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**NOWPAP**



**Northwest  
Pacific  
Action Plan**

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**Report on the Activities of NOWPAP Marine Environmental  
Emergency Preparedness and Response Regional Activity Centre  
(MERRAC) in 2019**

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**Regional  
Seas**

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## List of Acronyms

CEARAC	Special Monitoring and Coastal Environmental Assessment Regional Activity Centre
CNA	Competent National Authorities
DINRAC	Data and Information Network Regional Activity Center
FEFU	Engineering School
FP	Focal Point
FPM	Focal Points Meeting
GEF	Global Environmental Facility
HAB(s)	Harmful Algal Bloom(s)
HNS	Hazardous and Noxious Substances
IGM	Intergovernmental Meeting
IMO	International Maritime Organization
IOA	International Offers of Assistance
ITOPF	International Tanker Owner Pollution Federation Limited
JCG	Japan Coast Guard
KCG	Korea Coast Guard
KRISO	Korea Research Institute of Ships & Ocean Engineering
MERRAC	Marine Environmental Emergency Preparedness and Response Regional Activity Center
MTS	Medium-Term Strategy
NOWPAP	Northwest Pacific Action Plan
OSRL	Oil Spill Response Limited
POMRAC	Pollution Monitoring Regional Activity Center
RAC(s)	Regional Activity Center(s)
RAP BIO	Regional Action Plan for Marine and Coastal Biodiversity Conservation
RAP MALI	Regional Action Plan on Marine Litter
RCP	Regional Contingency Plan
RCU	Regional Coordination Unit
REMPEC	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
REMPTEIC-Carib	Oil Spills Regional Activity Centre of the Cartagena Convention
SDG	Sustainable Development Goal
TOR	Terms of Reference
UNEP	United Nations Environment Programme

## 1. Background

1. The Marine Environmental Emergency Preparedness and Response Regional Activity Center (MERRAC) is one of the four Regional Activity Centers of the Northwest Pacific Action Plan (NOWPAP), part of UNEP's Regional Seas Programme. It is responsible for the regional cooperation on marine pollution preparedness and response among the NOWPAP Member States (the People's Republic of China, Japan, the Republic of Korea, and the Russian Federation) with assistance from the United Nations Environmental Programme (UNEP) and the International Maritime Organization (IMO). The Center was established on 22 March 2000 at the Korea Research Institute of Ships & Ocean Engineering (KRISO) in Daejeon, Korea, following the decision of the 4<sup>th</sup> NOWPAP Intergovernmental Meeting (IGM) (April 1999) and the Memorandum of Understanding (MoU) was signed in July 2000 among UNEP, IMO and KRISO concerning NOWPAP MERRAC.

2. Following the decisions made by the NOWPAP IGM and based upon the Terms of Reference (TOR) for NOWPAP MERRAC Focal Points Meeting (FPM) approved by NOWPAP IGM, MERRAC has been designated to carry out various activities related to the regional co-operation on marine pollution preparedness and response in the NOWPAP region. In particular, MERRAC is currently functioning as the secretariat for the NOWPAP Regional Oil and HNS Spill Contingency Plan (RCP), with assistance from the NOWPAP Regional Coordinating Unit (RCU), UNEP and IMO.

3. To facilitate the regional cooperation on oil and HNS spills under RCP, MERRAC successfully carried out several vital activities, such as organization of MERRAC Focal Points Meeting and Competent National Authorities (CAN) Meeting, conduction of NOWPAP exercises, implementation of specific projects and routine tasks, including the exchange of relevant information among members, others. These activities were implemented under the Theme 3 on 'pollution prevention and reduction' of the NOWPAP Medium-term Strategy (MTS) 2018-2023.

4. Activities of MERRAC are mainly funded by the NOWPAP Trust Fund, and the operation of MERRAC, including personnel salaries and other miscellaneous costs, is financially supported by the Government of Republic of Korea (Korea Coast Guard, approx. US\$ 219,104 in 2019) through UNEP. In addition to these financial supports, the NOWPAP Member States are also assisting MERRAC activities through in-kind contributions in organizing Expert Meetings and operating training events and exercises and implementing various specific projects.

## 2. Staff

5. MERRAC staff members are as follows:

Dr. Seong-Gil Kang	Director ( <a href="mailto:kangsg@kriso.re.kr">kangsg@kriso.re.kr</a> )
Dr. Tae-Hwan Joung	Senior Consultant ( <a href="mailto:thjoung@kriso.re.kr">thjoung@kriso.re.kr</a> )
Ms. Siyeon Lee	Consultant ( <a href="mailto:lsy@kriso.re.kr">lsy@kriso.re.kr</a> )
Ms. Joung-yun Lee	Consultant ( <a href="mailto:jylee@kriso.re.kr">jylee@kriso.re.kr</a> )

### 3. Report of MERRAC activities carried out after the 23<sup>rd</sup> NOWPAP IGM

6. MERRAC implemented the following activities related to marine pollution prevention and response and NOWPAP Regional Action Plan on Marine Litter (RAP MALI) activities after the 23<sup>rd</sup> NOWPAP IGM (Table 1).

**Table 1. Summary of the major MERRAC activities in 2018-2019**

<p><b><u>Meeting</u></b></p> <ol style="list-style-type: none"> <li>1) Organization of the 21<sup>st</sup> MERRAC FPM and 13<sup>th</sup> CNA Meeting (17-20 July 2018, Incheon, Korea)</li> <li>2) Organization of the 22<sup>nd</sup> MERRAC FPM and 14<sup>th</sup> CNA Meeting (27-30 August 2019, Seoul, Korea)</li> <li>3) Organization of the 2019 MERRAC Expert Meeting (18-19 December 2019, Tokyo, Japan)</li> </ol> <p><b><u>Practical assistance during real incidents under the Regional Contingency Plan</u></b></p> <ol style="list-style-type: none"> <li>1) Establishment of oil sample exchange procedure for transboundary marine pollution incidents in the NOWPAP region <ul style="list-style-type: none"> <li>- Led by Korea, the correspondence group developed the procedure and collected legal, financial, technical issues and their requirements, and reported it at the 21<sup>st</sup> MERRAC FPM.</li> <li>- Regarding the four options on the oil sample exchange procedure proposed at the 21<sup>st</sup> MERRAC FPM, MERRAC Focal Points have internally discussed the options during the intersessional period and decided to adopt the option in the format of guidelines at the 22<sup>nd</sup> MERRAC FPM.</li> <li>- The meeting decided to review the draft guideline at the next MERRAC FPM for finalization and requested Korea to present the content of IOA in detail at the next MERRAC FPM.</li> </ul> </li> </ol> <p><b><u>Routine Tasks of MERRAC</u></b></p> <ol style="list-style-type: none"> <li>1) Maintenance and update of Information on Focal points</li> <li>2) Exchange of information on oil and HNS spills <ul style="list-style-type: none"> <li>- Oil spills in 2017: 5 (Japan: 2, Korea: 3)</li> <li>- Oil spills in 2018: 19 (China: 1, Japan: 2, Korea: 6, Russia: 10)</li> <li>- HNS spills in 2018: 1 (Japan: 1)</li> </ul> </li> <li>3) Maintenance and update of Information System <ul style="list-style-type: none"> <li>- Lists of oil spill response equipment in the NOWPAP members</li> <li>- Lists of relevant institutions and experts</li> <li>- National performance standards and/or regulations on the application of non-mechanical methods</li> </ul> </li> <li>4) Maintenance and update of the MERRAC website</li> </ol> <p><b><u>MERRAC Specific Project</u></b></p> <ol style="list-style-type: none"> <li>1) Development of guidelines on the assessment of oil spill response capability for the NOWPAP region (<i>On-going</i>, led by China)</li> <li>2) Development of regional overview on the use of unmanned aircraft during marine pollution response in the NOWPAP region (<i>On-going</i>, led by China)</li> <li>3) Assessment of oil spill emergency preparedness and response for the offshore platform in the NOWPAP region (<i>On-going</i>, led by Russia)</li> <li>4) Renew and consolidate MERRAC website and relevant information system, including enhancing the level of security (<i>Completed</i>, led by MERRAC)</li> </ol> <p><b><u>Training and exercise</u></b></p> <ol style="list-style-type: none"> <li>1) 2<sup>nd</sup> half-year Online Pollution Reporting System (POLREP) test exercise: 13 December 2018 (led by MERRAC)</li> <li>2) 20<sup>th</sup> NOWPAP BRAVO Exercise: 25 July 2019 (led by China)</li> </ol> <p><b><u>Marine litter activities</u></b></p> <ol style="list-style-type: none"> <li>1) Development of report on Understanding of Floating Marine Litter Sources and Flows (<i>On-going</i>, led by MERRAC Secretariat)</li> </ol> <p><b><u>Co-operation with RCU, RACs and other organizations</u></b></p> <ol style="list-style-type: none"> <li>1) Participation in other RAC FPM meetings, IMO PPR Meeting, IMO MEPC meeting, NOWPAP ICC workshop, 2018 Interspill, 2019 Spillcon, others.</li> </ol>
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### 3.1 Meeting

#### 3.1.1 The 22<sup>nd</sup> NOWPAP MERRAC Focal Points Meeting and 14<sup>th</sup> Competent National Authorities Meeting (28-30 August 2019, Seoul, Republic of Korea)

7. MERRAC organized the 22<sup>nd</sup> MERRAC FPM and 14<sup>th</sup> CNA Meeting in Seoul, Korea, from 27 to 30 August 2019. MERRAC Focal Points from the NOWPAP Member States, the delegations from NOWPAP RCU, IMO, International Tanker Owner Pollution Federation Limited (ITOPF), Oil Spill Response Limited (OSRL), other NOWPAP Regional Activity Centers (RACs) and relevant experts from Korea Marine Environment Management Corporation (KOEM) attended the meetings to review the progress and the results of the MERRAC activities for the 2018-2019 biennium, including routine tasks and specific projects (Figure 1).



**Figure 1. The 22<sup>nd</sup> NOWPAP MERRAC Focal Points Meeting and 14<sup>th</sup> Competent National Authorities Meeting held on 28-30 August 2019, Seoul, Korea.**

8. The meeting reviewed the Information System on oil spill response equipment, institutions and experts, and oil and HNS spill incidents (maintained and updated as one of the Routine Tasks of MERRAC). The meeting requested the NOWPAP Member States to promptly exchange information on oil and HNS spills following the NOWPAP RCP through the POLREP system and agreed to continuously maintain and update the list of incidents in the NOWPAP region as a routine task.

9. The meeting discussed the results of the specific projects carried out during the intersessional period. The two projects, namely: 'Development of guidelines on the assessment of oil spill response capability in the NOWPAP region' and 'Assessment of oil spill emergency preparedness and response for the offshore platform in the NOWPAP region,' will be finalized. The final version addresses comments made by experts at the meeting and opinions collected during the intersessional period submitted to the next MERRAC FPM for final review. The project on 'Development of regional overview on the use of unmanned aircraft during marine pollution response in the NOWPAP region' is due for conclusion by the end of 2019, incorporating technical inputs suggested at the meeting.

10. The delegation of Japan presented the plan for the organization of the 2019 MERRAC Expert Meeting held on 18-19 December 2019, Tokyo, Japan. The meeting was successfully

organized under the topic of public-private cooperation by exchanging information, knowledge, and experience on oil spill response with NOWPAP Member States, private sector representatives, and relevant participating international organization.

11. MERRAC reported the results of the RAP MALI activities of 2018/2019 carried out by the Center during the intersessional period, including the report on 'Understanding of floating marine litter sources and flows in the NOWPAP region'. The progress of MERRAC activities on Marine Litter was presented at the 2019 NOWPAP RAP MALI Focal Points Meeting held in Dalian, China (September 2019) to review the results and approve the work plan.

12. Regarding the establishment of a procedure for the exchange of oil samples for the transboundary marine pollution incidents, the delegation of Korea made a presentation on the overall progress. Based upon the discussion with the NOWPAP Member States during the intersessional period on the 4 options suggested during the 21<sup>st</sup> MERRAC FPM, the meeting decided to adopt in principle the option to make the oil sample exchange in the format of a guideline document after carrying out few editorial works during the intersessional period and to review the draft guidelines at the next MERRAC FPM for finalization.

13. The meeting reviewed the results of the 7<sup>th</sup> NOWPAP DELTA exercise and the 20<sup>th</sup> NOWPAP BRAVO exercise. Regarding the plan on the NOWPAP exercise, it was agreed that the frequency of the BRAVO exercise might be reduced to once a year and duration of the individual exercise be extended, and MERRAC would additionally maintain the POLREP system in response to the suggestion from the NOWPAP Member States during the intersessional period. It was also agreed that the 8<sup>th</sup> NOWPAP DELTA exercise would be conducted back-to-back with the 23<sup>rd</sup> MERRAC FPM in June 2020 and led by Korea and China.

14. Participants of the 14<sup>th</sup> Competent National Authorities (CNA) Meeting updated on the progress related to the national oil spill capacity, case studies, national and sub-regional training events and exercises. Four presentations were shared with the meeting in total.

15. According to the draft workplan and budget of MERRAC for the 2020-2021 biennium, China, Korea, Russia, and MERRAC submitted four proposals as new MERRAC Specific Project:

- i) Assessment of the implementation of the OPRC Convention and OPRC-HNS Protocol in the NOWPAP region
- ii) Identification of regional cooperation activities for the MARPOL convention under NOWPAP MERRAC framework
- iii) Response options for condensate spill in context of update of NOWPAP MERRAC Regional Report on HNS Preparedness and Response, 2012
- iv) Development of a MERRAC strategic plan for better implementation of regional cooperation on marine pollution preparedness and response to the 24<sup>th</sup> Intergovernmental Meeting to be held in February 2020.



Also, the meeting requested the leading country to submit a detailed proposal within a month after this FPM and MERRAC to circulate to MERRAC FPs for further submitting to the next IGM for the final approval.

16. The meeting also agreed on the detailed future workplan for 2019-2020 to be implemented during the intersessional period (as shown in Annex 1) before the next FPM in 2020.

### **3.1.2 The 2019 MERRAC Brainstorming Workshop (27 August 2019, Seoul, Republic of Korea)**

17. Upon the approval at the 22<sup>nd</sup> NOWPAP IGM (2017) and the agreement of the 21<sup>st</sup> MERRAC FPM (2018), the 2019 MERRAC Brainstorming Workshop was held on 27 August 2019 in Seoul, before the 22<sup>nd</sup> MERRAC FPM. The main goal of the workshop was to assess the regional joint activities conducted under the MERRAC framework over the past years since its establishment and to identify new activities and tasks to be implemented by MERRAC in the future. These new activities and tasks need to include the emerging global and regional issues in the field of marine pollution preparedness and response.

18. MERRAC Focal Points from the NOWPAP members, the delegations from the NOWPAP RCU, IMO, OSRL, other NOWPAP RACs and relevant experts from KOEM, Engineering School FEFU, have attended the workshop (Figure 2).



**Figure 2. The 2019 MERRAC Brainstorming Workshop held on 27 August 2019, Seoul, Korea.**

19. The Director of MERRAC reported the achievements of MERRAC activities during the past 20 years and highlighted the weakness and challenges to be addressed in the future. He briefly reported on the significant achievements of MERRAC. He presented the results of the self-SWOT analysis of the MERRAC activities and framework, with suggestions on possible follow-up activities, which may result in strengthening the MERRAC activities and working framework.

20. A representative of IMO introduced the IMO's activities, including current regional joint activities of other Regional Seas, with particular reference to REMPEC (the Barcelona Convention) and REMPTEIC-Carib (the Cartagena Convention). By indicating that some of the international shipping-related work of RACs, which focus mainly on the promotion of ratification/implementation of the OPRC-90 and the OPRC-HNS Protocols, has recently been extended to IMO's other environment-related Conventions. The Programme Officer of NOWPAP RCU also presented recent activities of

UNEP, NOWPAP 2018-2013 MTS, and the NOWPAP priorities in terms of the regional cooperation relevant to the MERRAC framework.

21. The representatives of the NOWPAP Member States also made several proposals regarding changes of the operational and working framework of MERRAC, such as establishing an expert group meeting or a technical workshop back-to-back with the MERRAC FPM for more in-depth/technical discussions of the relevant topics to regional activities on marine pollution preparedness and response.

22. Followed by the presentations, the NOWPAP Member States discussed the proposals on new MERRAC activities, tasks, and possible specific projects to be implemented by MERRAC in the future by reviewing the answers to the questionnaire, which was circulated to the NOWPAP members before the workshop during the intersessional period.

23. Regarding the scope of activities to be covered under the MERRAC frameworks, most of the participants expressed their view that MERRAC should stick to the current scope on oil and chemical spill issues rather than expanding to other IMO convention-related issues.

24. The participants of the workshop also discussed the possibility of developing a specific report as a new MERRAC specific task for the next biennium, which was brought to the 22<sup>nd</sup> MERRAC FPM for their consideration. The secretariat proposed that the report might mainly include the contents of the questionnaire circulated before the brainstorming workshop, results of the discussions made during the brainstorming workshop, and further comments and recommendations, which might be generated additionally during the intersessional period after the 22<sup>nd</sup> MERRAC FPM by a nominated correspondence group

### **3.2 Practical assistance for real incidents under the NOWPAP Regional Oil and HNS Spill Contingency Plan**

#### **3.2.1 Procedure for exchange of relevant oil samples for the trans-boundary marine pollution incidents between members**

25. Considering the four options on this issue suggested at the 21<sup>st</sup> MERRAC FPM to decide the future directions, the NOWPAP Member States had an internal discussion to decide future directions: whether to add the procedure to the annex of existing NOWPAP RCP or not.

26. At the 22<sup>nd</sup> MERRAC FPM, the delegation of Korea (leading role) presented the overall progress of the establishment of the procedure for the exchange of oil samples. The NOWPAP Member States raised some concerns regarding the revision of the NOWPAP RCP, such as legal challenges and the practicality during the pressing situations. Following a thorough discussion, it was decided to adopt it as a guideline (Figure 3).

27. During the intersessional period, the draft oil sample exchange guideline document required editorial improvements before it was then reviewed at the next MERRAC FPM for finalization. Also, the delegation of Korea was requested to present at the next MERRAC FPM the content of the International Offers of Assistance (IOA) in more detail, as it was used as a universal tool for international aid.

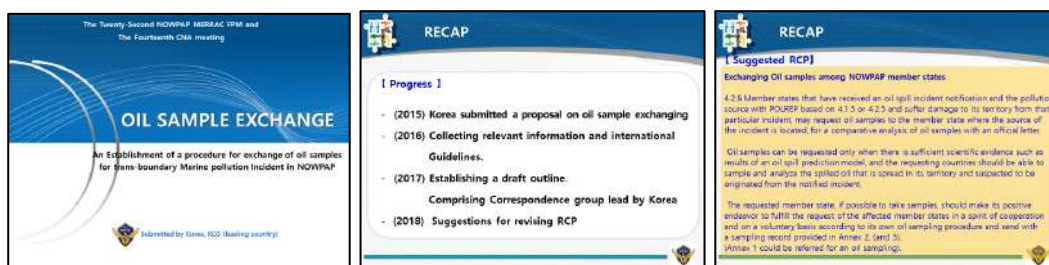


Figure 3. Overall progress on the establishment of procedure for the exchange of oil samples

### 3.3 Routine Tasks

#### 3.3.1 Maintenance and update of the contacts of the NOWPAP members on marine pollution prevention and response

28. MERRAC has been continuously updating the list of the MERRAC Focal Points and the Focal Points of Japan and Korea has been replaced during the intersessional period as follow (Table 2):

Table 2. The updated list of MERRAC Focal Points

People's Republic of China	Japan	Republic of Korea	Russian Federation
Mr. Chunchang ZHANG Deputy Director Department of Dangerous Cargo Control and Pollution Prevention, China Maritime Safety Administration	Mr. Norihiro ISHIZAKI Marine Environment Protection & Disaster Prevention Division, Guard & Rescue Department, Japan Coast Guard,	Dr. Hyun Jin CHO Division of Marine Pollution Response Planning, Korea Coast Guard,	Dr. Natalia KUTAEVA Counselor to the Director Federal Budgetary Institution "Marine Rescue Service (MRS)

29. MERRAC has also updated the list of the Competent National Authorities, National Operational Contact Point(s) and Assistance Decision Authorities. The above focal points are responsible for the exchange of information in case of large-scale oil and HNS spill incidents in the NOWPAP region to facilitate relevant regional cooperation.

#### 3.3.2 Maintenance and update of the lists of oil and HNS spill incidents until 2018

30. MERRAC has annually been collecting information on oil and HNS spill accidents, including additional information on fate and effects in the NOWPAP region of oil and HNS spills over 10 tons. From 1990 to 2018, a total of 323 oil spills and 51 HNS spills occurred in the NOWPAP region. According to the information submitted by the NOWPAP members, 19 oil spills occurred in 2018 (Figure 4). As per the collected data, a collision was the most frequent cause of oil spill accidents, followed by grounding, sinking, and a fire or explosion. Collisions were also the most frequent cause of the HNS spill accidents, followed by sinking and grounding (Figure 5).

31. The lists and relevant information on oil and HNS spill accidents are available online on the MERRAC website (<http://merrac.nowpap.org>).

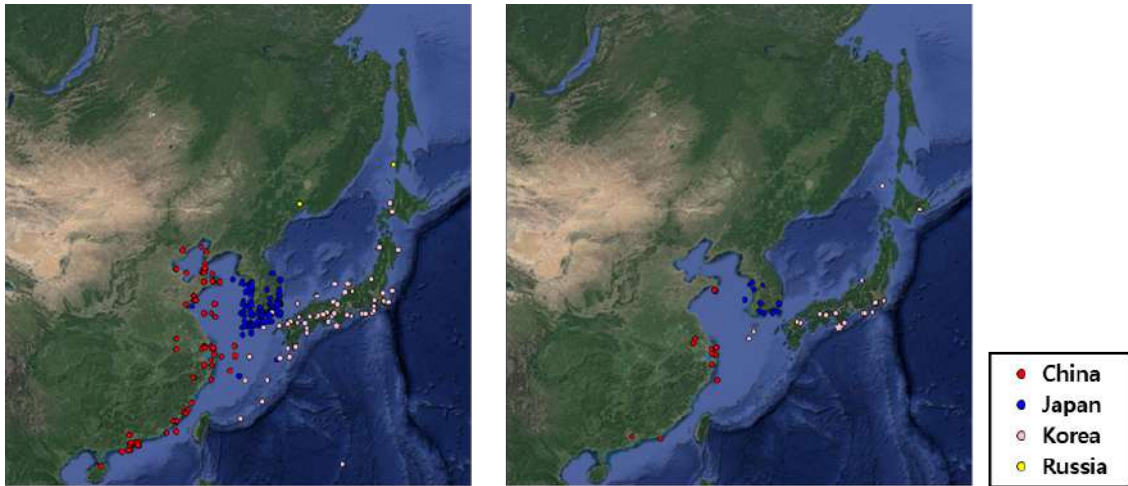


Figure 4. Location of oil (left) and HNS (right) spill incidents from 1990 to 2018 in the NOWPAP region (stars indicate location of spill incidents that occurred in 2018).

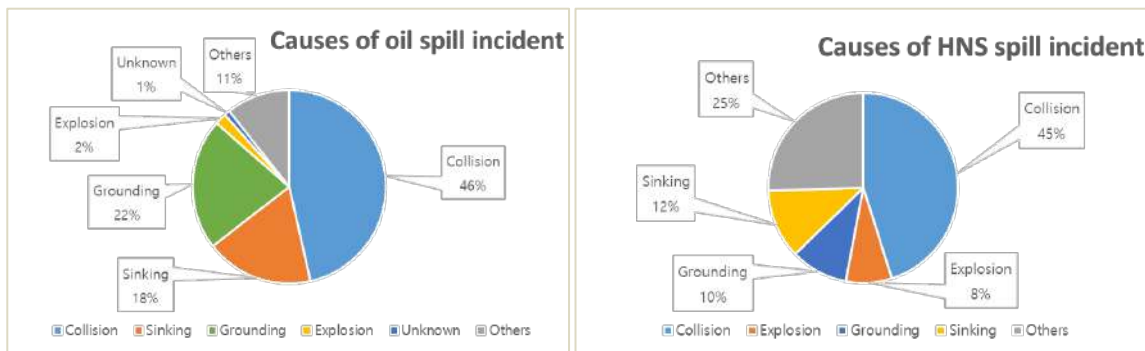


Figure 5. Causes of oil (left) and HNS (right) incidents from 1990 to 2018 in the NOWPAP region

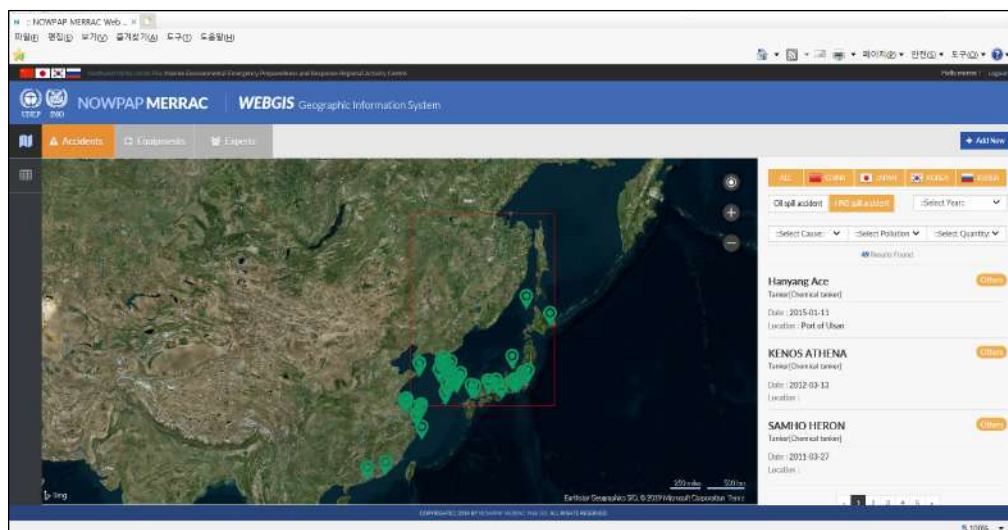


Figure 6. Web-GIS Information System (list of oil and HNS incidents, lists of equipment, institutions and experts in the NOWPAP region)



### 3.3.3 Maintenance and update of the Information System (Web-GIS)

32. As per Routine Tasks of the Center related to maintenance of the Information System, MERRAC annually updated the lists of the equipment with an indication which items are available for the assistance to other members. Such lists included, among other, oil recovery boats, oil recovery systems, oil booms, aircrafts, oil transfer pumps, beach cleaners, dispersants, and sorbents, including national performance standards and regulations on the application of non-mechanical methods). Also, lists of institutions and experts were regularly updated.

33. The maintained Information on the equipment and other resources can be provided promptly to the NOWPAP Member States for their assistance, when/if major oil or HNS spills occur in the NOWPAP region, on the Web-GIS Information System (Figure 6).

### 3.3.4 Maintenance and update of the MERRAC website

34. Through the 2018-2019 MERRAC project on 'Renew and consolidate MERRAC website and relevant information system, including enhancing the level of security,' MERRAC has redesigned its website, integrated/updated relevant information system (Web-GIS, Online POLREP) and finally opened the new website. As per MERRAC's routine tasks, information sharing and raise of public awareness are facilitated through the maintenance of the MERRAC website (Figure 7).



**Figure 7. Newly designed MERRAC website and upgraded relevant information system (Web-GIS, Online POLREP)**

## 3.4 MERRAC Specific Project

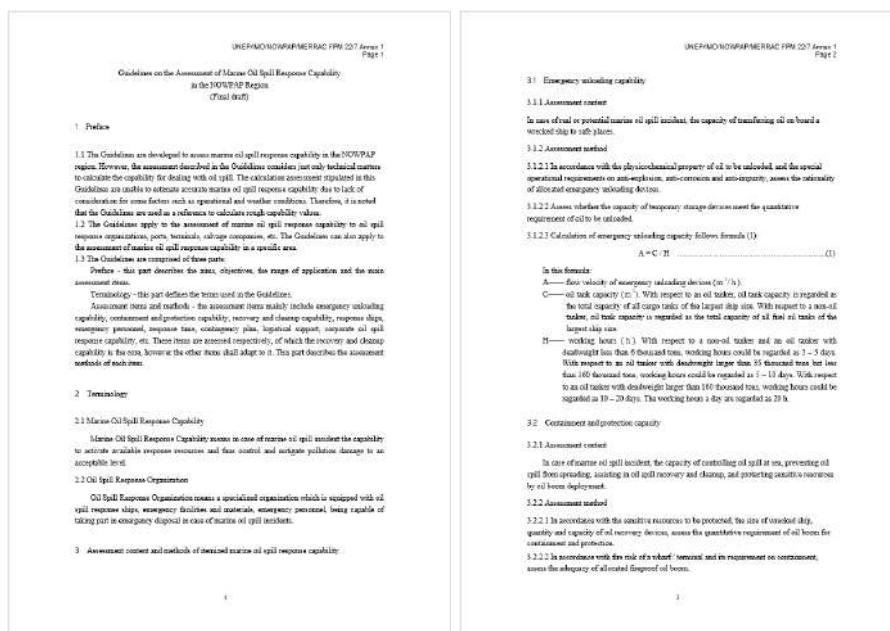
35. During the 2018-2019 biennium, several projects were implemented as 'MERRAC Specific Project,' with a purpose to facilitate the development of effective measures for regional cooperation and to discuss technical and academic issues related to marine pollution preparedness and response.

- Development of guidelines on the assessment of oil spill response capacity in the NOWPAP region;

- Development of regional overview on the use of unmanned aircrafts during marine pollution response in the NOWPAP region;
- Assessment of oil spill emergency preparedness and response for the offshore platform in the NOWPAP region;

36. The project on 'Development of guidelines on the assessment of oil spill response capability in the NOWPAP region' has been continuously implemented during the intersessional period to develop the draft regional report as planned. The guidelines included inputs from nominated national experts of the NOWPAP Member States and are designed to harmonize the process of assessing marine oil spill response capability in the NOWPAP region.

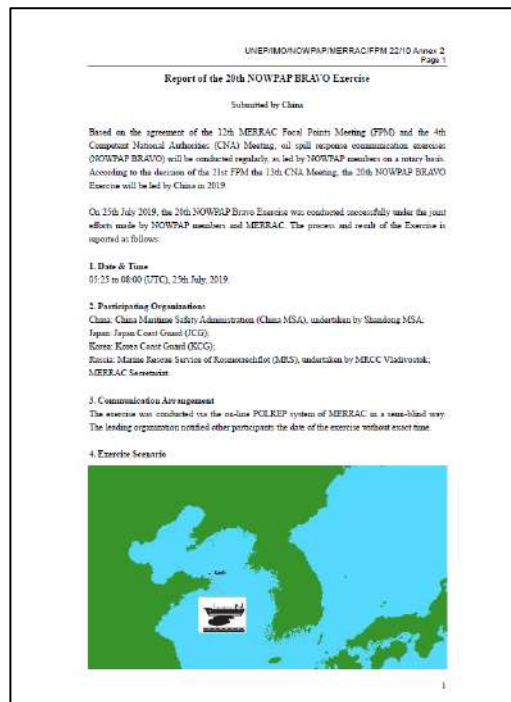
37. During the 22<sup>nd</sup> MERRAC FPM, the leading expert made a presentation on the draft report of the project, including the current situation, as well as the principles and a method of evaluation of oil spill response capacity (Figure 8). To finalize the draft guidelines, the leading expert included references to the assessment methods, examples of the real application and its results, and a simple explanation on how the expert would have reached the equation, reflecting the additional comments raised during the meeting. Also, after consultation with the MERRAC Secretariat, the draft guidelines will be submitted to the 23<sup>rd</sup> MERRAC FPM for the final review.



**Figure 8. The draft guidelines on assessment of oil spill response capability in the NOWPAP region**

38. Concerning the project on 'Development of regional overview on the use of unmanned aircrafts during marine pollution response in the NOWPAP region,' the regional report was developed based upon the submitted national reports from the nominated experts of the NOWPAP members during the intersessional period (Figure 9). The national report includes the relevant regulations, response strategies, cases/experiences, and recommendations on the use of unmanned aircrafts in the marine pollution response in the NOWPAP region. At the 22<sup>nd</sup> MERRAC FPM, the leading expert of the project presented and described the draft regional





**Figure 10. The 20<sup>th</sup> BRAVO Exercise led by China in 2019**

42. During the 22<sup>nd</sup> FPM, the delegation of China presented the results of the 20<sup>th</sup> NOWPAP BRAVO Exercise, and the Exercise was assessed to be successful and meaningful. Upon the agreement made at the meeting, the frequency of the Exercise may be reduced to once a year. At the same time, the duration of an individual exercise may be extended, according to the situation in the leading and participating organizations. The meeting decided to conduct 3-5 days of NOWPAP BRAVO Exercise to efficiency share incident information, mobilize other relevant institutes, and support international assistance/cooperation.

### **3.5.2 NOWPAP DELTA – Joint Oil Spill Exercise**

43. Following the corresponding decision of the 21<sup>st</sup> MERRAC FPM and 13<sup>th</sup> CNA Meeting, the 7th NOWPAP DELTA exercise was conducted according to the decision of the 21<sup>st</sup> MERRAC FPM and the 13th CNA Meeting, in Maizuru city, Japan on 2-5 October 2018, which was organized by Japan Coast Guard (JCG) and co-organized by Russia MRS (Figure 11).

44. The exercise scenario of the 7th DELTA exercise was prepared by the leading country, Japan, as follows:

- Tanker A and Bulk carrier B collide at 16 nautical miles north of “Kyogamisaki” (off-shore of Maizuru)
- 100 kiloliters of marine diesel fuel oil and 500 kiloliters of heavy fuel oil of Tanker A spilled out
- Upon reception of the information, the 8 JCG headquarters and relevant government /local authorities respond immediately



- The accident information is shared among the NOWPAP members by POLEP system
- Russia offers to send Marine Rescue Services' 'IRBIS' to Japan for oil spill recovery operation and Japan officially accepts it through diplomatic channels
- During the oil spill response operation, one crew member of the Japanese ship falls into the sea, and another crew member reports a poor physical condition due to oil removal work
- JCG patrol vessel carried out response rescue operations as well.



**Figure 11. The 7<sup>th</sup> NOWPAP DELTA Exercise conducted on 2-5 October 2018, led by Japan and Russia**

45. During the exercise, JCG mobilized 8 response vessels, 1 helicopter and 1 unmanned aircraft (drone), Russia MRS assisted by dispatching 1 response vessel to the exercise, and over 200 personnel to conduct the exercise.

46. The Exercise was successfully held and contributed to the enhancement of the joint oil spill response capacity in the NOWPAP region and reinforcement of cooperation among the NOWPAP Member States under the NOWPAP RCP for a prompt and effective response during large-scale oil spill incidents that may occur in the region.

### **3.5.3 Online POLREP test exercise**

47. Following the agreement of the 21<sup>st</sup> MERRAC FPM and the 13<sup>th</sup> CNA Meeting, MERRAC conducted the Online POLREP test exercise (13 December 2018) to test the system operation and encourage MERRAC FPs to use the system more efficiently and comfortably. During the test, the reaction time from all NOWPAP members was shortened to less than 33 minutes, improving the use of the system (Figure 12).

### **3.6 Implementation of the RAP MALI**

48. Under the NOWPAP RAP MALI 2018-2019, a draft report 'Understanding of Floating Marine Litter Sources and Flows in the NOWPAP region' was developed. It incorporated a literature review of the Floating Marine Litter studies published up to February 2019 in the NOWPAP region, led by external experts from OSEAN. The objective of the report was to provide the current status of the

distribution and characteristics and to recommend relevant action to produce data that can be compared among the NOWPAP Member States in the future.

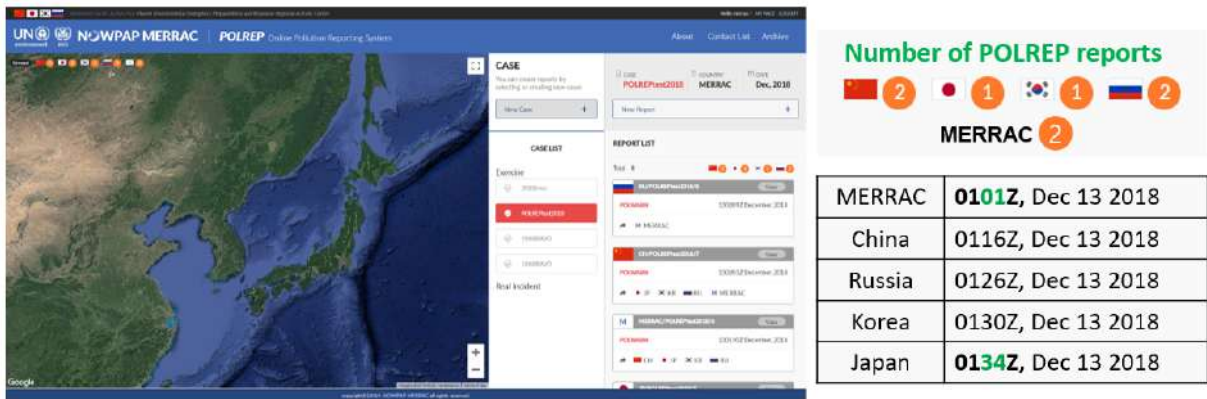


Figure 12. The Online POLREP test exercise conducted on 13 December 2018, led by MERRAC

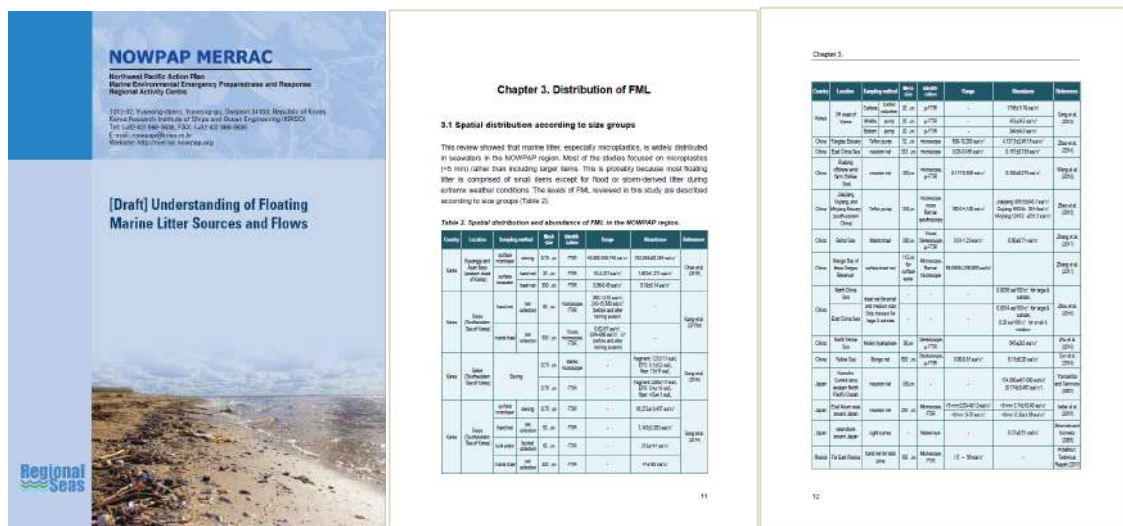


Figure 13. Report on Understanding of Floating Marine Litter Sources and Flows in the NOWPAP region.

49. The progress of the MERRAC activities for 2018-2019 on the Marine Litter including the draft report was presented at the 2019 NOWPAP RAP MALI Focal Points Meeting held in Dalian, China (September 2019).

**3.7 Co-operation with NOWPAP RCU and other Regional Activity Centers (RACs)**

50. MERRAC has participated in the following meetings for relevant regional co-operation:

- 6<sup>th</sup> IMO Sub-Committee on Pollution Prevention and Response (PPR Meeting) (16-24 February 2019)
- POMRAC Workshop and CEARAC Expert Meetings (20-22 March 2019, Vladivostok, Russia)
- Spillcon 2019 (20-24 May 2019, Perth, Australia)

- 17<sup>th</sup> CEARAC FPM (9-10 September 2019, Toyama, Japan)
- International Oil Spill Response Seminar of GI-China Programme (17-20 September 2019, Ningbo, China)
- International Chemical and Oil Pollution Conference and Exhibition (ICOPCE 2019) (21-24 October 2019, Little India, Singapore)
- NOWPAP- Trilateral Environmental Ministers Meeting (TEMM) Joint Workshop on Marine Litter Management and 2019 NOWPAP International Coastal Cleanup (ICC) (24-25 September 2019, Dalian, China)
- 2019 NOWPAP RAP MALI FPM and Second Expert Group Meeting of the NOWPAP Special Project “Monitoring and Assessment Methods for Microplastics Pollution” (26-27 September 2019, Dalian, China)

### 3.8 Budget and Expenditures of MERRAC for the 2020-2021 biennium

51. Table 3 summarizes the budget and expenditures of MERRAC for the 2018-2019 biennium, as of 30 November 2019. The rest of the budget will be expensed until the end of 2019 as planned and detailed breakdown of project expenditure for the 2018-2019 biennium will be reported to UNEP through NOWPAP RCU.

**Table 3. Summary of MERRAC budget and expenditures for the 2018/2019 biennium (as of 30 November 2019)**

Activity	Original Budget (USD)	Expenditures incurred in 2018 (USD)	Expenditures incurred in 2019 (USD)	Total Expenditures (USD)
<b>Activity 1</b>				
<b>Strengthen regional capacity on oil and HNS spill pollution preparedness and response through knowledge and information sharing and capacity building</b>				
Coordination, communication, knowledge sharing with RCU, NOWPAP RACs, UN Environment and partners	22,000	13,911	4,666	18,577
Strengthened regional capacity on oil and HNS spill preparedness and response	48,000	24,082	22,592	46,674
- Approximately 30 experts related for 5 days (2018 and 2019 each)				
Preparation of reports of MERRAC Focal Points Meetings (FPMs) and Competent National Authorities (CNA) Meetings	4,000	2,504		2,504
- Twice (2018 and 2019)				
Enhanced knowledge sharing among experts in NOWPAP region	25,000		16,837	16,837
- Approximately 30 relevant experts for 5 days				
Preparation of meeting report of the 2019 MERRAC Expert Meeting	2,000			
<b>Sub-total</b>	<b>101,000</b>	<b>40,497</b>	<b>44,095</b>	<b>84,592</b>
<b>Activity 2</b>				
<b>Brainstorm on the future direction of MERRAC</b>				
Brainstorm conducted	18,000		15,062	15,062
- Approximately 20 relevant experts for 3 days				
Preparation of Regional report of the Brainstorming workshop	2,000			

Activity	Original Budget (USD)	Expenditures incurred in 2018 (USD)	Expenditures incurred in 2019 (USD)	Total Expenditures (USD)
<b>Sub-total</b>	<b>20,000</b>		<b>15,062</b>	<b>15,062</b>
<b>Activity 3</b>				
<b>Develop guidelines on the assessment of oil spill response capability in the NOWPAP region</b>				
Consultancy to the nominated national experts	13,000	3,602		3,602
Printing of guidelines on the assessment of oil spill response capability in the NOWPAP region	2,000			
<b>Sub-total</b>	<b>15,000</b>	<b>3,602</b>		<b>3,602</b>
<b>Activity 4</b>				
<b>Develop regional overview on the use of unmanned aircraft during marine pollution response in the NOWPAP region</b>				
Consultancy to the nominated national experts	9,000		4,737	4,737
Printing of regional overview report on the use of unmanned aircraft during marine pollution response in the NOWPAP region	1,000			
<b>Sub-total</b>	<b>10,000</b>		<b>4,737</b>	<b>4,737</b>
<b>Activity 5</b>				
<b>Assess oil spill emergency preparedness and response for offshore platforms in the NOWPAP region</b>				
Consultancy to the nominated national experts	13,000		6,763	6,763
Printing of regional report of Assess oil spill emergency preparedness and response for offshore platforms in the NOWPAP region	2,000			
<b>Sub-total</b>	<b>15,000</b>		<b>6,763</b>	<b>6,763</b>
<b>Activity 6</b>				
<b>Integration of MERRAC website with the enhanced and supplemented systems (online POLREP system, Web-GIS based information system, Information sharing platform, etc.)</b>				
Expert/system developers	23,000	21,714		21,714
Others (meetings, etc.)	1,000	478	45	523
<b>Sub-total</b>	<b>24,000</b>	<b>22,192</b>	<b>45</b>	<b>22,237</b>
<b>Activity 7</b>				
<b>Regional assessment report on floating marine litter sources and flows</b>				
Consultancy to the nominated national experts	8,000		7,273	7,273
Printing of the Regional assessment report on floating marine litter sources and flows	1,250			
<b>Sub-total</b>	<b>9,250</b>		<b>7,273</b>	<b>7,273</b>
<b>Total Cost</b>	<b>194,250</b>	<b>66,291</b>	<b>77,975</b>	<b>144,266</b>

52. In addition to the NOWPAP Trust Fund, the NOWPAP members has also been providing various in-kind contributions for implementation of MERRAC activities such as conduction of DELTA exercises, organization of the MERRAC Expert Meetings and the MERRAC FPM and CNA meeting etc. MERRAC operation budget is also supported by the Government of Republic of Korea (through KCG) annually.

53. The followings are a summary of the in-kind contributions and other contributions made during 2018-2019 after the 22<sup>nd</sup> NOWPAP IGM:

- MERRAC operation budget (KCG): A total of USD 219,104 was supported for the year 2019
- In-kind contributions: Travel expenses to participate at the 7<sup>th</sup> NOWPAP DELTA Exercise, the 22<sup>nd</sup> MERRAC FPM and 14<sup>th</sup> CNA Meeting, etc.

#### 4. Proposed workplan and budget of MERRAC for 2020/2021

54. Table 4 summarizes the workplan and budget scale for the 2020/2021 biennium, agreed at the 22<sup>nd</sup> MERRAC FPM. The budget will be re-arranged depending on the approval at the 24<sup>th</sup> NOWPAP IGM.

**Table 4. Proposed Budget for MERRAC Activities for the 2020/2021 Biennium**

Activities	Budget (US\$)		
	2020	2021	Total
1. Focal Points Meeting & CNA Meeting - Coordinate MERRAC activities - Maintain and update the RCP, including relevant Annexes - Report on oil and HNS pollution incident - Update the Information System - Planning the training and exercises - In case of major spill accidents, exchange the POLREP, activate the RCP and conduct Joint Oil Spill Response (JOSR)	26,000	26,000	52,000
2. Expert Meeting (to be led by China) - Technical issues on oil and HNS spill	-	27,000	27,000
3. Specific projects		16,000	16,000
1) Assessment of the implementation of OPRC Convention and OPRC-HNS Protocol in the NOWPAP region		16,000	16,000
2) Identification of regional cooperation activities for MARPOL convention under NOWPAP MERRAC framework (e.g. oil-waste discharge from ship, fuel-oil quality, etc.)		16,000	16,000
3) Response options for condensate spill in context of update of NOWPAP MERRAC Regional Report on HNS Preparedness and Response, 2012		27,000	27,000
4) Development of MERRAC strategic plan for better implementation of regional cooperation on marine pollution preparedness and response in the NOWPAP region (by the organization of expert groups on specific issues such as oil finger-print, oil spill modelling, emergency salvages, etc.)			
4. Maintenance and management of MERRAC website	2,500	2,500	5,000
5. Coordination with IMO/UNEP and Regional Seas - NOWPAP IGM - IMO PPR Meeting - Other Regional Activities Centers - Regional Cooperation, etc.	11,000	11,000	22,000
6. Publications and other miscellaneous costs - Technical Reports and Newsletter - Others	2,000	2,000	4,000
7. NOWPAP Exercise - DELTA Exercise (to be led by Korea) - NOWPAP BRAVO Exercises (2 times) 2020: Russia 2021: Japan - NOWPAP DELTA Exercise (co-organized by Korea and China in June 2020)	(In-kind)		(In-kind)
<b>Total</b>	<b>79,000</b>	<b>106,000</b>	<b>185,000</b>

## Annex 1. Future tasks to be implemented by MERRAC during the intersessional period before the 22<sup>nd</sup> MERRAC FPM in 2019

The tasks and expected outputs of MERRAC activities in 2019 are as follows based on the decision of the 21<sup>st</sup> MERRAC FPM:

### A1.1 Routine Tasks carried out by MERRAC

Tasks	Lead Country/ Agency	Actions	Expected Outputs
1. Regional Contingency Plan	MERRAC	<ul style="list-style-type: none"> <li>- Maintain or update the RCP including its Annexes</li> <li>- Maintain the networks among the relevant Competent National Authorities for the RCP in the NOWPAP region</li> <li>- Carry out regional activities as required by the RCP</li> <li>- In case of major pollution incidents, if necessary, RCP is activated</li> </ul>	<ul style="list-style-type: none"> <li>- Regional cooperation system regarding marine pollution preparedness and response</li> <li>- Increase regional capacity on marine pollution preparedness and response</li> <li>- Efficient implementation of the RCP for practical use and assistance procedure and system during major oil spill</li> <li>- Update Annexes of the RCP</li> </ul>
2. Focal Points Meeting and Competent National Authorities Meeting	MERRAC	<ul style="list-style-type: none"> <li>- Coordinate and organize annual FPM and CNA meetings</li> <li>- Develop the provisional agenda for the meetings, including the relevant meeting documents</li> <li>- Review the progress made during the inter-sessional period, and identify the follow-up activities</li> <li>- Carry out the follow-up activities resulting from the two meetings</li> </ul>	<ul style="list-style-type: none"> <li>- Exchange of relevant information on oil &amp; HNS spill preparedness and response in the region</li> <li>- Increased regional capacities on marine pollution preparedness and response</li> <li>- Discussion on the implementation of the RCP and relevant regional co-operative activities</li> </ul>

Tasks	Lead Country/ Agency	Actions	Expected Outputs
3. Expert Meeting	Japan & MERRAC	<ul style="list-style-type: none"> <li>- Support in preparing the expert meeting to be held on 18-19 December 2019 in Tokyo, Japan</li> <li>- Prepare invitation of speakers, relevant logistics, etc.</li> <li>- Support in organizing the 2019 MERRAC Expert Meeting to be led by Japan (public-private cooperation)</li> </ul>	<ul style="list-style-type: none"> <li>- Facilitating implementation of the NOWPAP RCP</li> <li>- Sharing information and knowledge on oil spill response among NOWPAP Members and private sectors</li> <li>- Sharing the latest technologies on the oil spill and HNS response operation (AI, UAV, robotics, etc.)</li> <li>- Discussing the future possibility of utilizing the new technologies to boost regional capability</li> </ul>
4. Report on oil and HNS Pollution Incidents	MERRAC and NOWPAP Members	<ul style="list-style-type: none"> <li>- Share oil and HNS spill incidents among the members using Online POLREP system when they occur</li> <li>- Overview oil and HNS spill cases occurred in the region with support from FPs and other relevant organizations</li> <li>- Collect lists of oil and HNS spill incidents over 10 tons in the NOWPAP member states</li> <li>- Maintain and update the relevant list on MERRAC website</li> </ul>	<ul style="list-style-type: none"> <li>- Sharing prompt relevant information among the members</li> <li>- Updated database on oil and HNS spills in the NOWPAP region on a regular basis</li> </ul>
5. Information System	MERRAC and NOWPAP Members	<ul style="list-style-type: none"> <li>- Update information of oil and HNS spill response equipment, institutions and experts</li> <li>- Maintain and update the information on MERRAC website and web-GIS system</li> <li>- Develop technical guidelines based upon the suggestions from Members and report to next FPM (as reference material to the Information System)</li> <li>- Discuss how to use the new format and how to accommodate the suggestion at the next FPM</li> </ul>	<ul style="list-style-type: none"> <li>- Update Information System (in particular the list of available equipment which can be possibly assisted to each member state when major spills occur within the framework of the RCP)</li> <li>- User-friendly information system</li> <li>- Uploaded Information System</li> </ul>
6. Training and Exercise	MERRAC and NOWPAP members	<ul style="list-style-type: none"> <li>- Further maintain and improve the function of the Online POLREP system</li> </ul>	<ul style="list-style-type: none"> <li>- Improved and practiced communication system among the members using the Online Pollution Reporting System</li> </ul>

Tasks	Lead Country/ Agency	Actions	Expected Outputs
		<ul style="list-style-type: none"> <li>- Carry out NOWPAP DELTA (Joint Operation) Exercise back to back with the 23rd MERRAC FPM in June under the leading role of Korea and China</li> <li>- Carry out NOWPAP BRAVO (communication) Exercise during the intersessional period for 3-5 days under the leading role of Russia</li> <li>- Report the results to the next FPM</li> </ul>	<ul style="list-style-type: none"> <li>- Improved functions of the POLREP system</li> <li>- Improved regional joint response capacity for oil and HNS spills in a real incident</li> </ul>
7. Communications	MERRAC	<ul style="list-style-type: none"> <li>- Maintain and facilitate routine communication links between relevant authorities in the NOWPAP region</li> <li>- MERRAC shares its activities and information with Members and relevant organizations</li> </ul>	<ul style="list-style-type: none"> <li>- Establishment of efficient communication system relevant to oil and HNS spill preparedness and response in the NOWPAP area</li> <li>- Enhanced information sharing among the member states and relevant bodies</li> </ul>
8. Other Routine Tasks as described by the TOR of MERRAC or decided upon by the FPM and/or IGM	MERRAC and NOWPAP members		



### A1.2 Specific projects and/or activities coordinated by MERRAC during the inter-sessional period

Tasks	Lead Country / Agency	Actions	Expected Outputs
1. Development of guidelines on the assessment of oil spill response capability for the NOWPAP region ( <i>On-going</i> )	MERRAC and NOWPAP Members (leading country: China)	<ul style="list-style-type: none"> <li>- Insert more scientific basis, academic references or internal data on real application results</li> <li>- Compare the results by applying it to actual cases (i.e., the Hebei Spirit incident) to clarify the calculation</li> <li>- Finalize the report in consultation with the MERRAC Secretariat after having reflected the additional comments raised during the meeting</li> <li>- Submit the report to the next FPM for final review</li> </ul>	<ul style="list-style-type: none"> <li>- Development of the guidelines on the assessment of oil spill response capabilities in the NOWPAP region which could provide a calculative method</li> <li>- Guidelines could assist Competent National Authorities of member states to assess oil spill response capability of specific areas, ports or organizations</li> <li>- The guidelines could be used as a tool to develop capacity building plans and/or programs</li> <li>- Enhancement of capability building on oil spill preparedness and response in the region</li> </ul>
2. Development of regional overview on the use of unmanned aircraft during marine pollution response in the NOWPAP region ( <i>On-going</i> )	MERRAC and NOWPAP Members (leading country: China)	<ul style="list-style-type: none"> <li>- Finalize the report by adding technical contents on the international/domestic laws and limitations on drone-use as a reference</li> <li>- Conclude the project by the end of this year after circulating to the MERRAC FPs and national experts</li> </ul>	<ul style="list-style-type: none"> <li>- The assistance of the Competent National Authorities of the Member States in equipping appropriate unmanned aircrafts and in the development of related response strategies and capability building plans</li> <li>- Guidance for the industry to produce unmanned aircrafts suitable to the regional needs</li> </ul>
3. Assessment of oil spill emergency preparedness and response for the offshore platform in the NOWPAP region ( <i>On-going</i> )	MERRAC and NOWPAP Members (leading country: Russia)	<ul style="list-style-type: none"> <li>- Reflect the comments made by FPM</li> <li>- Focus only on the Sakhalin area as a case study</li> <li>- Finalize the report as a technical tool which will be available to the Member States in case it is needed</li> <li>- Submit the report to the next FPM for final review</li> </ul>	<ul style="list-style-type: none"> <li>- Development of the recommendations on the minimum response requirements for oil spill from the offshore units in the NOWPAP region</li> </ul>
4. RAP MALI ( <i>On-going</i> )	MERRAC (and NOWPAP ML FPs)	<ul style="list-style-type: none"> <li>- Report the draft report to the next RAP MALI FPM (September 2019)</li> <li>- Circulate the draft report to the RAP MALI FPs, NOWPAP RCU, and MERRAC FPs and receive the feedback/comments for finalization of the report</li> </ul>	<ul style="list-style-type: none"> <li>- Update on the information of the distribution of FML</li> <li>- Identification of the potential sources of FML</li> <li>- Development and publication of the Regional Report</li> </ul>

Tasks	Lead Country / Agency	Actions	Expected Outputs
		<ul style="list-style-type: none"> <li>- Finalize and publish a technical report by the end of this year</li> </ul>	
<p>5. Renew and consolidate of MERRAC website and relevant information system, including enhancing the level of security <i>(On-going)</i></p>	MERRAC	<ul style="list-style-type: none"> <li>- Conduct further maintenance of the MERRAC website including information system (POLREP, Web-GIS) following the requests made from the Member States during the FPM</li> <li>- POLREP: add a function of saving information/report (including temporary save when creating the report)</li> <li>- Correct any modification to the POLREP system before the next BRAVO Exercise</li> </ul>	<ul style="list-style-type: none"> <li>- Enhance the level of security of MERRAC website and other developed systems</li> <li>- Enhancement of website accessibility and change of the design</li> <li>- Consolidation of the individual systems into one website</li> <li>- Upgrading of all the systems (Web GIS-based information system, online POLREP system, Information sharing platform)</li> </ul>
<p>6. Other Specific projects as described by the TOR of MERRAC or decided upon by the FPM and/or IGM</p>	MERRAC		