental protection. What is necessary is a periodic and regular updating of environmental guidelines and a review of the effectiveness of the local environmental Ministries and Agencies.

There is a need also at the highest policy making level of government to adopt environmental planning. For example, Ministers, Directors and Heads of autonomous agencies should incorporate environmental concerns in all policy decisions. On the industry side, all master plans should incorporate environmental concerns and investment applications, which should be scrutinized for potentially adverse environmental impacts. Even more important, the host country should enforce its environmental policies more strictly and should monitor activities of all enterprises, both local and transnational for any adverse environmental impact. Strict control and enforcement are very important because government cannot be sure that all transnational corporations and local enterprises will observe and promote proper environmental control, even those with good intentions.

In many developing countries, particularly developing countries of Africa, even where there is close supervision, some local enterprises as well as transnational corporations continue to violate environmental regulations. Some transnational corporations and local enterprises believe that it is cheaper to be fined and pay the fines for environmental violations than to install expensive pollution-control equipment.

African developing countries in their anxiety to bring in foreign direct investment should not compromise the quality of their environment even if high costs are involved to maintain environmental compliance. Significant attention should be drawn to environmental protection and industrial safety in the approval for foreign investment or acquisition of technology through contractual arrangements.

Another area of major concern where enforcement is weak is the execution of Environmental Impact Assessment. Although many African developing countries are now demanding Environmental Impact Assessment studies, this requirement is not strictly observed. In the private sector many of the local enterprises have not adopted this policy. In

view of this present deficiency, governments should implement the EIA strictly and insist that multilateral and bilateral donor agencies as well as local enterprises should incorporate EIA studies in all development projects.

In addition to a firmer enforcement of environmental regulations, governments of african developing countries should provide assistance, including fiscal incentives to assist and encourage all enterprises both local and transnational to observe environmental standards and practices. Technical assistance may be necessary to enable small enterprises local as well as transnational to utilize environmental technology for their own use. Governments of african developing countries will also have to provide advice and expertise to small firms facing technical problems, provide treatment plants for toxic wastes from industries without the capital to set up their own treatment plants, help identify safe disposal sites for toxic and hazardous wastes, and finally, encourage academic institutions and the industrial sector to undertake research and development in the field of environmental control and preservation.

Further, governments should provide fiscal incentives to the private sector to encourage both local and transnational corporations to demonstrate a greater concern for environmental management. These incentives should include grants, subsidies, rebates, tax reductions, tax and duty exemptions on the import of technologies related to environmental control. Interest free loans may also be given to factories to enable them to install pollution control equipment. Reexamination of environmental regulations and tightening of them should be carried out by governments of these developing African countries. On the more positive side, these governments may also reexamine their tariff structures for products related to environmental quality with the primary purpose of providing incentives for their use. These incentives could encourage transnational corporations to transfer pollution control technology to their local establishments, implement training and further education in environmental protection.

These environmental concerns should not be left only to governments, transnational corporations and local enterprises, but the entire citizenry should also play their role by practicing environmental quality and control. In order for this to be effective, environmental awareness through education and publicity would be necessary, as this will go a long way in inculcating environmental values among the entire population.

Since the quality of the environment is the major concern of everybody, there is need for a joint effort approach between government, transnational corporations, local enterprises and Non-governmental Organizations (NGOs). Conservation pressure groups, which are growing in numbers and becoming very popular in African, Latin American and Asian and Pacific countries, have the requisite expertise and as such could serve as an appropriate watch dog, providing public education and making sure that the environment is conserved. A regular exchange of ideas through frequent dialogues and exchange of information between public agencies, private enterprises governments should be encouraged. The public should also get involved directly or indirectly in the planning and drafting of environmental standards and controls.

Transnational corporations should cooperate with one another as well as with local enterprises to promote environmental management. They should also be made to transfer appropriate technology on environmental management to local enterprises and also set good examples for such enterprises. In addition, they should appoint qualified managers who will place health and safety issues at the top of their priorities with regards the quality of the environment. transnational corporations should also develop environmental audit systems intended to reduce risks to safety and to make sure government regulations are adhered to.

As a study by the United Nations Centre for transnational corporations (UNCTC) points out, *"it is important to emphasize the limits of unilateral action in minimizing the detrimental effects, or maximizing the beneficial effects of transnational corporations activities on the health, environment and economic welfare of host countries."* In other words, cooperative efforts or bilateral efforts by both transnational corporations and governments of African developing countries are absolutely necessary for the effectiveness of safeguarding the environment. Although some transnational corporations behave responsibly in one host country, they may perform the opposite in another. In view of the above, certain measures may have to be taken at both the regional and international levels to control the behavior of transnational corporations.

First, mandatory environmental codes should be set by governments to control the behavior of transnational corporations.

Secondly, funding agencies such as the African Development Bank, the World Bank, the Asian Development Bank and other lending institutions should link environmental considerations to the conditions for disbursing fund to the recipient.

Thirdly, the African developing countries in cooperation with the appropriate UN Agencies should develop a regional resource data bank on the environment, conduct a periodic review of environmental legislation and assist governments with an analysis of land-use planning.

Finally, host governments must recognize the major role of the transnational corporations and spare no moment in harnessing cooperation with them in the improvement of the environment. This is necessary because the execution of a sound environment management program is only possible through the cooperative efforts of all concerned. There is also the need for the creation of a national environmental database intended for environmental monitoring and storage of important environmental data. Environmental information in this form would be easily accessible to policy makers and managers, as well as for the implementation of environmental programs.

## 7 CONCLUSIONS

In conclusion, African developing countries should bear in mind that all mining is associated with environmental degradation, but that these effects can be reduced if prior to the implementation of the projects careful planning, design and management plans are forecast. These could minimize the negative environmental impacts.

The African developing countries must also realize that there must be a husbanding between the minimization of environmental impacts and the need for a proportion of the royalties accrued from mining to contribute to the economic welfare of the countries. Standards and regulations will only become effective when African developing countries begin to institute tighter and more efficient controls. Having guidelines, legislation, policies, or standards without implementing them is a waste of time.

African developing countries will have to appropriate a fair share of their resources for the development of a trained staff and skilled workers. They must also be prepared to pay better salaries to prevent bypasses of legislation or regulations by companies. On the other hand, transnational corporations must come to realize that environmental regulations must not only become a permanent part of the business climate of industrialized countries, but must also be part of developing countries, and that in the long run cooperation is more productive than opposition.

Finally, the joint program of the United States Agency for International Development (USAID) and the United States Industry sponsored by the World Environmental Center, in which the United States firms provide technical assistance in industrial pollution control to developing countries, further indicates that international business sees merit in cooperation in the field of the environment.

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## **COMPLIANCE AND ENFORCEMENT OF INTERNATIONALLY AGREED UPON REGULATIONS IN THE INTERNATIONAL SHIPPING INDUSTRY**

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### **SUMMARY**

For many years pollution of the world's oceans and seas has become a matter of increasing international concern. This great concern about oil pollution of the seas, ports and harbors resulted in the International Convention for the Prevention of Pollution from Ships, 1973. This convention was adopted by the International Conference on Marine Pollution in November 1973 and modified by the Protocol of 1978. It is known as MARPOL 73/78. This convention was the most ambitious international treaty covering maritime pollution ever adopted. It deals not only with oil, but with all forms of marine pollution except the disposal of land-generated waste into the sea. Technical regulations are contained in six Annexes.

Enforcement of these measures requires resources, both manpower and equipment, and sanctions for violations. It is always advisable to estimate the required resources for enforcement prior to the implementation of proposed measures. Moreover, if the regulations cannot be enforced they should not be implemented. Violations will occur if the necessary resources are not available and enforcement is impossible. There is a danger that if too many environmental standards are adopted, those companies operating within the evasion culture will not comply with the new rules as they do with the old ones. Internationally one level playing field is necessary. The Flag state- and Port state controls are eminent in this case. However pollution generated on a ship during a voyage makes enforcement difficult as the violation is hard to prove.

### **1 HISTORY**

Oil pollution of the sea, ports and harbors was already recognized as a problem before the First World War. After this war various countries introduced measures to control discharges of oil within their territorial waters. Although international measures were considered, an agreement could only be reached after the Second World War. In 1954 the United Kingdom organized a conference on this subject which resulted in the adoption of the International Convention for the Prevention of Pollution of the Sea by Oil. In 1958 the International Maritime Organization entered into force. This organization took over the depository and secretariat functions in relation to the convention from the UK. The oil pollution problem was tackled in two main ways:

- establishing "prohibited zones"; and
- promoting the provision of facilities for the reception of oily water and residues.

In 1969 further amendments were adopted. The operational discharge of oil was restricted for oil tankers and machinery spaces of all ships. In the years to follow, there was a growing concern for the world's environment including concern over the growth in maritime transport of oil and chemicals and the increasing size of tankers. The measures taken so far against oil pollution seemed to be inadequate.

In 1967 the disaster with the oil tanker "Torrey Canyon" took place. Inspired by this accident, the assembly of the International Maritime Organization decided to convene a conference in 1969. In 1973 the conference met in London. It not only dealt with oil but with all forms of marine pollution. The main objective of this so called 1973 MARPOL convention is the complete elimination of international pollution of the marine environment by harmful substances as oil and chemicals being ship generated waste and cargo residues and the minimization of accidental discharge of such substances. The convention resulted in 5 annexes with technical measures. Which deal with the following:

- Annex I Oil
- Annex II Noxious liquid substances carried in bulk (e.g. chemicals)
- Annex III Harmful substances carried in packages (e.g., tanks and containers)
- Annex IV Sewage
- Annex V Garbage

Besides the annexes there are 20 articles which deal with topics such as: application, amendments, entry into force, communication with the International Maritime Organization, violations, and enforcement. The articles also specify the rights and obligations of each party to the convention.

In 1997 a new annex to the MARPOL convention was adopted. This Annex VI deals with air pollution from ships.

## **2 COMPLIANCE AND ENFORCEMENT**

Governments that have ratified (adopted) and implemented the MARPOL conventions have the obligation to enforce these conventions. According to Article 4, any violation shall be prohibited and sanctions shall be established under its laws. Administrations from the member states shall cause proceedings in accordance with its law. By Flag State- and Port State control enforcement is more or less feasible.

### **2.1 Flag State control**

The prime responsibility for the enforcement of the conventions lies with the Flag State who confirms by certificates that the vessel complies with the conventions covered by these certificates. The marine administrations of each Flag State should have sufficient resources to carry out surveys of its own flagships. However where the administration does not have sufficient qualified surveyors, surveys can be delegated to recognized classified nominated surveyors. These organizations or surveyors should have backup from the marine administration in order to carry out the duties required by MARPOL 73/78. The relevant instruments to comply with are:

- The International Convention on Load Lines.

- The Protocol of 1988 relating to the Int. Conv. On Load Lines 1966.
- The International Convention for the Safety of Life at Sea, 1974 (SOLAS74).
- The protocol of 1978 relating to SOLAS 74.
- The protocol of 1988 relating to SOLAS 74.
- The already mentioned International convention for the prevention of Pollution from Ships, 1973, as modified by the protocol of 1978 relating thereto (MARPOL 73/78).
- The International Convention on Standards of Training, Certification and Watch-keeping for Seafarers, 1978 as amended (STCW).
- The Convention on the International Regulations for Preventing Collisions at Sea, 1972 (COLREG 72).
- The Merchant Shipping (Minimum Standards) Convention, 1976. (ILO No. 147) National regulations.

## 2.2. Port State control

Due to the fact the some Flag States were unable or unwilling to exercise their obligation under the International Conventions, the only way to try to eliminate the operation of substandard shipping proved to be Port State control.

The right of Port States to carry out Port State control on foreign ships in their ports is given to them in the before mentioned conventions. In principle every ship entering a foreign port is subject to Port State Control, over and over again, unless there are agreements like the Paris Memorandum of Understanding on Port State Control. At this moment there are 18 participating maritime authorities under this Paris Memorandum. Member countries are: Belgium, Croatia, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, the United Kingdom of Great Britain and Northern Ireland and Canada. Cooperating maritime authorities are the United States Coast Guard, Iceland and Japan.

The partners of the Paris Memorandum specified a number of commitments to which the participating countries should live up.

These commitments are as follows:

- Each maritime authority will give effect to the provisions of the Memorandum.
- Each authority will maintain an effective system of Port State Control to ensure that foreign merchant ships visiting its ports comply with the standards laid down in the relevant international conventions and all amendments thereto in force. In this context, it should be noted that a participating maritime authority regards a ship flying the flag of another Paris Memorandum member as a foreign ship too.
- There shall be no discrimination as to flag.
- Each country will have to achieve an annual total of inspections corresponding to 25% of the estimated number of individual ships which will enter the ports of its State during a twelve months period. In practice this will result in an inspection rate of approximately. 90% of all ships using the ports of region.
- Each authority will consult, cooperate and exchange information with the other partners in order to develop further the aims of the Memorandum.

- In so far as the relevant conventions do not contain requirements for small ships, the authorities should be guided by any certificate or document issued by the Flag State and will take, if necessary, such action as to ensure that those ships are not clearly hazardous to safety, health or the environment.

The intention of Port State control is not to enforce on foreign flag merchant shipping any requirement in addition to those imposed by the conventions and has the same international relevant instruments for enforcement and control as mentioned for the Flag State control.

Ships that fly the flag of a State which is not a party to a specific convention, as far as such convention contains a provision to that effect, will not given favorable treatment, but shall comply with the convention when entering a port of the Paris Memorandum.

All results of each Port State control carried anywhere in the member states of the Paris Memorandum are entered into a computer, the Sirenac system. The computer centre is located at Saint Malo in France. The results of the inspections are on-line available for consultation for the members. The computer contains details of almost all seagoing vessels, such as name, former name, International Maritime Organization number, call sign, size, year of build, type, classification society, target factor, inspection history. Furthermore the computer provides on the basis of the inspection file the material for the production of statistics.

The surveyors or as they are called now Port State Control Officers who carry out the inspections in accordance with the Paris Memorandum are qualified officials who belong to the respective national inspection services of the participating authorities. In the Netherlands, Port State control is carried out by the Department of the Netherlands Shipping Inspectorate, which is part of the Directorate-General for Freight Transport of the Ministry of Transport, Public Works and Water management. Regular seminars for surveyors (twice yearly) are arranged to ensure effective and uniform inspection procedures throughout the region covered by the Paris Memorandum.

Due to the fact that the Paris Memorandum is not a legal binding instrument, the European Commission decided that a more stringent policy should be followed to achieve harmonization and developed their own legislation resulting in EU Directive 95/21/EC. This Directive has been implemented in the National Legislations of the European Union Members. To prevent two different not equal systems, the Paris Memorandum has been adjusted in order to meet the requirements of the Directive and to incorporated the relevant parts of the International Maritime Organization Resolution 787 "Procedures for Port State Control".

In addition to the Paris Memorandum, other regions started their own Memorandums of Understanding, based for a large extent on the Paris Memorandum. With some of these other Memorandums of Understanding, close cooperation exists, even resulting in the linking of their computer systems

### 2.2.1 The selection of ships for inspection

There are several criteria for the selection of ships for inspection, being the priority list of the EU directive, professional judgment of the surveyor or the Target Factor developed to assist in the selection.

This "Target Factor" consist of two basic factors: the Generic Factor and the History Factor. The History (inspection) Factor is calculated by adding values given as a result of previous Port State Control inspection results, the Generic (ship related) Factor consist of the following elements:

Targeted flag, targeted ship type, non-EU recognized class society, and class withdrawn. The Target Factor can never be lower than the Generic Factor.

### 2.2.2 Detentions

It also could happen that during this superficial round of review of records or Target Factors, the surveyor observes so many deficiencies that he decides to carry out a more detailed inspection, which even may result in detaining the vessel. It must be stressed that detaining a vessel is the ultimate instrument which the surveyor has at his disposal and this decision is not lightly taken.

The EU directive stipulates that a vessel should be detained whenever the surveyor finds it necessary to reinspect the vessel to verify that deficiencies are rectified before departure of the vessel. In most cases deficiencies will be rectified during the normal stay of the ship in the port of inspection, but sometimes detention is necessary to convince the ship to have all deficiencies rectified before departure. In this respect, the intended voyage will also be considered.

Taking into account the geographical situation in Europe where ports are situated at only a few hours sailing distance apart, the surveyor may allow the vessel to proceed to the next port within the Paris Memorandum with certain deficiencies outstanding which could be rectified more effectively in the next port, provided there is no unreasonable danger to safety, health or the environment. In such cases the surveyor will make sure that the next port of call of the vessel will be informed, in order to allow the inspection service at that port to take over from where he left and the inspection will be entered into the computer system with outstanding deficiencies, causing clear grounds for inspection within the next six months period.

Also in case of a detention it could be possible that the vessel will be allowed to proceed to another port of the Paris Memorandum to carry out repairs, in which case the next port will be requested to re-detain the vessel. If the vessel does not comply with the agreed procedures and does not sail to the agreed repair port, the vessel will be banned from all Paris Memorandum ports till a re-inspection has taken place on the invitation and expense of the owner, in a port outside the region.

### 2.2.3 Production figures

As mentioned under chapter 2.2. " Port State control " at least 25 % of the individual foreign ships that enter the ports will be inspected by the several States. The actual number of vessels to be inspected is depending on the number of foreign vessels entering the ports and on the inspection capacity of a Port State.

The number of Port State control inspections and detentions in the Netherlands over the last four years are as follows:

<u>Year</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>
Inspections	2,150	2,085	2,095	2,338
Detentions	258	278	329	410

From the 258 ships that have been detained in 1997, 113 were violating MARPOL, Annex I, Oil. Since 1995 there is a decline in the number of detentions.

The total number of inspections carried out by the member states of the Paris Memorandum Port State control are as follows:

<u>Year</u>	<u>1997</u>	<u>1996</u>	<u>1995</u>	<u>1994</u>
Inspections	16,813	16,070	16,381	16,964
Detentions	1,624	1,719	1,837	1,597

In accordance with the results in the Netherlands a decline in the number of detentions can be observed.

From every inspected ship the results are entered into the computer Sirenac. Through the so called IMO number the ship's name can be asked for and the inspection results can be read into the computer. The port where the inspection took place, the date and if applicable the deficiencies are input data. In case of detention of a ship, more detailed information is added. All input is available to the member states.

### **3 FUTURE DEVELOPMENTS**

New regulations will be adopted by the International Shipping Community, such as the International Safety Management System, compulsory as from July 1<sup>st</sup> 1998 for certain types of ships and in 2002 for all ships covered by the conventions.

Furthermore, the International Maritime Organization is working very hard to combine the Annexes I and II of MARPOL 73/78 covering oil and chemicals into one Annex, whereby the often difficult to determine difference in treatment of both products will be eliminated.

### **4 CONCLUSIONS**

There is still a long way to go to eliminate substandard shipping. New regulations must be such that control can easily be exercised with the resources available. Technical solutions should not replace the human factor in ships. This is based on tragedies such as the accidents with the "Herald of Free Enterprise", "Estonia", "Scandinavian Star", "Kharg V" or "Exxon Valdez" to name only a few shipping accidents in which the human factor played an important role.

It is time to minimize designing new rules, but to ensure that the existing rules are enforced throughout the whole worldwide shipping industry, which is not operating on a local scale, but influencing the environment world wide.

## THEME #6

### BUILDING REGIONAL AND GLOBAL NETWORKS

A clear goal of INECE is to foster regional enforcement networks to complement the global networking that has steadily expanded since the first workshop in Utrecht, the Netherlands in 1990. This first workshop expanded the bilateral exchanges between the U.S. EPA and the Netherlands Ministry of Housing, Spatial Planning and the Environment to 13 nations and international organizations. Participants agreed that dedicated programs for achieving environmental compliance and enforcement were essential parts of environmental management, that this should be a topic for discussion at the UNCED in 1992 and that a second Conference should be organized in two years with broader sponsorship and participation. In 1992, participating countries worked to get supporting language in Agenda 21 on capacity building from the UNCED, which empowered UN organizations to more actively support compliance and enforcement institution building activities. Shortly after the first International Enforcement Workshop, the European Commission and member states organized the European Enforcement Network, IMPEL, in part inspired by exchanges at the first workshop. At the second Conference in Budapest, Hungary in 1992 participants from 38 countries and organizations agreed upon principles, definitions and a framework for exchange and cooperation. The Regional Environmental Center helped to foster further exchanges among governmental and non-governmental officials within Central and Eastern Europe and UNEP and the European Commission were added as co-sponsors.

By the Third Conference in Oaxaca, Mexico in 1994, an expanded Executive Planning Committee for the Conference supported development and delivery of more hands-on workshops to allow conference participants to apply these basic principles to common problems, explore special topics to build a base of information and knowledge in those areas and identify areas ripe for exchange. UNEP also completed reports on industrial compliance and draft institution building workshop materials. At the Third Conference regional enforcement cooperation was described for North American under NAFTA as well as progress in the European network. A plenary program panel on international networking and cooperation was presented to stimulate interest to foster ongoing exchanges and capacity building both regionally and globally based upon natural partnerships and common environmental challenges. Spontaneously during informal sessions, participants from the Americas developed the Oaxaca Declaration, committing themselves to work together to establish a network for helping to build programs. Subsequently the Summit of the Americas has led to more formalized efforts to accomplish this. Finally, in 1994, UNEP and the People's Republic of China's National Environmental Protection Agency, organized an Asia regional workshop on industrial compliance using its draft UNEP workshop materials with representatives from 8 nations in attendance.

The Fourth Conference was the first to structure regional meetings as part of the formal conference program hoping to leave a lasting legacy from the series of conferences through regional mechanisms for continued exchange — leading to appropriate mechanisms for cooperation and shared progress globally across regions that transcend the biennial

conferences. At the Conference, six regional meetings resulted in recommendations to establish or strengthen such regional networks. Following the Fourth Conference an expanded Executive Planning Committee decided to adopt a new banner for these cooperative activities, INECE and to expand the support offered for ongoing exchange through a twice yearly Newsletter, revised and more accessible INTERNET homepage, development and dissemination of a Brochure and a program to foster regional and global networking. The Fifth Conference is designed to provide the fertile ground and opportunity for participants to adopt the most appropriate approaches for their own countries and regions. Papers and presentations will describe international support networks for environmental compliance and enforcement. Each paper and regional meeting will address, among others, the following issues:

- The genesis of the network and how it was established.
- What was/is involved in developing and maintaining the network.
- Who is asked to participate and at what levels in the organizations.
- Subjects the network covers.
- Vehicles used for exchange and means of communication used.
- Topics on which exchange is taking place.
- How the network overcomes differences in language and legal or other definitions of terms such as what constitutes a hazardous waste.
- Future directions and changes anticipated for the network.

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2.	The North American Agreement for Environmental Cooperation: A Regional Framework for Effective Environmental Enforcement, <i>Duncan, Linda F.</i> .....	707
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See related papers from other International Workshop and Conference Proceedings:

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## **ENFORCING ENVIRONMENTAL LAW IN CENTRAL AMERICA: A REGIONAL ENVIRONMENTAL LAW PROGRAM EXPERIENCE**

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### **SUMMARY**

This Paper describes the The Central American Environmental Law Program, an initiative under the Program for Environment and Natural Resources in Central America (PROARCA Project). The paper describes the background and history that led up to the program's formation, its goals and its future directions.

### **1 INTRODUCTION**

The Central American Environmental Law Program is administrated by the Central American Commission on Environment and Development, a regional intergovernmental institution created by an international treaty signed in December 1990 and currently ratified by all Central American countries (including Belize and Panama).

The financial and technical support for the program by the U.S. Agency for International Development (USAID) was possible thanks to a political commitment by the presidents of Central American and the U.S. who committed joint efforts to "raise the standards of environmental legislation and its enforcement". This agreement, signed in Miami in December 1994 at the America's Summit, is known as the Conjunta Centroamerica-USA (CONCAUSA) Declaration. Unique in this declaration is that the signatories made commitments of their own in jointly established areas, including environmental legislation and its enforcement, and provided funds and technical assistance thereto.

CONCAUSA culminates a process that started in Managua, Nicaragua where the heads of state and governments of Central America, witnessed by U.S. Vice President Al Gore, signed the regional strategy for development known as the Central American Alliance for Sustainable Development (ALIDES) which for the first time put economic growth, social development and environmental protection at the same level with political democracy. ALIDES include goals and commitments in all fields of development, including environmental legislation and its enforcement. The United States became the first extra-regional partner to the Alliance.

### **2 BACKGROUND**

When the CONCAUSA Declaration was signed, the situation of environmental legislation in Central America was in the midst of change. Nevertheless, in some the countries there were no environmental protection framework laws. In fact, only Belize, Guatemala, and Honduras had specific environmental protection laws, while the other countries had only drafts of such laws in the administrative or legislative pipelines waiting to be approved. Not all

countries had governmental institutions created solely to ensure proper environmental management. At the national level, there generally were no attorneys offices, branches or legal officers to deal specifically with the enforcement of environmental legislation. Environmental crimes were nonexistent in the law, and the existing environmental regulations were scattered within sectorial legislation (dealing with forest, water, soil and natural resources management) which was not necessarily aimed at ensuring environmental protection. One very positive fact in this context was that, by the start of the Program in the region, there were a number of professionals and NGOs with some experience and commitment in environmental law issues, even if this subject was not taught formally at any law school.

### **3 PROGRAM GOALS**

Thus, the basic goals of the Environmental Law Program may be stated as follows:

- Approval of comprehensive environmental legislation.
- Higher levels of environmental law enforcement.
- Dissemination of environmental law.
- A regional cadre of lawyers trained in environmental law.

The instruments to achieve these goals are:

- networking;
- access to data through an environmental law data base; and
- training in enforcement techniques with a "train the trainer" approach.

### **4 PROGRAM ACCOMPLISHMENTS**

#### **4.1 Training**

From the beginning, the program started by a process of training the trainers. This was done in three components: training in multimedia environmental inspection techniques, training in enforcement techniques; and training judges in environmental law and legislation. To start these activities, it was necessary to prepare manuals, something which was especially burdensome in the training of judges as that required compiling, classifying and ordering - in a systematized way - national environmental legislation and presenting the procedural alternatives in order to enforce the laws and regulations. As a result of the process, there are seven national manuals on environmental law enforcement (including the ratified international treaties dealing with environmental protection), one manual for multimedia inspector training and one for enforcement techniques that includes local case studies. In terms of people trained, the figures include:

- 600 judges who are trained in environmental law;
- 200 legal advisors to environmental agencies, public attorneys and prosecutors, environmental officers, and lawyers working for legal offices of environmental NGOs, who are trained in enforcement technics; and

- 40 people in various environmental fields who are trained in multimedia inspection procedures and techniques.

#### 4.2 Information dissemination

Currently, there is a web site ([www.ccad.com.gt](http://www.ccad.com.gt)) at the Program's headquarters in Guatemala City that offers manuals and matrices on national and regional environmental legislation in an updated version. This component has been undertaken with support from interns from Berkeley University Law School who spend one semester every year working as trainees at the Program office. The data base offers electronic information and access to all sectorial legislation on natural resources and environmental regulations in Central America, as well as to more than 40 international and regional environmental treaties and political accords dealing with environmental protection, including data on ratification and dates the treaties entered into force.

#### 4.3 Networking

But, the most successful instrument of the Program has been networking. At present, there are few networks functioning internationally. The most important thing to start networking has been the openness of the concept. Networks have been characterized as something that has a lot of holes and a lot of threads, allowing at the same time to bind and to let go through. This means that the networks are not formal, obligatory or discriminating. Rather they are a space of communication and participation without discrimination of those who want to participate. The emphasis has been on people and on how to put these people face to face, to interact, cooperate, and become friends. It has to be stressed that the frequent separation of legal experts working for the public sector and those working privately has not taken place in Central America.

The meeting of the Network of Experts in Environmental Law held in Tegucigalpa, Honduras in March of this year is a good illustration of this process: there were members who work for universities, environmental law NGOs, legal offices of environmental NGOs, prosecutors offices, public attorneys' offices, ombudsmen offices, environmental agencies' legal departments, private law firms, law schools students, and environmental units at general comptrollers offices. 38% of the participants were women, which reflects a good gender diversity. At the meetings of the Network of Experts, case studies of successful experiences of enforcing environmental legislation, both by civil society organizations and from the environmental national agencies, are presented. Besides this network, there are regional networks of experts in pollution prevention, environmental impact studies, and environmental auditing.

This approach and experience in building networks in Central America seems to break with the traditional approach to networking in environmental enforcement in other areas and regions. The traditional approach separates those who work for the private sector from those working for public institutions. Inclusive networks are a typical Central American feature due to many reasons:

- the absence of a strong civil service, which implies that many lawyers are only temporarily public officers;

- the current stage of internalizing environmental law in the public sector, which often requires legal officers of the environmental national agencies to confront the rest of the public institutions - often the biggest polluters and law breakers; and finally
- the small number of legal experts on this new field of law.

The aforementioned circumstances result in a need to work together. Once the process of approving environmental laws and regulations and their enforcement has become a widespread reality in the region, with its need for the private sector and polluters to hire environmental law specialists to represent them in court or before the administrative enforcing institutions, then there will be a need for separate (private and public) expert networks. Before that happens, any separation seems artificial and costly, since the region still needs to reach a critical mass of experts, no matter where they come from.

## 5 THE FUTURE

This year, Central America is going to have general environmental framework laws approved everywhere. The environmental protection law in El Salvador was approved in March thus leaving Panama as the only country that is still discussing its environmental protection law in their national legislative body. It is due to be approved by the middle of the year. There are environmental standards all over the region for waste and sewage water disposal, for car air polluting emissions, and for import of toxic and hazardous wastes. The harmonization process is being developed in other fields like the implementation of Environmental Impact Assessment and environmental auditing legislation. As a result of the process, but on a parallel track, environmental crimes have been incorporated into the national criminal codes or into the criminal code drafts in all countries, a process that implies that new environmental public attorneys offices will have to be opened and capacity building is being developed for this. On top of that, NGOs specialized in environmental law have been created in all countries and the oldest environmental NGOs, already in place for many years, have started to create their own legal offices, thus allowing the civil society organizations and the citizenry to have access to environmental justice.

The task ahead, once comprehensive environmental legislation and public judicial and administrative structures for its enforcement are in place, is to strengthen local and regional capacity to enforce environmental law. In the coming years, the Program will emphasize involving local authorities and civil organizations in the effort to enforce environmental law and regulations. Further, it will emphasize incorporating environmental law into formal and informal legal education. It has, until recently, been neglected in the curricula of academic and training programs of the judicial schools. Dissemination efforts will be duplicated and information will be made available to the public, since public participation in enforcing the law implies that the public knows its rights and the procedures for defending them. In pursuing this goal, the Regional Environmental Law Program seeks to facilitate these initiatives rather than implement them, thus building strategic alliances with universities, NGOs and national public institutions to make them able to incorporate the activities of the Program into their permanent programs, which may ensure their sustainability after the funding for the Program ends.

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## **THE NORTH AMERICAN AGREEMENT FOR ENVIRONMENTAL COOPERATION: A REGIONAL FRAMEWORK FOR EFFECTIVE ENVIRONMENTAL ENFORCEMENT**

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### **SUMMARY**

In 1994 Mexico, Canada and the United States signed the North American Agreement for Environmental Cooperation imposing common environmental obligations and commitments on the Parties and creating a unique regional framework for cooperation in implementing environmental protection. This article reviews the enforcement related obligations under the agreement and the regional structures adopted for their implementation. It also provides an overview of recent initiatives in support of strengthened regional environmental enforcement networking and capacity.

### **1 THE NORTH AMERICAN AGREEMENT FOR ENVIRONMENTAL COOPERATION (NAAEC)**

#### **1.1 The origins of the NAAEC**

In 1994 Mexico, United States and Canada entered into the North American Agreement on Environmental Cooperation (NAAEC).<sup>2</sup> The Agreement establishes a unique regional framework for cooperation, joint action and dispute resolution among the three governments as well as requiring greater levels of transparency and participation in environmental decision making. The NAAEC imposes specific environmental obligations on the Parties thereto, including those related to enforcement.

The NAAEC creates a Commission for Environmental Cooperation (CEC) headed by a Council of environment ministers responsible for overseeing the implementation of the agreement.<sup>3</sup> It requires the appointment of a regional public advisory committee (JPAC) with the option of additional national public and government advisory committees.<sup>4</sup> Finally a Secretariat is established with a dual role of technical support to the Council and a more independent investigatory role.<sup>5</sup>

The motivations and context for the agreement were multi-fold.<sup>6</sup> The NAAEC reaffirms the Parties commitment to the Stockholm Declaration and the Rio Declaration<sup>7</sup> while expressly recognizing the benefits to be derived from a regional approach to implementing these common international obligations and commitments to conservation, protection and enhancement. The adoption under the NAAEC of a regional framework reflects the reality of shared ecosystems, waterways, oceans, air sheds, migratory species and by implication shared pollutant pathways and environmental threats. The NAAEC establishes procedures directed at enabling and fostering regional responses as a complement to national initiatives on these common issues.

At the same time it is important to recognize that the NAAEC devolved as a product of the negotiation process for the North American Agreement for Free Trade (NAFTA)<sup>8</sup>. Among the rationales given for creation of this environmental side agreement was the concern that one country may gain an unfair trade advantage by failure to enact environmental standards or to enforce them. The NAAEC consequently requires not only that the Parties implement and upgrade environmental protection and conservation laws and regulations<sup>9</sup> but also that they be effectively enforced.<sup>10</sup>

The agreement provides a linkage between enforcement obligations and trade regimes in several unique ways. The NAAEC incorporates a graduated process of dispute resolution for inter Party disputes over allegations by parties regarding persistent patterns of failed enforcement of environmental laws.<sup>11</sup> Potential penalties for failure to implement an agreed action plan to address enforcement failures include monetary penalties and the suspension of trade benefits.<sup>12</sup> Secondly, the NAAEC designates the Council as a point of inquiry and depository for comments from NGOs and persons concerned with the environmental goals and objectives of the NAFTA.<sup>13</sup> It obligates the Council to provide assistance in consultations under Article 1114 NAFTA where a party considers that another party is waiving or derogating from, or offering to waive or otherwise derogate from, an environmental measure as an encouragement to establish, expand or retain an investment of an investor, with a view to avoiding such encouragement.<sup>14</sup> These provisions requiring effective enforcement within a prescribed framework are intended to remove any unfair trade or economic advantage. In other words, enacting standards is not enough. Compliance must be ensured through enforcement or other means.

In the same instance the NAAEC recognizes the Parties' sovereign rights to adopt their own distinct policies and procedures reflective of their particular domestic priorities and legislative and institutional framework, in meeting any of the NAAEC obligations for standard setting or their enforcement.<sup>15</sup> The following provides an overview of the regional cooperative approach adopted by the Parties for implementation of their enforcement related obligations under the agreement.

## 1.2 Environmental Enforcement and Compliance: New Commitments, Obligations, Opportunities

A significant number of the provisions of the NAAEC introduce new obligations, commitments and opportunities for effective enforcement of environmental laws and regulations. The agreement also introduces new regional fora for addressing environmental regulatory and compliance issues. In tandem with obligations and opportunities for resolving inter Party disputes related to allegations of failed enforcement, the agreement institutes the internationally recognized principles of transparency and participation in environmental decision-making through expanded rights and opportunities for the North American public to participate in environmental enforcement processes. Together these provisions have had the dual effect of expanding the public profile of domestic environmental regulatory and enforcement policies and practices and fostering an enhanced regional approach to ensuring effective environmental enforcement.

### 1.2.1 Obligations of the Parties

As mentioned the NAAEC requires the Parties "to effectively enforce their environmental laws and regulations through appropriate action" within a prescribed framework which mirrors Chapter 8, Agenda 21.<sup>16</sup> The agreement additionally prescribes minimum enforcement proceedings and procedural guarantees, and specifies a range of sanctions and

remedies and considerations for their application in each instance.<sup>17</sup> The commitment to transparency is manifested in the obligation for an annual public reporting of actions taken by the Parties to fulfill related enforcement obligations, inclusive of data.<sup>18</sup>

To date the Parties have issued two annual reports on their enforcement obligations.<sup>19</sup> The 1995 report documents the environmental and wildlife enforcement policies, strategies and responses of each of the three countries. This report is intended to provide a baseline for future reporting on selected areas of priority concern. The 1996 report focuses on enforcement of laws regulating transboundary movement of hazardous wastes, air pollution and international trafficking in flora and fauna.<sup>20</sup> The Parties have committed to providing intermittent updates on key laws.

In addition to the obligation for an annual public accounting, the Parties are obliged under the NAAEC to notify each other of any proposed or actual measure and to respond to any requests for related information. The Parties are jointly examining potential avenues for facilitating the exchange of enforcement data, while still respecting national confidentiality requirements.<sup>21</sup>

### 1.2.2 Council Role and Mandate

The Council is obligated to encourage effective enforcement by the Parties, compliance with their respective environmental laws and technical cooperation to that end.<sup>22</sup> In furtherance of that mandate the Council, in 1995 instituted the Enforcement Cooperation Program within the CEC Secretariat. In 1996, at the recommendation of the Secretariat, the Council formally established the North American Working Group on Environmental Enforcement and Compliance Cooperation (EWG) as an advisory body and intergovernmental forum.<sup>23</sup> In 1997, on the recommendation of this advisory group, the Council passed a resolution stating that the governments of Canada, Mexico and the United States must retain the primary role in establishing environmental standards and enforcing compliance with laws and regulations and that 'strong and effective governmental programs to enforce environmental laws and regulations are essential to ensure the protection of public health and the environment'.<sup>24</sup> They then directed the EWG to evaluate the effect of ISO 14000 and other environmental management systems initiatives on their respective enforcement and compliance regimes.

The Council is also charged with responsibility for making determinations on public submissions alleging failed enforcement efforts<sup>25</sup> and serves as the forum for directing resolution of inter-party allegations of persistent patterns of failure to effectively enforce environmental laws.<sup>26</sup>

### 1.2.3 The CEC Secretariat

The CEC Secretariat is responsible for providing technical advice and support to the Council on the delivery of the agreement and CEC program.<sup>27</sup> The Secretariat has endeavored to consult with affected government agencies and the North American public in the development and delivery of its programs. As will be discussed later, the Secretariat established a special government advisory group to advise in the design and delivery of its enforcement related activities. Several CEC projects have also specifically targeted public input to future processes for enforcement and compliance.<sup>28</sup>

The Secretariat is responsible for preparation of the annual report on CEC programs and budget, following instruction from Council.<sup>29</sup> This includes coordination of the report by the Parties on their common NAAEC obligations and commitments. The Secretariat is also mandated to prepare independent reports for the Council on matters within the scope of the

annual work program, excluding issues related to whether a party has failed to enforce its environmental laws and regulations, unless the Council approves by a two-thirds majority.<sup>30</sup> The Secretariat has initiated three article 13 reports, focused on threats to migratory birds and habitat, and pollutant pathways.<sup>31</sup> Experience has shown that the article 13 process can serve to broaden the scope of public concerns beyond immediate issue of alleged ineffective enforcement action to broader issues of capacity. The result has been to channel shared resources and expertise towards addressing local or national issues with potential regional significance.

Finally, the Secretariat is charged with responsibility for reviewing submissions from individuals or NGOs asserting that a Party is failing to effectively enforce an environmental law.<sup>32</sup> As of September 1998 the public has filed a total of 18 submissions.<sup>33</sup>

#### 1.2.4 Public Rights and Opportunities

The NAAEC expands public and private rights and opportunities with the objective of infusing greater transparency in North American environmental decision making processes, inclusive of enforcement. These unique rights and processes establish a role for the North American public in monitoring and improving the capacity for effective enforcement and compliance.

As required under the NAAEC a Joint Public Advisory Committee (JPAC) has been appointed to provide advice to the Council of Ministers.<sup>34</sup> All three countries have additionally appointed National Advisory Committees and United States a Government Advisory Committees composed of representatives of state, municipal and tribal governments. In 1997 the JPAC was directed by the Council to hold North America wide consultations on among other subjects, public views on voluntary compliance.<sup>35</sup> The NACs have raised concerns with their Ministers about enforcement and compliance.

The NAAEC requires the Parties to provide processes for public request for investigations, standing before administrative, quasi-judicial or judicial proceedings for the enforcement of environmental laws and private right of access to remedies.<sup>36</sup> The Agreement introduces a process for the submission of complaints to the CEC Secretariat of failure of any of the Parties to effectively enforce their environmental laws.<sup>37</sup> The Parties are obligated to provide for notice and comment by all interested persons on all proposed or existing laws, regulations, procedures and administrative rulings on matters covered by the agreement.<sup>38</sup> The Parties are also obligated to report annually to the public on enforcement related obligations inclusive of enforcement data.<sup>39</sup>

The Secretariat is currently exploring alternatives with the Enforcement Working Group for infusing greater public involvement in the Enforcement Cooperation Program, reflective of the need to ensure the initiatives are more transparent and inclusive.

## **2 THE CEC ENFORCEMENT COOPERATION PROGRAM**

The CEC has established within its Secretariat an Enforcement Cooperation Program specifically targeted at enhancing the capacity of the Parties to fulfill their enforcement obligations. The program, under the guidance of the North American Working Group on Environmental Enforcement and Compliance, has to date delivered a wide range of initiatives. A major portion of the work has been focused on enhancing linkages amongst North American environmental and wildlife enforcement agencies and exploring alternative approaches to addressing regional issues. Following are highlights of the program and a brief review of some of the challenges and opportunities that this regional approach presents.

## 2.1 North American Working Group on Environmental Enforcement and Compliance Cooperation (EWG)

The mode of design and delivery of the CEC Enforcement Cooperation Program is unique. As previously mentioned, the program benefits from the participation and advice of the North American Working Group on Environmental Enforcement and Compliance Cooperation (EWG) established by the CEC Council. The Working Group is composed of senior level environmental and wildlife enforcement and justice officials from the national, state and provincial agencies of the three countries, appointed by the Parties. An adjunct group the North American Working Group on Wildlife Enforcement (NAWEG), has so far chosen to focus its efforts on improved enforcement of the Convention on International Trade in Endangered Species of Fauna and Flora (CITES). The EWG is mandated by the Council to:

- provide a forum for North American cooperation in environmental enforcement and compliance
- support initiatives for sharing enforcement-related strategies, expertise and technical knowledge
- support capacity building in effective enforcement and enhanced compliance
- facilitate the development and implementation of trilateral enforcement cooperation programs and initiatives
- examine alternative approaches to enforcement and compliance, and
- support the Parties in the preparation of annual enforcement reports and the examination of improved indicators or measures of effective enforcement and compliance.

The regional working groups now serve a dual role firstly providing a regional forum for the joint review of regional priorities and strategies for improved enforcement of environmental and wildlife laws and secondly, for cooperation in capacity building and exchange of enforcement related information and expertise. These fora complement domestic and bilateral efforts to implement joint border area enforcement strategies, exchange information and intelligence and to forge direct linkages towards more timely and effective enforcement responses.

## 2.2 Building the Regional Networks

The creation of the EWG under the umbrella of the CEC has allowed for direct financial and administrative support to the development and maintenance of these regional networks and their joint initiatives. Under the sponsorship of the CEC the EWG meets twice annually to review regional enforcement priorities and to advise in the development and delivery of the CEC Enforcement Cooperation Program. The working group has to date coordinated the preparation of three annual reports on the Parties' enforcement obligations.

Support to the NAWEG as a regional network has introduced a forum for exploring common initiatives and policy positions as well as coordinating regional and global activities.

The NAWEG has evolved as an active regional network working in close cooperation with the CEC and the Trilateral Committee for Wildlife Ecosystem Conservation and Management. Participation in the Trilateral has provided a unique opportunity for exchange between wildlife scientists and enforcers on the implementation of CITES and domestic wildlife laws. The participation of the NAWEG on the CEC Enforcement Working Group has fostered communication among wildlife and pollution enforcement officials across the North American

region. The establishment of the NAWEG has also strengthened the opportunities for presentation of regional policy proposals to other international forums. Consideration is being given by the World Customs Organization CITES Working Group and the Interpol Subgroup on Wildlife Enforcement to utilize the NAWEG as their North American link. The NAWEG is also proving a useful forum for exploration of regional strategies for CITES related matters. Efforts are underway as well to build a regional network of wildlife forensic experts.

These unique fora have enabled the agencies to work together in development and delivery of field level training programs and joint enforcement initiatives, to explore alternative enforcement and compliance mechanisms and to forge direct contacts for more timely and effective enforcement actions. Following are some of the major initiatives delivered under the program.

### 2.3 Regional Efforts for Enforcement Capacity

One of the priorities identified for cooperative effort has been joint training to enhance field level enforcement capacity. In the area of wildlife enforcement, efforts have focused on capacity to detect and enforce CITES violations by the enhancing field level skills for inspectors, investigators and forensic laboratories. Specialized joint courses on tracking and enforcing CITES violations related to endangered fur bearing species, birds and reptiles have succeeded in both enhancing the knowledge and skills of officers and forging transborder working relationships. The spin-off networks among national wildlife enforcement officials have enhanced national abilities to enforce domestic laws and to implement international obligations. Another product of these programs has been an intergovernmental commitment to more long term cooperation in capacity building for wildlife enforcement, including in some instances renewed support for bilateral initiatives.

For environmental agencies, the focus has been on improved capacity to track and enforce laws regulating the transboundary movement of hazardous wastes and the illegal trade in CFCs. Future joint training priorities include training support for customs officers and for improving tracking and intelligence capabilities. The regional scope of the planning is enabling the agencies to share specialized facilities, expertise and innovations.

### 2.4 Regional Policy Forum

The EWG and NAWEG provide a regional forum for dialogue amongst the national, state and provincial environmental and wildlife enforcement agencies regarding delivery of their respective domestic and international obligations. These networks have enabled the three countries to explore common strategies and positions for delivery of obligations under international treaties such as CITES and the Basel Convention. Support is given to the NAWEG to participate in the meetings of the Trilateral Committee for Wildlife, Plant and Ecosystem Conservation and Management, enabling a merging of scientific and legal and enforcement perspectives for implementing CITES in North America.<sup>40</sup> The very existence of the NAWEG ensures that any capacity building programs of the CEC reflect the immediate needs and priorities of the government agencies. Efforts have also been made to incorporate evaluation into all training sessions to ensure the programs are targeting the critical needs and respect the variances in the systems and capabilities of the three countries. Efforts have been made to concentrate resources to building a strong foundation of basic enforcement skills allowing for the possibility of joint enforcement efforts where needed.

In the first years of the program the CEC was asked to lend support to a series of seminars targeting improved compliance levels within the industries operating in the Mexico-United States border area. The CEC program supplemented a joint initiative of the USEPA

and Mexico's PROFEPA directed at encouraging those industries (maquiladoras') to take the initiative to implement voluntary compliance and pollution prevention programs. The project provided a catalyst for the initiation of a more intensive exchange among the agencies of the three countries on alternative approaches to enhancing compliance. In support of these efforts, the CEC commissioned a study surveying and analyzing North American experiences with the development and use of voluntary approaches to compliance and the implications for enforcement programs.<sup>41</sup>

As mentioned previously, the CEC also supported a joint review by the enforcement officials of the three countries of the implications of the ISO 14000 initiative and other environmental management systems on preexisting enforcement obligations, policies and strategies. In 1997 the CEC Council directed the EWG to undertake a more detailed review and analysis with the purpose of providing advice to the Council.<sup>42</sup>

With the support of the CEC the three countries are also examining alternative approaches to measure and report on the effectiveness of their respective enforcement regimes. In 1998 the EWG, with the support of the CEC Secretariat, chaired a multi-stakeholder dialogue to examine the varied perspectives and approaches to date. The joint initiative is expected to continue for several years, with the long-term objective of improved domestic capacity to institute credible systems of accountability and ultimately some common regional measures. The intent is to ultimately use these evaluative tools to prepare their annual enforcement reports. It is also their intention to reach out to other regions with the objective of exchanging experiences in this area.

### **3 FUTURE CHALLENGES**

This regional approach to enhancing effective environmental enforcement poses numerous challenges. In an era of diminishing resources available for environmental protection, many agencies may be hard pressed to continue support to international cooperation where their own domestic programs are stretched. However experience has shown that the regional networks can assist by joint funding and shared expertise for training and exploration of alternative approaches. The Parties face the ongoing challenge of finding common ground for cooperative action while still respecting individual domestic policies and priorities. The successes to date are evidence of the commitment by the agencies to pursue a cooperative approach. The financial and administrative support from CEC has helped in at least maintaining communication channels and support for priority initiatives.

In addition to their commitment to continue participation in the regional initiatives outlined above, the EWG and NAWEG are committed to expanding their networks to include other related agencies, inclusive of state and provincial levels. The challenge will be to continue current programs while opening the door to other priorities of these additional agencies. In addition, with the signing of additional regional agreements, pressure is mounting to establish similar cooperative arrangements with other bordering nations, including in Central and South America and countries of the Circumpolar region.<sup>43</sup>

Finally, the commitment under the NAAEC to transparency and public participation in environmental enforcement has resulted in the additional need to involve the North American public in the regional initiatives. The CEC Joint Public Advisory Committee and the National Advisory Committees have requested greater opportunity for involvement in the CEC Enforcement Program. The NAWEG has made some efforts to involve interested NGOs in their regional dialogues. As previously mentioned, representatives of regulated industry and the public participated in the regional dialogue on indicators of effective enforcement. The

challenge for the future will be to provide meaningful opportunities for involvement in policy dialogue while respecting the necessity for some level of confidentiality in the exchanges among enforcement agencies.

#### ENDNOTES

1. The opinions expressed are those of the author and do not necessarily reflect the views of the Commission for Environmental Cooperation (CEC) or the Parties.
2. 8 September 1993, Canada- Mexico -United States, 32 I.L.M. 1480. See also Federal Implementation of the North American Agreement on Environmental Cooperation, Executive Order 12915 U.S.C.C.A.N.
3. Ibid, Part Three.
4. Ibid., Section C.
5. Ibid, Section B.
6. Numerous books and articles may be referenced for a perspective on the underlying reasons for the agreement. See for example John J. Audley, *Green Politics and Global Trade: NAFTA and the Future of Environmental Politics*(Georgetown University Press, Washington D.C. 1997; Pierre Marc Johnson and Andre Beaulieu, *The Environment and NAFTA: Understanding and Implementing the New Continental Law*( Island Press, Washington D.C., 1996); Daniel Magraw ed. *NAFTA & the Environment: Substance and Process*( American Bar Association, 1995).
7. Supra n. 1, Preamble
8. North American Free Trade Agreement, 8 December 1992, Canada-Mexico- United States, 32 I.L.M. 289;See also North American Free Trade Agreement Implementation Act, S.C. 1993, c.44: North American Free Trade Agreement Implementation Act, Pub. L. No. 103-182, 107 Stat. 2057.
9. NAAEC, article 3.
10. Ibid, article 5.
11. Ibid, Part Five.
12. NAAEC article 10(6) establishes the process for interaction between the Council and the NAFTA Commission. Part V establish a series of gradated dispute resolution processes and penalties regarding Party to Party disputes on allegations of persistent pattern of non enforcement.
13. Article 10(6)(a).
14. Article 10(6)(b).
15. Article 37.
16. Article 5(1); 6.
17. Articles 5(2),(3); 7.
18. Article 12(1), (2)(c).

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19. Commission for Environmental Cooperation, 1995 and 1996 Annual Report.
  20. 1996 Annual Report, Commission for Environmental Cooperation, Montreal, Annex : Enforcement Report.
  21. Article 20
  22. Article 10(5).
  23. CEC Council Resolution # 96-06
  24. CEC Council Resolution # 97-05 on Further Cooperation Regarding Environmental Management Systems and Compliance. The report tabled with the Council in June 1998 is available from the CEC.
  25. Article 15.
  26. Part Five.
  27. NAAEC, Section B.
  28. For example the 1996 Dialogue on Trends in Environmental Law in North America and background papers of which are published; the CEC report on North American Law, Policy and Practice related to Public Access to Environmental Information (due for release in 1997), and the CEC environmental law data base which can be accessed through the CEC homepage.
  29. Article 12.
  30. Article 13. To date the Secretariat has initiated three reports, two of which have been publicly released including "CEC Secretariat Report on the Death of Migratory Birds at the Silva Reservoir(1994-95) ", October 1995, Montreal; "Continental Pollutant Pathways: An Agenda for Cooperation to address Long Range Transport of Air Pollution in North America," June 1997, Montreal and a third in preparation examining alleged threats to the ground water regime in Southern Arizona and associated potential detrimental effects to a Council designated Important Bird Area(IBA).
  31. The reports are available from the CEC.
  32. Articles 14, 15.
  33. The record of submissions and responses can be accessed on the public record on the CEC homepage <http://www.cec.org>.
  34. Article 16. The JPAC was appointed in 1994 and has continued to play an active role.
  35. Proceedings of these consultations and back ground reports are available on the CEC Homepage.
  36. Article 6.
  37. Articles 14, 15.
  38. Article 4.
  39. Article 12.

40. The NAWEG have also been seeking support for establishment of a similar but more global network of wildlife enforcement officials under the CITES. A global network has been established for environmental enforcement agencies ( INECE).
41. The study is available from the CEC.
42. The report, which documents findings to date and presents an agenda for further joint action, is available from the CEC.
43. For example the OAS in May 1998 sponsored a meeting to explore the establishment of a hemispheric network of officials and experts in environmental law and enforcement, in response to a commitment made by the governments of the Americas at the Bolivia Summit on Sustainable Development. Canada is in the process of implementing law and enforcement programs pursuant to its cooperative environmental agreement with Chile. Similar discussions have been occurring amongst the Arctic nations.

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## THE EUROPEAN UNION NETWORK ON THE IMPLEMENTATION AND ENFORCEMENT OF ENVIRONMENTAL LAW (IMPEL)

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### SUMMARY

In 1992, an informal network for exchange of information and experience in the field of compliance and enforcement of environmental law was set up, consisting of representatives of relevant authorities within the European Union and the European Commission. Since 1993 it has been called the European Union Network on the Implementation and Enforcement of Environmental Law (IMPEL). Until recently, IMPEL focused on the regulatory cycle in connection with industrial installations. Now its scope has widened and its structure has changed.

This paper discusses the structure of IMPEL and its Committees, including the work these groups have accomplished and plans for the coming year.

IMPEL is managed by a biannual Plenary Meeting. Two Standing Committees deal with the content of IMPEL's work: Standing Committee 1 on legal policy and legal implementation issues and Standing Committee 2 on technical issues, inspection, practical application and enforcement, environmental management instruments and training/exchange programs.

Despite being an European Union network, mechanisms have been developed for cooperation with other countries.

IMPEL has adopted a work program for 1998 which includes legal and technical projects. Included in these are exchange programs for environmental inspectors, which have been going on for a number of years. IMPEL gets a financial contribution from the European Commission.

### 1 THE NEED FOR AN IMPLEMENTATION AND ENFORCEMENT NETWORK

Environmental legislation has grown considerably in recent times. The introduction of new legislation was followed by concerns within the European Union Member States about the comparability of standards of enforcement in the different countries. These concerns were confirmed by an investigation, conducted by the Netherlands Ministry of Housing, Spatial Planning and Environment, which found inconsistencies in a number of areas such as methods of permitting, application of technical standards, and public access to information. The results of this investigation were presented at an informal meeting of the Environmental Ministers of the Member States in 1991, where it was agreed that

*"...it would be desirable as a first step to establish a Network of representatives of relevant national authorities and the Commission in the field of enforcement, primarily aimed at the exchange of information and experience in the field of compliance and enforcement, and at the development of common approaches at a practical level."*

As a consequence the "Chester Network" was established, so-called because it met for the first time in Chester, England during the United Kingdom's European Union Presidency in 1992.

## **2 FROM CHESTER TO IMPEL**

During a Plenary Meeting in December 1993, it was noted that the European Commission's Fifth Environmental Action Program called for a body similar to the Chester Network. The Commission and Member States agreed to modify the terms of reference for the Network to include a wider mandate for the application and control of environmental legislation. In addition, it was agreed that the Network should look at how to ensure better implementation and enforcement of environmental laws by regional and local bodies. The modified Network was called the European Union Network for the Implementation and Enforcement of Environmental Law (IMPEL).

## **3 THE COMMUNICATION ON IMPLEMENTING COMMUNITY ENVIRONMENTAL LAW**

The Commission adopted a communication on implementing community environmental law in October 1996. In this, it is said that: "*The Commission will consider the existing position of the informal IMPEL network as a useful instrument of cooperation and capacity building, and will make proposals for improving, developing and reorganizing its tasks.*"

The Communication also recognized "*the need to ensure that minimum inspection tasks are carried out,*" because "*the wide disparity which exists until now cannot be considered as satisfactory with reference to the objective of correct and level enforcement at Community level*". Finally, the Communication indicated that, "*The IMPEL network could also assist in defining these minimum criteria for inspections*".

## **4 COUNCIL RESOLUTION ON THE DRAFTING, IMPLEMENTATION AND ENFORCEMENT OF COMMUNITY ENVIRONMENTAL LAW**

In June 1997, the Environment Council of the European Union adopted a Resolution as a follow-up to the Commission's Communication. In this Resolution, the Council "*recognizes that IMPEL is a very useful informal instrument for the improvement of implementation, inspection and enforcement, inter alia through exchange of information and experiences on different administrative levels, as well as through training of inspectors and in-depth discussions on environmental issues and enforcement aspects*". It considers that the IMPEL network "*should also play in the future an important role during the different stages of the regulatory chain and could in particular give advice - on request or on its own initiative - on general questions regarding implementation and enforcement as well as on new draft proposals for Community legislation, in particular where the input of practical experiences is necessary*". It considers also that IMPEL "*could be further developed, inter alia by asking it to consider whether it should broaden the scope of its mandate and the focus of its current work*".

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## **5 A MODIFIED STRUCTURE, ROLE AND SCOPE FOR IMPEL**

Until recently, IMPEL focused on the regulatory cycle in connection with industrial installations and their impact on the environment. Discussions on European Community legislation also addressed the Integrated Pollution Prevention and Control and Environmental Impact Assessment Directives, and the Eco-Management and Audit Scheme Regulation. A separate Working Group was set up to cooperate on Transfrontier Shipment of Waste problems.

In line with considerations in the Commission's Communication, IMPEL has undertaken decisions on a modified structure described below and a wider role and scope, while remaining informal.

## **6 NEW STRUCTURE OF IMPEL**

IMPEL is structured to reflect its main tasks. These concern legal policy and implementation on the one hand, and inspection, practical application and enforcement issues on the other. The latter include technical issues, and environmental management (including training and exchanges of inspectors within and outside the European Union). IMPEL also has maintained an informal character.

### **6.1 Plenary Meeting**

IMPEL is managed by a biannual Plenary Meeting which brings together representatives from all the Member States and is jointly chaired by the Commission and the EU Presidency.

The Plenary Meeting is the main body for strategic discussions and final decisions as well as the forum which is formally responsible for IMPEL activities and products. It acts as an umbrella organization for IMPEL. The representatives of Member States need to have an appropriate authority, knowledge and experience and reflect national and regional application and enforcement in the environmental field. Therefore, they are high level officials (with background support during the meetings). They must be able to give the necessary feedback within their own country and also make sure they get sufficient support and feedback from the national and/or regional authorities. The idea is to set up national networks involving different levels of authority at national, regional and local levels, to be linked with IMPEL through the Member States' representatives.

The Plenary Meeting approves the work programs of the Standing Committees (see below), approves reports and decides on their dissemination. It also agrees on how the budget allocated for IMPEL should be used and can make proposals on the budgetary needs of IMPEL.

### **6.2 Standing Committees**

There are two Standing Committees, that deal with the content of IMPEL's work. The participants are competent officials (from the Member States and the Commission), who can be accompanied by other officials, if deemed necessary. The Standing Committees prepare annual programs, reports, and budget and project proposals for submission to the Plenary Meeting and monitor the work of the ad hoc Working Groups.

Standing Committee 1 on legal policy and legal implementation issues comprises policy makers and officials with a legal background and experience mainly in enforcement. In view of the Commission's role in relation to policy and Community legislation, the Commission ensures coordination with other current activities in the EC context in the field of policy and legal implementation.

Standing Committee 2 deals with technical issues, inspection, practical application and enforcement, environmental management instruments and training/exchange programs. This committee primarily comprises national and regional enforcement officers, including inspectors, together with representatives of the Commission.

Each Standing Committee is co-chaired by a Member State and the Commission.

### 6.3 Ad hoc Working Groups

The SCs can set up Ad-hoc Working Groups to consider specific issues, in which participation does not necessarily have to come from every Member State. Such Working Groups have only a limited duration and are dissolved when the task has been completed. The SCs draw up terms of reference for these Ad hoc Working Groups, containing tasks and products, participants, chairmanship and secretariat, meetings (number, duration, location, languages), and financial arrangements.

### 6.4 The IMPEL Secretariat

The Secretariat is the heart of the IMPEL Network. It maintains the contacts with the national coordinators and other members of the Network. It has a supportive role in regard to both the Chairmen of the Plenary Meeting and the Standing Committees. It provides the Network with information stemming from the Commission. For practical reasons, the Commission hosts the Secretariat in Brussels.

## 7 PARTICIPATION OF OTHER COUNTRIES

### 7.1 Central and Eastern European Countries and Cyprus

Special training programs on implementation and enforcement issues will be set up for the eleven countries which are candidates to join the European Union in the coming years. They can be invited to participate in seminars and workshops, or on an ad hoc basis in Working Groups, if deemed appropriate.

A special informal network for these countries, parallel to the IMPEL network, has been set up recently called AC-IMPEL. It is also co-chaired by the European Commission. This network will become redundant when accessions are successful.

Parallel to AC-IMPEL there is another informal non-EU European network, ECA-INECE, mainly for the Newly Independent States (NIS), the aim of which is international exchange and networking. An inaugural conference took place in Vilnius, Lithuania in May 1998, under the auspices of the INECE partnership.

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## 7.2 Other European countries

Non-EU countries can be invited to participate in Working Groups, if their specific contribution is needed or would be helpful. For Norway, this is already the case in the Working Group on transfrontier shipment of waste.

## 7.3 Countries outside of Europe

At times, the network has invited experts to share experiences from outside the European context. For example, the United States has been invited to send experienced environmental inspectors to participate in some of the inspector exchange programs.

## 8 WORK ACCOMPLISHED SO FAR

The work IMPEL has carried out so far includes the following products:

- A comparison of technical standards and pollution control technology for various types of facilities in each of the Member States, resulting in technical guidelines for regulatory bodies for a number of industries, for example, power plants, incinerators, refineries, cement, glass and chip board production.
- Exchange of information and comparison of experience on the permitting of industrial installations in the Member States; examination of the application of EC legislation in Member States and the practical aspects of the regulatory process; for example, reports on the cross-media evaluation of environmental impacts from industrial installations, and on the application of EC Directives on municipal waste incinerators and large combustion plants.
- Workshops on the coherence of different legal instruments.
- Comparison of enforcement arrangements within Member States, on compliance assessment and inspection, outlining the Member States' legislation, organizations and mechanisms for inspection, monitoring and enforcement.
- Exchange programs for inspectors, providing in-depth understanding of the regulatory systems in each country and facilitating the future exchange of information between inspectorates.
- Setting up minimum criteria for inspections.
- Examination and publication of a report on the monitoring and enforcement mechanisms for the transfrontier shipment of hazardous waste within the European Union.

## 9 THE 1998 WORK PROGRAM

The following projects are included:

For Standing Committee 1:

- The interrelationship between different instruments (Integrated Pollution Prevention and Control, Environmental Impact Assessment, and Seveso Directives and the Eco-Management and Audit Scheme Regulation).
- Integrated permitting.
- Small and medium sized enterprises (environmental performances and compliance).
- Access to justice and complaints and investigations mechanisms (almost completed).
- Access to environmental information.
- Criminal enforcement.

For Standing Committee 2:

- Training and exchanges (exchange programs, reference book for inspectors, project on enforcement practices).
- Inspections (minimum criteria for inspections, planning, monitoring and reporting, frequency of inspections, guidelines for the use of operator self monitoring).
- Exchange of experience and coordination of actions on illegal transfrontier shipments of waste.
- Implementation of permitting practices (diffuse emissions, lessons learned from accidents).

The European Commission has earmarked an amount of 400.000 ECU in its 1998 budget for co-funding of IMPEL projects.

## 10 PRACTICAL ARRANGEMENTS

Only representatives of public authorities participate in IMPEL. These can be inspectorates, environment agencies, ministries, regional and local authorities.

Each Member State has appointed a National Coordinator, who is the focal point vis-à-vis the IMPEL Secretariat, and who ensures that the officials concerned within his or her Member State get all the necessary information. The ad hoc Working Groups normally organize their own meetings, while informing the Secretariat.

Plenary meetings take place in the Member State holding the six months' Presidency of the European Union, while the Standing Committees meet alternatively in a Member State and Brussels (European Commission premises). Normally travel costs and accommodation are paid for by the participating Member States, with a few exceptions; for example, financial applications for co-funding by the Commission could include travel costs and accommodation, organized on a project basis.

Plenary Meetings have simultaneous interpretation into English and French, while the meetings of Standing Committees and Working Groups are usually conducted in English. All the correspondence by the Secretariat also is in English. This can be a drawback for some Member States.

It is important that the Member States provide sufficient human and financial resources to make the Network function properly.



## **OUTLINE OF PROCEEDINGS VOLUME 2**

The second Volume of the Proceedings will contain the following subjects:

### **1 PREFACE**

### **2 OPENING AND KEYNOTE SPEECHES**

The full text of the speeches at the opening of the Conference will be made available.

### **3 ADDITIONAL PAPERS AND SUPPLEMENTS**

Papers not available for printing in Proceedings Volume 1 or that were submitted during the Conference, as well as supplements and addenda to the papers contained in this Volume will be included in the second volume of the Proceedings.

### **4 SUMMARIES OF THE PLENARY THEME DISCUSSIONS AND WORKSHOPS**

Facilitators and rapporteurs will provide a summary of the discussions during the plenary Theme discussions and workshops. These summaries will reflect the thoughts, ideas and experiences exchanged by the Conference participants during these sessions.

### **5 CLOSING REMARKS**

The full text of the closing remarks presented at the conclusion of the conference will be made available.

### **6 CONFERENCE EVALUATION**

The results of the evaluation will be included.

### **7 LIST OF PARTICIPANTS**

A list of Participants attending the Conference will be included.



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