



บริษัท ปตท.สผ. สยาม จำกัด

รายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม  
โครงการพัฒนาแหล่งน้ำมันสิริกิติ์ตะวันออก แพลงเอส 1 จังหวัดกำแพงเพชรและพิษณุโลก  
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ภาคผนวกที่ 13  
Spill Management Plan



PTT Exploration and Production Public Company Limited

## Spill Management Plan

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0	New	CSH	Dec 2011
1	Added <ul style="list-style-type: none"> <li>List of approved dispersants in Thailand</li> <li>Request form of dispersant application for approval in Thailand</li> <li>Tier2 Equipment Stockpile</li> </ul> Updated <ul style="list-style-type: none"> <li>Role &amp; Responsibility of Corporate and asset during exploration drilling phase</li> <li>Role &amp; Responsibility of Corporate and asset during production drilling phase</li> <li>Role &amp; Responsibility of Corporate and asset for Tier 2 &amp; 3 Equipment Request</li> <li>Tier2 and Tier3 Communication Flow and appendices</li> </ul>	TSH	Dec 2016
2	Updated <ul style="list-style-type: none"> <li>Document title and contents reorganisation.</li> <li>Document code to be aligned with SSHE Documentation Management Standard.</li> <li>Contact number of Thailand and International Authority and Organisation.</li> </ul> Added <ul style="list-style-type: none"> <li>Summary of spill management team leader.</li> <li>Minimum requirements of Asset Spill Response Plan preparation, response techniques, consequence analysis, training and exercise.</li> <li>List of Spill Response Equipment under PTTEP and the alliances.</li> </ul>	CSH	Mar 2018

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## 1. PURPOSE

This Spill Management Plan is developed to outline the preparation of response actions and resources needed for the spill incident. The necessary response actions include the following as a minimum; the requirements of the Asset Spill Response Plan preparation, the response organisation and protocol, the notification and interface between PTTEP Headquarters and the Assets and/or the external agencies including government agencies and other related organisations, resources preparation, including capability assessment and document review and update.

This plan will guide Assets and support functions, i.e. seismic exploration, exploration and production drilling, production and decommissioning activities, including the storage, offloading and logistics support, in preparation and implementation of effective spill response. In some case, bridging document from contractors who provide the main activities to PTTEP is required in order to establish the interface between these organisations as well as ensuring the alignment and prompt response.

This Spill Management Plan is a "PDR" which denotes as a Procedure.

## 2. SCOPE

This plan applies to all PTTEP Assets and supports functions in preparation and implementation of the effective spill response in all activities of Exploration and Production (E&P) Phases.

Compliance with the requirements described in this plan is mandated for all PTTEP Assets and its Subsidiaries. In the countries where the local regulation exists, this plan shall be read and implemented in conjunction with all relevant regulations, or adopted as a minimum requirement if this plan is more stringent than the regulatory requirements. Where PTTEP is a Joint Venture Partner or Joint Operator under PTTEP operational or financial control, compliance with this document is also mandated where PTTEP has legal obligations on the spill response and management, unless otherwise specified in the operational agreement.

## 3. REFERENCES

### 3.1 PTTEP SSHE CONTROLLING DOCUMENTS

Document Number	Document Title
11038-STD-SSHE-000	SSHE Management System
11038-STD-SSHE-520-009	Environmental Management Standard
11038-STD-SSHE-600-011	Incident Management Standard
SSHE-106-STD-340	SSHE Training and Competency Standard
SSHE-106-STD-400	SSHE Risk Management Standard
SSHE-106-STD-500	Emergency and Crisis Management Standard

Document Number	Document Title
SSHE-106-PDR-501	Crisis Management Plan
SSHE-106-PDR-502	Emergency Management Plan
SSHE-106-PDR-521	Waste Management Procedure
SSHE-106-GDL-526	Net Environmental Benefit Analysis Guideline

### 3.2 OTHER REFERENCE DOCUMENTS

Document Number	Document Title
12145-GDL-004-R02	Crisis Communications Guideline
-	Dispersants: Subsea Application, the International Petroleum Industry Environmental Conservation Association (IPIECA) and International Association of Oil & Gas Producers (IOGP), 2015.
-	Oil Spill Response Field Guides, Oil Spill Response Limited (OSRL), 23 July 2015.
-	Thailand's Oil Spill Protection and Control Plan (แผนป้องกันและขจัดมลพิษทางน้ำเนื่องจากน้ำมันแห่งชาติ, Thai version), Marine Department, the Ministry of Transport Thailand, 6 August 2002.
-	Documents and Guides, The International Tanker Owners Pollution Federation Limited (ITOPF), accessed 2 March 2018, URL: <a href="http://www.itopf.com/knowledge-resources/documents-guides">http://www.itopf.com/knowledge-resources/documents-guides</a>
-	Intergovernmental Agreement on the National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances, Australian Maritime Safety Authority, accessed 2 March 2018, URL: <a href="https://www.amsa.gov.au/about-us/who-we-work/intergovernmental-agreement-national-plan-combat-pollution-sea-oil-and-other">https://www.amsa.gov.au/about-us/who-we-work/intergovernmental-agreement-national-plan-combat-pollution-sea-oil-and-other</a>
-	Oil Spill Response Joint Industry Project (OSR-JIP), the International Petroleum Industry Environmental Conservation Association (IPIECA) and International Association of Oil & Gas Producers (IOGP), accessed 2 March 2018, URL: <a href="http://www.oilspillresponseproject.org">http://www.oilspillresponseproject.org</a>



## 4. DEFINITIONS

### 4.1 GENERAL DEFINITIONS

Terminology	Description
Crisis Management Team (CMT)	Asset crisis management team responsible for responding to an actual or potential incident (whether of PTTEP origin or not) be in Local, National or International, on a scale that may become of significant concern to Company business.
Emergency Management Team (EMT)	Asset emergency management team responsible for strategic responses.
Emergency Response Team (ERT)	Site emergency response team responsible for conducting the tactical/in-field responses.
Net Environmental Benefit Analysis (NEBA)	A process used by the spill response organisation or team for making the best response options to minimise impacts of oil spills on people and the Environment.
Planning scenario	Selected scenarios derived from the risk assessment result that is used as the basis for planning of oil spill response. The selection should represent the full range of response challenges and risks against which response strategies and a tiered capability can be defined.
Spill	<p>Any loss of containment that reached the Environment. The spill volume reported should reflect the volume of material that reached the Environment only (i.e. not inclusive of any released volume retained within secondary or other confinement). Reported volume reaching the Environment is irrespective of the quantity recovered (i.e. represents the gross volume reaching the Environment, not a net volume remaining in the Environment).</p> <p>Spills of produced water or process wastewater are excluded. Loss of containment resulting from acts of sabotage (such as theft of oil from pipelines and storage) shall be reported. Loss as a result of "acts of terrorism"/ attacks on infrastructure should not be reported.</p> <p>Intentional discharges of drill cutting (only offshore operations exceed 12 nautical miles) during drilling activities are excluded.</p>

Terminology	Description
Worst credible case discharge	The scenario with the largest release that could reasonably be expected from a facility or operation. Such events may lead to the most severe consequences.

### 4.2 ORGANISATION AND DEPARTMENTS

Terminology	Description
Corporate	Refers to the PTTEP business groups hierarchically above Asset level, and located in the PTTEP headquarters, Bangkok.
Function Group	Refers to a corporate level business group. These may have associated Divisions, Departments, or operational Assets within their hierarchy.
Division	A business group may have one or more distinct groups within its hierarchy. These are referred to as Divisions.
Asset	Refers to an operating Asset, site, or location within a respective Function Group.
Department	A subgroup within a Function Group, Division or Asset.

### 4.3 LANGUAGE

May	Indicates a possible course of action
Should	Indicates a preferred course of action
Shall	Indicates a course of action with a mandatory status

### 4.4 COMMON ACRONYMS

Set out below are common specific terms presented in alphabetical order:

AMOSC	Australian Marine Oil Spill Centre
API	American Petroleum Institute
ART	Arthit Field
CEC	Coastal Energy Company Limited
BCP	Bangchak Petroleum Company Limited
CEN	Environment Management Department
CEN/E	Environmental Applications Section

CEO	Chief Executive Officer
CLG	Legal Division
CMM	Communications Department
CPA	Process Safety and Assurance Department
CRM	Enterprise Risk Management and Internal Control Division
CSA	Safety Management Department
CTEP	Chevron Thailand Exploration and Production Company Limited
CSH	Safety, Security, Health and Environment Division
CMT	Crisis Management Team
CVX	Caltex Thailand
DDPM	Department of Disaster Prevention and Mitigation
DMF	Department of Mineral Fuels
DSV	Drilling Supervisor
E&P	Exploration and Production
EDE	Engineering and Development Group
EMT	Emergency Management Team
ERT	Emergency Response Team
ESI	Environmental Sensitivity Index
ESM	Environmental Sensitivity Maps
EVP	Executive Vice President
FPSO	Floating Production Storage and Offloading
GBN	Greater Bongkot North Field
GBS	Greater Bongkot South Field
GSX	Geoscience and Exploration Group
IC	Incident Commander
IESG	Oil Industry Environmental Safety Group Association
IMO	International Maritime Organisation
IOGP	International Association of Oil & Gas Producers
IPIECA	Global Oil and Gas Industry Association for Environmental and Social Issues

ITOPF	International Tanker Owners Pollution Federation Limited
M&A	Merger and Acquisition
MD	Marine Department, Ministry of Transport
NEBA	Net Environmental Benefit Analysis
OIM	Offshore Installation Manager
OPS	Operations Support Group
OSC	On Scene Commander
OSCT	Oil Spill Combat Team (Indonesia)
OSRL	Oil Spill Response Limited
OSRO	Oil Spill Response Organisation
PCD	Pollution Control Department
PDT	Production Asset Group
PEP	President, Exploration and Production
PIMMAG	Petroleum Industry of Malaysia Mutual AID Group
PTT	PTT Public Company Limited
SCAT	Shoreline Clean-up Assessment Technique
SOPEP	Shipboard Oil Pollution Emergency Plan
SSHE	Safety, Security, Health and Environment
STSC	South Area Sub-committee under Oil Industry Environmental Safety Group Association
SVP	Senior Vice President
VP	Vice President

## 5. ROLES AND RESPONSIBILITIES

### 5.1 DOCUMENT OWNER

The owner of the Spill Management Plan is the VP, Environment Management Department, with responsibilities for:

- Approval and issuance of the Procedure and its revisions.
- Ensuring effective implementation of the Procedure.

## 5.2 CUSTODIAN OF THE DOCUMENT

The custodian of the Spill Management Plan is Manager, Environmental Applications Section, with responsibilities for:

- Identifying deficiencies or potential improvements.
- Initiating periodic revision.
- Maintaining revision history and document status register.

Note: Roles and Responsibilities of relevant personnel shall follow the Emergency and Crisis Management Standard (SSHE-106-STD-500), Emergency Management Plan (SSHE-106-PDR-502), and Crisis Management Plan (SSHE-106-PDR-501).

## 6. SPILL MANAGEMENT

Generally, spill management in oil and gas exploration and production business is classified based on the 3-Tiered response system in accordance with the International Petroleum Industry Environmental Conservation Association (IPIECA, the Global Oil and Gas Industry Association for Environmental and Social Issues) and International Association of Oil & Gas Producers (IOGP) good practice guide related to oil spill preparedness and response.

Activation of each Tier response and management team is based on the capability of response resources and/or consequences, not correspond to the volume of the spill, as defined below:

- Tier 1:** Asset capability necessary to handle the local spill and/or initial response;
- Tier 2:** Local and National capability to supplement a Tier 1 response; and
- Tier 3:** Global and International capability required due to scale, complexities and/or global potential impact.

PTTEP Assets and support functions could pre-define and document the expected spill volume of each Tier, based on their production scale and the capability of response resources.

Classification of risk level and Tier response shall follow the below documents for more details and definition of severity or impact to people, Environment, Asset and reputation as well as incident management and reporting protocol.

- SSHE Risk Management Standard (SSHE-106-STD-400),
- Emergency and Crisis Management Standard (SSHE-106-STD-500), and
- PTTEP Incident Management Standard (11038-STD-SSHE-600-011).

## 6.1 SPILL MANAGEMENT ORGANISATION

### 6.1.1 PTTEP 3-Tiered Response

Figure 1 shows the 3-Tiered spill response organisation as well as necessary internal and external resources. Tier 1 response requires internal resources, whereas Tier 2 and 3 response require National and International resources, respectively. Member of each Tier response team shall refer to the Emergency and Crisis Management Standard (SSHE-106-STD-500).

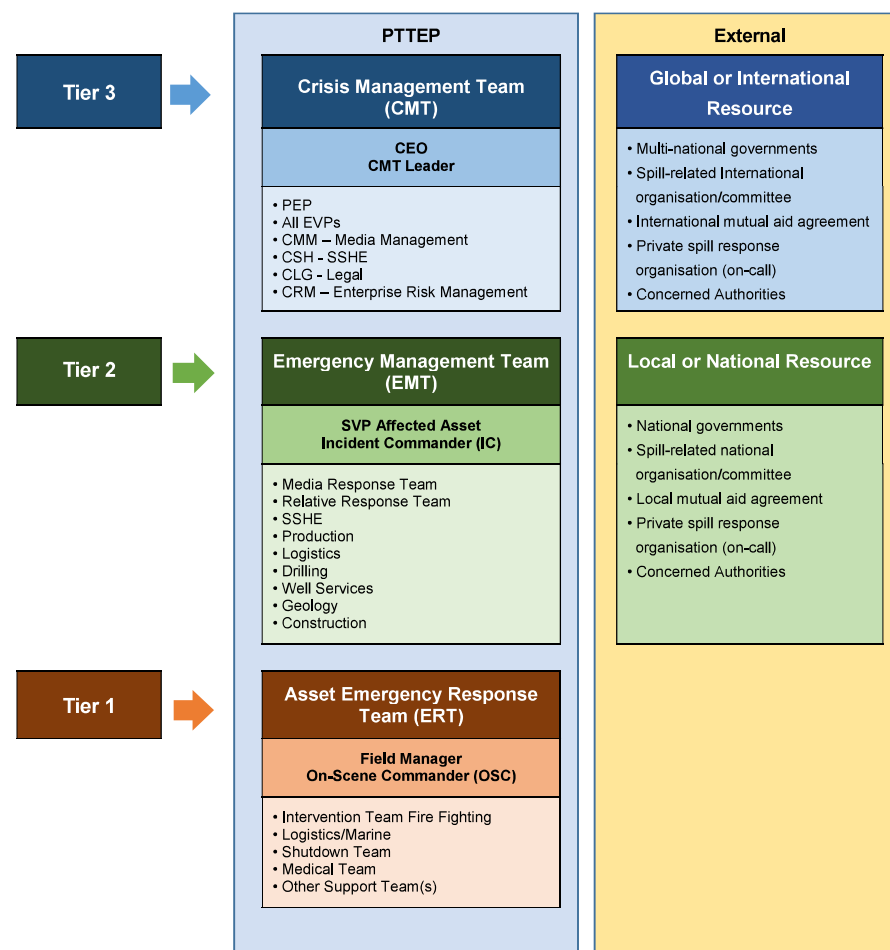


Figure 1: Tier Response Organisation and Resources



### 6.1.2 Spill Response and Management Team Duty

The different authorized persons of E&P activities in each phase could result in the different designated persons of spill response and management team leader at each Tier response as summarized in Table 1. Although the team leader is nominated depending on the activities, however the team member of each Tier at each phase is commonly the same, except the technical support, as listed in 6.1.1 PTTEP 3-Tiered Response, which their specific duties shall be described in the Asset Spill Response Plan, the Emergency Management Plan (SSHE-106-PDR-502) and the Crisis Management Plan (SSHE-106-PDR-501). The technical support will be requested from each relevant discipline subjected to the incident description.

**Table 1: Summary of Team Leaders**

Team Leader	Spill Management Team Leader of each E&P Phases			
	Seismic Exploration	Drilling Exploration	Drilling Production	Production
ERT: Tier 1 On-scene Commander	VP under GSX	Drilling Supervisor (DSV)/ Offshore Installation Manager (OIM)		Field Manager
EMT: Tier 2 Incident Commander	SVP of affected Asset (Thailand) Asset Country Manager (Overseas)			
CMT: Tier 3 CMT Leader	CEO or Designated Top Management			
Technical Support	VP/Field Manager of affected Asset	Field Manager of affected Asset/Drilling Contractor		VP of affected Asset
	Depend on an incident situation and shall be requested from the affected Asset.			

### 6.2 SPILL NOTIFICATION PROCESS

Initial internal and external notification of spill incident shall follow the protocol and reporting requirements as determined in the Incident Management Standard (11038-STD-SSHE-600-011) which covers the reporting channel, period and organisation to be notified within PTTEP and externally to the government agencies both for Thailand and International Assets. External notification of spill incident occurred within Thailand jurisdiction is summarized in Table 2. Contact numbers of Thailand and International authorities and organisations are provided in Appendix A.

It is the responsibility of the International Assets to determine the in-country notification process of all internal and external communications for all Tiers of spill incidents, including communication with PTTEP Headquarters. The communication protocol shall be documented in the Asset Spill Response Plan. The protocol shall include the communication channel to the authorities, notification timelines to the authorities, and the responsible person who is authorised to initiate the communication. The contact number of authorities in each operating country shall be provided and kept up-to-date.

**Table 2: Summary of External Notification for Spill Incident in Thailand**

Spill Incident Volume	Notify	Reporting timescale	Reported by
>1 bbl	Department of Mineral Fuels (DMF)	The initial report by phone or e-mail within 24 hrs and followed by the written report within 72 hrs	Safety Management Department
> approx. 149.75 bbls (20 tonnes)	Marine Department (MD) <i>for the spill to water</i>  Department of Disaster Prevention and Mitigation (DDPM) <i>for the spill on land</i>  PTT Group	The initial report by phone or e-mail within 24 hrs	EMT for Tier 2 and CMT for Tier 3/Safety Management Department

Any updated situation to external media and relatives shall refer to Crisis Communications Guideline (12145-GDL-004-R02) under Corporate Communications and Public Affairs Division.

### 6.3 SPILL RESPONSE RESOURCES

Spill response resources in this plan are defined as spill response and management plan and other supporting documentation, trained personnel, and sufficient equipment and supplies. The resources may come from local, regional or International sources in accordance with 3-Tiered Classification. These resources shall be identified in the Asset Spill Response Plan based on their operational risk assessment results, regulatory requirements, hydrocarbon amount and characteristic, nearby sensitive area and supporting facility, and planning scenarios.

The agreement or spill response organisation for spill response resources support at each activity for each Tier response is recommended to prepare in advance to ensure the availability of the resources when the spill incident occurred.

#### 6.3.1 Asset Spill Response Plan Preparation

PTTEP Assets and support functions shall prepare and implement the Asset Spill Response Plan and the supporting documents. As noted in section 1, the Asset Spill Response Plan is defined as, either the operating Asset Spill Response Plan or the support functions Spill Response Plan or combination of both. The Asset Spill Response Plan shall be scoped and scaled according to the type of operation undertaken, the level of risk associated with the operations/activities, and in compliance with applicable local and national regulation. The Asset Spill Response Plan shall include the necessary information which helps to assist the Assets and support functions to identify and specify the key processes and resources that are crucial to respond to the spill incidents, both for the initial and subsequent stages.

It is required that PTTEP Assets and support functions shall develop their own Plan separately from the Asset Emergency Response Plan. However, the integration of the Asset Spill Response Plan into the Asset Emergency Response Plan is acceptable, as long as its Plan is comprised of the required structures as listed in Appendix B and updated regularly.

In general, the Asset Spill Response Plan shall include the following essential information as a minimum:

- The governing legislative framework where PTTEP operates;
- A summary of the spill planning scenarios resulted from the risk assessment, SSHE Case, Environmental Impact Assessment, and other relevant documents;
- Response strategy and justification for each scenario;
- Stakeholder engagement and notification Procedure internally and externally;
- Action checklist for key personnel;
- Available Tier 1 resources, including details of location, mobilisation, and response timescales and Procedures;
- Tier 2 mutual aid agreements, including the available resources capability, activation Procedures, indicative response times, as well as mobilisation logistics and Procedures;
- Tier 3 arrangements, including accessing International mutual aid, contracted Oil Spill Response Organisations (OSRO) mobilisation Procedures, resources and response timeframes. Procedures for immigration and customs, and any emergency dispensation information for cross-border movement of personnel, equipment and material;
- Reference to the Source Control Procedures and any other response specific plans, e.g. Well Blowout Contingency Plan, tactical response plans where applicable; and
- Summary of the escalation process and resource integration Procedures for the activation and mobilisation of the identified Tier 2 and Tier 3 resources, if a spill exceeds the response capability at Tier 1.

The above requirements shall be used for development of the Asset Spill Response Plan which shall be complied with the National Oil Spill Response Plan of the country of operation as well as relevant PTTEP Standards and Procedures. The Asset Spill Response Plan shall be reviewed by Corporate SSHE Division for advisory and alignment with this plan and other compulsory documents.

### 6.3.2 Spill Scenario Consequence Analysis

Based upon the risk assessment results, the Assets and support functions shall identify spill planning scenarios and documented in the Asset Spill Response Plan. Afterwards, the detailed consequence analysis shall be conducted to confirm consequences from the spill risks and identify which environmental and socio-economic resources could be affected, and the degree of sensitivity of those resources, as well as impact mitigation and minimisation, specifically for:

- The worst credible case of spill planning scenario(s) for oil type(s) that potentially have a significant contribution to the risk (high likelihood, high potential discharge volume or low likelihood but high severity); and
- Any additional spill planning scenarios that generate essential planning factors.

Criteria for justification are referred to the SSHE Risk Management Standard (SSHE-106-STD-400).

#### 6.3.2.1 Spill Trajectory Model

The objective of numerical simulation of spill fate and trajectory is to estimate the physical changes which spilled oil undergoes especially offshore or on open waters (i.e. the weathering processes which include evaporation, spreading, natural dispersion, emulsification and shoreline stranding) and its potential pathways, travel times, surface distribution and associated volumes under the prevailing climate.

The spill trajectory model shall be developed to provide the area of impact or consequence for consideration in the environmental and socio-economic severity risk assessment and to guide decisions for a suitable response strategy.

For Domestic offshore Assets, the spill trajectory model has been developed to summarise the possible spill plume trajectory, travelling period from the point of the spill to a shoreline and expected location. The trajectory model may incorporate the sensitive area mapping for evacuation planning, spill response strategy and predicted impact area. This trajectory model is available at PTTEP Corporate SSHE Division Library, SSHE intranet, and PDT SSHE manager office.

Examples of 2 types of spill trajectory modelling output are shown in Figure 3;

- Stochastic models primarily used for contingency planning purposes which apply historical wind and current conditions to simulate multiple spill trajectories that together give a statistical output; and
- Deterministic models typically used in both response and contingency planning scenarios, which utilise a single set of wind and current conditions (for example the most probable) to simulate a single spill trajectory.

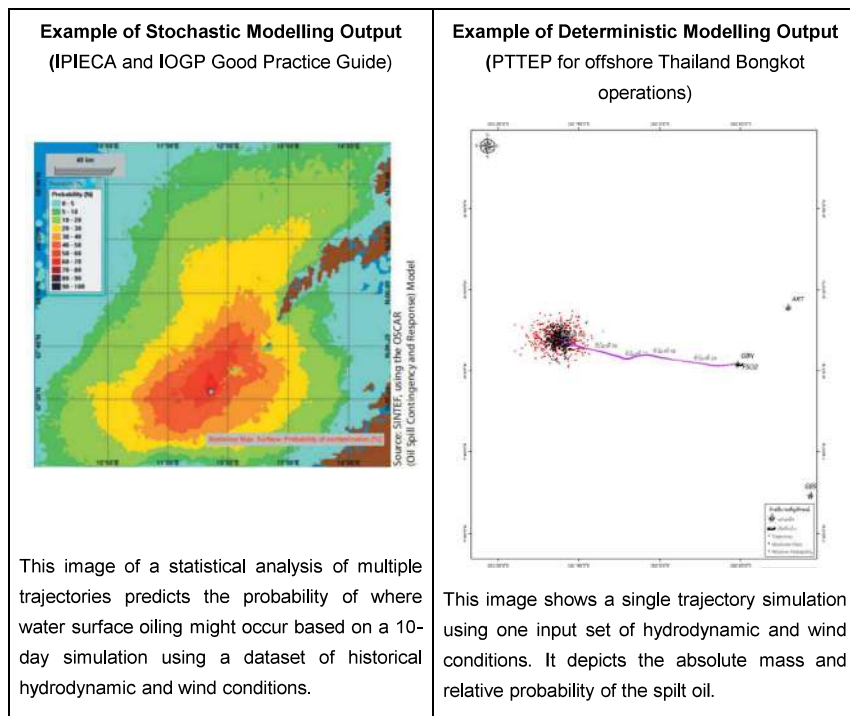


Figure 2: Example of Spill Modelling Output

### 6.3.2.2 Sensitivity Mapping

Once the Assets and support functions have identified the spill planning scenario, the trajectory of the oil, and how it behaves in the Environment, it is necessary to identify and characterize relevant sensitive resources and receptors within the influence area.

Mapping of ecological and socio-economic resources allows the identification of those which may lie in the trajectory of the spill. Mapping shall be performed within the influence area of the potential spill. The IPIECA, International Maritime Organisation (IMO) and IOGP good practice guidance on sensitivity mapping for oil spill response (2012) provides examples of mapping both ecological and socio-economic resources. Environmental impact assessments and monitoring data can provide valuable input to the mapping of resources and sensitive receptors. With the confidentiality agreement, the E&P companies operating within the same area are encouraged to share information on ecological and socio-economic resources to secure efficient mapping and consistent input.

The assessment of potential consequences should be made for time periods (i.e. monthly, seasonal or yearly) as relevant to the activity or operation that is posing a risk. It is recommended that a full year field activity at least should have a seasonal resolution in the consequence assessment as

this can provide important information and input to risk management and advice on risk-reducing measures for time-limited operations.

Assets and support functions can access to the information, such as the Environmental Sensitivity Index (ESI), Environmental Sensitivity Maps (ESM), etc. which are available from published sources or national database or equivalent. Moreover, Asset and support functions can partially apply the sensitivity map from the Environmental Impact Assessment report. The sensitivity mapping in the boundary of the South China Sea published by Marine Department is currently available at Corporate SSHE Division Library in hard copy. With its sensitivity, this information cannot be posted on the Company share drive or the Company intranet.

### 6.3.2.3 Net Environmental Benefit Analysis (NEBA)

When considering the suitable response technique, NEBA shall be considered to determine the best response options that are the most effective, feasible and will minimise the impact from the selected planning scenario on the Environment and the community. As such, the Asset Spill Response Plan shall document the following information when selecting the response option:

- Evaluate data - Collect information on the physical characteristics and environmental resources of the area.
- Predict outcomes - Review previous spill case histories and experimental results which are relevant to the area, and to response options which could possibly be used.
- Balance trade-offs - On the basis of previous experience or key studies; predict the likely environmental outcomes if the proposed response is used, and if the area is left for natural recovery.
- Select the best response option - Compare and weigh the advantages and disadvantages of possible response options with those of natural clean-up.

Refer to PTTEP's Net Environmental Benefit Analysis Guideline (SSHE-106-GDL-526) for further details on the application of NEBA.

Assets and support functions shall ensure that the response priorities selected are aligned with the National or regional register of priority areas. Where different protection priority ranking is assigned to a specific resource compared to these National or regional register, justifications for the difference is to be specified.

The requirements of the response technique, waste management and restoration methods are provided in Appendix C. Restoration components may include environmental impact, remediation, environmental and community restoration as well as compensation of financial impact, depending on the incident case.

### 6.3.3 Spill Response Equipment Preparation

#### 6.3.3.1 Tier 1 - Asset Resources

PTTEP Assets and support functions shall provide and ensure the availability of spill response resources on each location as identified in their planning scenario. The identification of necessary spill response resources shall be documented in the Asset Spill Response Plan. The Assets and support functions representative shall ensure the readiness of the Asset Spill Response Plan and the sufficient equipment and resources for combating spill up to a Tier 1. The Asset ERT member shall be trained to promptly respond and familiar with all available spill response equipment.

For exploration phase either seismic exploration or drilling exploration, Geoscience and Exploration Group (GSX) and/or the project owners of the exploration activities shall prepare the spill response equipment and services from the reliable local contractor as per their contract agreement under advisory of Corporate SSHE Division.

For drilling production, the drilling contractor, with the Asset's support, shall provide on-site spill response equipment and personnel as per their contract agreement to ensure that Tier 1 can be handled. The drilling contractor is responsible for any spills occurring within the boundary of the rig itself, while Asset is responsible for the spills reaching the environment.

In case that the dispersant application is required for Thailand Assets, it is the Asset representative to request the approval from Pollution Control Department (PCD) before use. The request form for approval of dispersant application in Thailand and list of approved dispersants for Thailand Assets is provided in Appendix D and E, respectively. To avoid the delay of dispersant application, the completeness of information and the appropriate volume of dispersant application filled in the form will expedite the approval period. In general, the consideration result would be sent to the requestor within 5 hours after submitting the request to PCD. This process could be different for the International Assets which may require the different approval process in order to comply with the local regulation. Be aware that some dispersant is not permitted to use in some country.

Noted that once the incident reaches Tier 2 and 3, or after activation of EMT and CMT, Corporate SSHE Division will be responsible for the dispersant application approval process.

Should the spill escalate beyond Tier 1 level, additional resources and support are required.

#### 6.3.3.2 Tier 2 – Local and National Resources

**For Domestic Asset**, Corporate SSHE Division shall provide and seek other available equipment and resources to support in the Asset spill response. These resources shall be included in the Asset Spill Response Plan and this plan may specify equipment and personnel from nearby operators, regional operators, National level regulators or agencies, or OSROs.

Where possible, the Asset and Corporate SSHE Division should make an agreement to ensure the availability and validity of Tier 2 resources by conducting pre-arrangement or exercise in order to test the mobilisation and to secure support to respond to the spill.

PTT Group is a member of the Oil Industry Environmental Safety Group Association (IESG) in Thailand. All PTTEP Assets in Thailand are able to request additional resources and the trained personnel from outsource under IESG's contract via Corporate by using South Area Sub-Committee (STSC) of IESG Spill Response Equipment Request Form as provided in Appendix F and list of IESG available resources stored at Caltex Thailand (CVX) and Shell Depot in Songkhla is shown in Appendix G.

**Table 3: Estimated Mobilisation Time for National Assistance from IESG**

Asset	IESG Nearest Site	Nearest Airport to PTTEP Assets	In-land Mobilisation time (hrs)	Vessel Mobilisation time (hrs)	Total time (hrs)
ART	Songkhla	Hat Yai	2	16	18
GBN	Songkhla	Hat Yai	2	18	20
GBS	Songkhla	Hat Yai	2	18	20

Further, Assets in Thailand may also request resources from the Marine Department through activation of the National Oil Spill Response Plan. This allows the Asset to have access to the national resource which includes equipment, vessels and technical specialists. PTTEP Assets and support functions are encouraged to identify Tier 2 Resources in the Asset Spill Response Plan for the purpose of pre-assessment whether the available resources are sufficient to handle with Tier 2 Spill or otherwise refer to this plan. When resources from in-country mutual aid agreement are required to respond the spill, the National Oil Spill Response Plan will incorporate with the Company Plan including the Asset Spill Response Plan. The role and responsibility of the emergency response team and support team will be in accordance with both Plans.

**For International Asset**, it is recognised that some International Assets may also be legally bounded to attain membership for their local Tier 2 Organisations or Contractors as specified by laws and regulations of the country where PTTEP operates (e.g. PIMMAG, OSCT, AMOSC, etc.). All Assets shall adhere to the in-country legislative requirements and ensure the familiarity of the call-out Procedure for the respective Tier 2 Organisations or Contractors.

Similarly to Thailand Assets, the International Assets should ascertain similar processes to access the National resources of the operating country. In case National resources are not capable of or are overwhelmed, the resources from International service contractor is necessary.

#### 6.3.3.3 Tier 3 – Global and International Resources

Currently, the International service provider for PTTEP is the Oil Spill Response Limited (OSRL) Group which PTTEP has access to their resources via PTT Group membership. The OSRL Activation can be done through PTT Group as the following steps, which list of PTTEP Authorised Personnel is provided in Appendix H.



- PTTEP Authorised Personnel shall complete the PTT Group Notification form and Mobilisation Authorisation Form and submit to PTT for their information as provided in Appendix I and J respectively.
- Then, the OSRL Notification and Mobilisation Procedure shall be followed as described in Appendix K. PTTEP Authorised Personnel shall fill out the OSRL Notification Form and Mobilisation Authorisation Form, and submit to OSRL for requesting their services as provided in Appendix L and M, respectively.

Corporate SSHE Division will assist the Asset in securing OSRL resources for their prompt response. OSRL resources available for membership can be found in [OSRL website](https://www.oilspillresponse.com) (<https://www.oilspillresponse.com>).

For planning purpose, the Assets and support functions shall take into account the lead time required for mobilisation of OSRL resources in their Asset Spill Response Plan. However, the global alliance from PTTEP and OSRL requires lead time for internal preparation and logistics arrangement. Table 4 shows the OSRL nearest support site to the nearest airport to PTTEP Asset's location, estimated mobilisation time and flight time from these airports to PTTEP Potential incident locations. Noted that contingency time; e.g. customs clearance and immigration; are not included.

**Table 4: Estimated mobilisation time for International assistance from OSRL**

Country	OSRL Nearest Site	Nearest Airport to PTTEP Assets	Mobilisation time (hrs)	Flight time (hrs)	Total time (hrs)
Algeria	United Kingdom	Houari Boumediene (Airport D'Alger)	6	9	15
Australia	Singapore	Darwin	5	8	13
Canada	United State of America	Fort Lauderdale, Miami Airport	6	7	13
Mozambique	United Kingdom	Maputo	5	20.5	25.5
Myanmar	Singapore	Yangon	5	4	9
Thailand	Singapore	Suvarnabhumi	5	4	9

#### 6.3.4 Spill Training and Exercise

The Assets and support functions shall develop spill training and exercise programme with consultation from Corporate SSHE Division based on the applicable national and local regulation as well as the requirements stated in this plan and SSHE Training and Competency Standard (SSHE-106-STD-340). The training and exercise programme shall include the personnel with their role and responsibility to manage and respond to the spill incident.

Determining the frequency and number of personnel to be trained in each role and involved in exercises should consider factors such as staff turnover rate, staff rotation to prepare for a prolonged response, and standby requirements for on-duty responders as well as backup staff to support an ongoing response.

In addition to the applicable National and local regulation, Each Asset and support functions shall organise the spill exercise to cover the scenario either for tabletop exercise or equipment deployment as shown in Table 5.

These exercises may be conducted separately or in conjunction with other emergency or crisis exercises as long as it is included the below requirements. The training and exercise programmes and records shall be documented for further tracking and reference. Opportunities for improvement and actions arise from these activities shall be documented and recorded in close-out exercise or audit report to ensure that the actions are being implemented in a timely manner.

Assets and support functions shall also ensure the periodic monitoring of training with expiration date and require refresher is being done and documented properly to ensure the sustainability of personnel's knowledge and competence.

#### 6.3.5 Spill Capability Assessment

Assets and support functions shall plan to conduct the capability assessment, with the consultation of Corporate SSHE Division, on a regular basis in order to assess and ensure that the Asset spill response meets the needs of the operation's risk level. The frequency of the capability assessment depends on the results of risk assessment. The higher risk results are identified, the more frequency of capability assessment shall be. The capability review process is undertaken in line with the IPIECA and IOGP industry good practice Guidelines for a tiered response, and includes the following assessments:

- Review of Oil Spill Response Plans and relevant tactical plans.
- Availability and suitability of oil spill response Tier 1 (onsite) equipment.
- Availability of Tier 2 and Tier 3 equipment.
- Review of logistical arrangements.
- Review of your training and exercise programme.

For an effective Tier 2 and Tier 3 Capability assessment, PTTEP shall utilize the third party to conduct the activities. The assessment results shall identify the gaps and recommendations for improvement of the Asset and Company spill response capability.

The spill capability assessment checklist is provided in Appendix N.

#### 6.3.6 Spill Response and Management Plan Review and Update

Where the National or local regulation dictates a system of review and evaluation for approved plans, it shall take precedence. In the absence of regulatory guidance, the Assets and support functions shall develop and implement a programme for review and ensure the sustained readiness and competency to align at least with document review period or significant deviation.

**Table 5: Minimum Requirements for Spill Exercise**

Type	Objective	Frequency	Response Team
Notification	Test communication; contact details and notification Procedures as per the Asset Spill Response Plan and this plan.	At least once internal and once with external involvement, per year	ERT, EMT, and/or CMT as necessary
Tabletop Exercises (Duration: 2 to 8 hrs)	Build competency and confidence in the implementation of the spill response and management plan, test the functionality of the plan and emergency response using potential spill scenario.  The predetermined set of specific objectives.  Involve external agencies including Tier 2 and Tier 3 support, as necessary.  No equipment mobilisation required.	At least once internal or once with external involvement, per year	ERT, EMT, and/or CMT as necessary
Equipment Deployment	Deploy Tier 1 equipment to confirm operability as well as the competence of response teams.	At least once per year	ERT (and Contractor – if applicable), with EMT involvement as necessary
Full-scale exercise (Duration: 10 to 14 hrs)	May involve multiple authorities, relevant organisations and jurisdictions, and can validate many elements of preparedness.  Test plans and Procedures across the span of Asset's crisis management and emergency response arrangements.  Can involve national capability (Tier 2) and regional or International support (Tier 3), i.e. trans-boundary response issues.  Includes personnel and resources mobilisation and deployment.  The new Merger & Acquisition (M&A) project is included after M&A process is completed.	At least one or two Assets every three years	ERT (and Contractor – if applicable), EMT, or CMT,

The review and update to the Spill Response and Management Plan shall be undertaken when there are any updates from:

- Oil spill risk profile, e.g. new Assets are introduced or additional oil types are identified;
- Oil handling operations/significant changes in the hydrocarbon inventory;
- Response arrangements, including any changes to response contractors;
- Oil spill incident reporting and notification Procedure;
- Sensitive resources;
- Location of operation (e.g. drilling campaigns);
- Lessons learned or feedback from spill response exercises;
- Lessons learned or feedback from actual spill response activities;
- Legislation or regulations in the country of operation;
- International Standards and industry good practices; or
- Relevant PTTEP Corporate Standards and Procedures.

Regardless whether the Spill Response and Management Plan are updated or not for the reasons listed above, this plan shall also be reviewed in its entirety at least every five years to ensure its validity and directions are in alignment with recent good practice, advancements and improvements in equipment and techniques in the industry. Also, to reflect any improved knowledge of the potential response area and sensitivities. Whilst external notification channel and contact details shall be checked at a minimum every year.

Where applicable, if major changes occur that could potentially affect the validity or effectiveness of the Plan, re-submission to the approving authority in the country of operations shall be undertaken as required per local regulations and PTTEP Corporate requirements.

Hard copies of the Asset Spill Response Plan and other relevant documents shall be available at Asset's Emergency Command Centre and PTTEP Headquarters Emergency Management Room.



## APPENDIX A: NATIONAL AND INTERNATIONAL AUTHORITIES AND ORGANISATION CONTACT LIST

Organisation	Telephone	Fax
Department of Mineral Fuels	+66(0)2794 3472 +66(0)2794 3474	+66(0) 2794 3362
Department of Disaster Prevention and Mitigation	Hotline 1784	+66(0) 2241 7466 +66(0) 2241 7499
Marine Department	1194 (24 hrs) +66(0)2234 8342 +66(0)2233 1311-8 ext. 330 and 331	+66(0) 2234 3832 +66(0) 2236 1802 +66(0) 2238 3017
Oil Industry Environmental Safety Group Association	+66(0)2239 7955 - 56	+66(0)2239 7917
PTT Command Centre	+66(0)2537-3111/3222/3333	+66(0)2537 3498
OSRL Singapore base	+65 6266 1566	+65 6266 2312

Remark: Updated information will be available in the SSHE intranet.

## APPENDIX B: REQUIRED STRUCTURE OF ASSET SPILL RESPONSE PLAN

Notes:

- ✓ = Required
- + = Recommended (may depend on the planning scenario)
- ✗ = Not required

Section	Description	Offshore	Onshore
<b>1. Introduction</b>			
1.1 Objective	Describe the overall purpose of the Spill Response Plan. Include the statement of PTTEP's guiding principles of protecting people, Environment, asset and reputation.	✓	✓
1.2 Scope	A summary description of operations and facilities covered by the Spill Response Plan.	✓	✓
1.3 Interface with Other Plan	Identifies other plans which the Spill Response Plan interfaces with and demonstrate how it integrates with other plans. These plans include, but not limited to: <ul style="list-style-type: none"> <li>Crisis management plan.</li> <li>Emergency management plan.</li> <li>Net Environmental Benefit Analysis Guideline.</li> <li>Environmental Impact Assessment Report.</li> <li>Bridging documents/Well control plans.</li> </ul>	✓	✓
1.4 Document Control	Specifies approval dates and sign-offs by internal management, plan custodian, distribution list, review and update records.  Include approvals obtained from authority, if applicable.	✓	✓
<b>2. Notifications And Reporting</b>			
2.1 Internal Notification	A clear written Procedure to immediately notify and report to internal stakeholder and initiate a response showing appropriate response levels, as well as response escalation Procedure.  <i>Refer to Spill Management Plan for an example of internal notification Procedure.</i>	✓	✓

Section	Description	Offshore	Onshore
	Includes contact details, notification method (e.g. phone, fax, email, etc.) and team/person responsible for performing the notification. This may be reflected in the form of a flowchart.  <i>Refer to Emergency and Crisis Management Standard (SSHE-106-STD-500) for emergency notification Standard.</i>		
2.2 External Notification	A clear written Procedure to notify and report to external stakeholder which needs to be done at the early stage of the incident, i.e. authorities, shareholder, OSROs and other contractors. Includes contact details, notification method (e.g. phone, form, fax, email, etc.) and team/person responsible for performing the notification.	✓	✓
<b>3. Assessments</b>			
3.1 Site Assessment	Provide a checklist/Guideline to conduct initial site safety and spill assessment.	✓	✓
	Key facility information.	✓	✓
	Identification of environmental and socio-economic sensitivities.	✓	✓
	Determining current and forecasted meteorological and hydrodynamic conditions.	✓	✗
3.2 Volume and Trajectory Assessment	A summary or checklist of: <ul style="list-style-type: none"> <li>Spill surveillance methods (aerial surveillance, tracking buoys, etc.).</li> <li>Spill observation and assessment guidance.</li> <li>Spill trajectory and modelling.</li> </ul>	✓	+
3.3 Tier Assessment	Evaluate the scale, Tier level, and impact of the incident (following the National Oil Spill Contingency Plan, if any or as described in this Guideline) as well as the escalation potential.	✓	✓
<b>4. Response Management</b>			
4.1 Response Organisation	The organisation of the response teams (ERT, EMT, CMT) and its relationship with each other. Includes overall responsibility of the team and management of processes and Procedures within each team. Include the response management facility location and activation Procedure.  <i>Refer to Emergency Management Plan (SSHE-106-PDR-502) and Incident Management Standard (11038-STD-SSHE-600-011).</i>	✓	✓

Section	Description	Offshore	Onshore
4.2 Roles and Responsibilities	Main role and responsibility of the key personnel in the response team, including action checklist described for each stage of response.  <i>Refer to Emergency Management Plan (SSHE-106-PDR-502) and Incident Management Standard (11038-STD-SSHE-600-011).</i>	✓	✓
<b>5. Action Checklist</b>			
Initial action checklists for key personnel in the EMT to establish: <ul style="list-style-type: none"> <li>Initial response priorities and objectives.</li> <li>Initial actions and strategy decision guide.</li> <li>Activation of response management team.</li> <li>Activation and deployment of resources.</li> </ul>		✓	✓
<b>6. Response Strategy</b>			
6.1 Response Strategies	Strategy decision procedure (flow charts, scenario matrix, and NEBA decision consideration), include scenario-specific response strategy summaries and regulatory pre-approvals and/or approval application Procedures, if any.  <i>Refer to Section 6.2 Spill Notification Process.</i>	✓	✓
6.2 On Water Response	Offshore and near-shore response capabilities and general tactical plans.  <i>Refer to Appendix C: A List of Response Techniques.</i>	✓	✗
6.3 Shoreline Response	Shoreline response capabilities and general tactical plans.  <i>Refer to Appendix C: A List of Response Techniques.</i>	+	+
6.4 Inland Response	Inland waterway and onshore response capabilities and general tactical plans.  <i>Refer to Appendix C: A List of Response Techniques.</i>	✗	✓
<b>7. Sensitive Areas</b>			
Summary of sensitivities identified in the area as well as the protection priorities. May include maps for ease of reference. This information should be supported by with the Baseline Environmental Settings information in the Reference Material.		✓	✓

Section	Description	Offshore	Onshore
<b>8. Response Resources</b>			
8.1 Tier 1 Capability	A summary and reference to Tier 1 resources inventories including required logistics support, internal contact information (can be referred to Supporting Documentation – Directories), and mobilisation timescale.	✓	✓
8.2 Tier 2 Arrangement	A summary and reference to Tier 2 Arrangement including: <ul style="list-style-type: none"> <li>Contracted resources inventories and services list.</li> <li>Mobilisation Procedure and timeframes.</li> <li>Contact information (can be referred to Supporting Documentation – Directories).</li> <li>Required logistics support.</li> <li>Additional non-contracted resources and services list including government resources, vessels of opportunity, local labour sources and volunteers, and subject matter experts or speciality expertise.</li> <li>Resourcing Procedures for non-contracted services.</li> </ul>	✓	✓
8.3 Tier 3 Arrangement	A summary and reference to Tier 3 arrangements, including accessing International mutual aid, contact information (can be referred to Supporting Documentation – Directories), contracted OSRO mobilisation Procedures, resources and response timeframes. Procedures for immigration and customs, and any emergency dispensation information for cross-border movement of personnel, equipment and material.	✓	✓
<b>9. Supporting Response Element</b>			
9.1 Waste Management Procedure	Provide the procedure for handling oily waste. <i>Refer to Waste Management Procedure (SSHE-106-PDR-521).</i>	✓	✓
9.2 Oiled Wildlife Response	Provide guidance for handling wildlife impacted by oil spill, if any. <i>Refer to Net Environmental Benefit Analysis Guideline (SSHE-106-GDL-526).</i>	+	+

Section	Description	Offshore	Onshore
9.3 Stakeholder Engagement And Communications	Provide guidance for engaging and communicating with Stakeholders. <i>Refer to Crisis Communications Guideline (12145-GDL-004-R02) and Appendix C: A List of Response Techniques.</i>	+	+
9.4 Economic Assessment and Compensation	Provide guidance for conducting economic assessment and compensation. <i>Refer to Appendix C: A List of Response Techniques.</i>	+	+
9.5 Environmental Impact Assessment (Including Sampling)	Provide the procedure for conducting an environmental impact assessment. <i>Refer to Environmental Impact Assessment for Exploration and Production Procedure (SSHE106-PDR-401).</i>	+	+
<b>10. Decontamination</b>			
10.1 Requirement	Summarises Health, Safety, and Environmental requirement for decontamination.	✓	✓
10.2 Decontamination Procedure	Procedure for developing a spill-specific decontamination plan including Standard Procedures for setting up decontamination area, zoning, etc. and list of approved cleaning agents. Provide information on pre-designated decontamination sites, if any.	✓	✓
<b>11. Termination of Response</b>			
11.1 Demobilisation Procedure	Provide the procedure for developing a spill-specific demobilisation plan. Also provide Standard Procedures for demobilising resources, i.e. final equipment and vessel inspections, personnel checkout, resupply of consumables, claims for repairs, a return of hired gear, etc.	✓	✓
11.2 Response Termination	Provide the procedure for establishing treatment endpoints and response termination criteria. Include information regarding the roles with authority to sign off on completed areas and approve termination of the response.	✓	✓
12.3 Response Debrief	Responsibilities and procedures for conducting post-response debrief, conducting post-spill analysis and develop report, etc. Include documentation requirements. <i>Refer to Incident Management Standard (11038-STD-SSHE-600-011)</i>	✓	✓

Section	Description	Offshore	Onshore
<b>Supporting Documentation or Appendices</b>			
Site- Specific Tactical Response Plan	Provide operational maps identifying the sensitivity the site-specific tactical plans that cover the area to be protected, worksite configuration, and other considerations and useful information necessary to facilitate rapid and effective response.  <i>Refer to Section 6.3 Spill Response Resources.</i>	+	+
Reference Material	Consist of the justification and other preparedness material including: <ul style="list-style-type: none"> <li>Oil spill risk assessment result and scenario planning,</li> <li>The applicable requirement from international convention, national and local regulations on oil spill response,</li> <li>The operational overview which describes the facility and/or operations (including facility information, oil types and volumes handled, oil properties and weathering data, etc.),</li> <li>Oil spill modelling result,</li> <li>Baseline environmental settings (including meteorological and hydrodynamic information) and socio-economic information,</li> <li>Training and exercise programme, and</li> <li>Plan and equipment review and audit schedule.</li> </ul>	✓	✓
Directories	Provide directories of resources and contact that are potentially needed during response including, external contractors, response organisation, a vessel of opportunity, logistics contractors, etc. This may be updated frequently.	✓	✓

## APPENDIX C: A LIST OF RESPONSE TECHNIQUES

Response Technique Options	Requirements
<b>Source Control</b>	<p>Source control techniques are usually linked to other Asset emergency response plans/documents which provide specific actions to stop or minimise the release of oil from the source. Details in the Asset Spill Response Plan or supporting document shall include a description of the interface between the Asset Spill Response Plan and other specific internal/external emergency response documents. For the incident management, the Asset Spill Response Plan should describe how the source control team interface with the spill response team. Where specialised resources are required, the Spill Response Team shall inform EMT/CMT in advance for the availability of these resources.</p> <p>Source control technique shall be considered for the following scenarios:</p> <p><u>For spills originating from the well</u>, source control techniques are linked to Well Blowout/Source Control Contingency Plan which should already detailed the emergency response procedures in the event of an incident involving the well. Specialised resources include vessels and technical specialists who are trained in conducting well control management are often required for such spills. Confirm availability or provide contact of the specialised resources e.g. support vessels equipped with dynamic positioning and cranes with appropriate lifting capacity.</p> <p><u>For spills originating from vessels</u> (e.g. oil tankers, FPSOs, etc.), source control techniques on board are linked with SOPEP which shall be executed by the vessel captain and vessel emergency response team, while on-water spills shall include containment by booming around the source and on-water recovery. Deployment techniques will be the same as At Sea Containment and Recovery. Communication linkage and mobilisation period between spill site and support site are recommended to exercise to ensure the readiness and effectiveness.</p> <p><u>For spills from stationary offshore storage tanks or pipelines</u>, the source control measures shall consider the loss of primary containment. The response techniques are linked to the Asset Emergency Response Procedures to shutdown, contain and recover the spill. Migration of oil from the source is managed with the same techniques as At Sea Containment and Recovery. Communication linkage and mobilisation period between spill site and support site is recommended to exercise to ensure the readiness and effectiveness.</p>

Response Technique Options	Requirements
<b>Source Control</b> (continued)	<u>For spills from onshore storage tanks, pipelines or land transports</u> , the source control measures shall consider the loss of primary containment. The response techniques are linked to the Asset Emergency Response Procedures to shut down, contain and recover the spill. Migration of oil from the source is managed with the same techniques as Inland Response.
<b>Surveillance, Modelling and Visualisation</b>	<p>Description of the surveillance platform (e.g. aircraft, vessels, installations, on-foot, vehicles, subsea) and trained observers to support the implementation of the response technique. If specialist monitoring and/or remote sensing techniques (e.g., satellite imagery, oil detecting radar) are available to supplement surveillance methods, these shall be described in the Asset Spill Response Plan or supporting documentation. However, Safety shall be considered as the first priority when monitoring at the spill site. Remote sensing observation is recommended for Safety issue found while entering the spill area.</p> <p>When spill modelling is intended to be used together with the surveillance capability, the model shall be capable of being recalibrated regularly as new field data is generated. Communication methods to relay information between response teams (strategic (EMT) and tactical/field (ERT) shall be described in a Plan or supporting documentation.</p>
<b>Offshore Dispersant Application Surface and Subsea</b>	<p>Pre-approval from applicable regulators/authorities for the use of surface and/or subsea-applied dispersant, or where no formal pre-approval mechanism exists, seek approval on the basis that such approval may be granted by or at the time of a spill incident response. The authorised person who asks for approval will be indicated in the Asset Spill Response Plan and this plan.</p> <p>Confirm that the capability includes dispersant(s) for surface and/or subsea application that are effective for the oil type(s) included in the selected spill planning scenarios and are identified in the applicable country-approved list of dispersants (if available). Confirm that any applicable country-specific legal and regulatory restrictions on applying dispersant (e.g., water depth, distance from shore) are known, are described in the Asset Spill Response Plan, and that the intended dispersant use complies with those restrictions.</p>

Response Technique Options	Requirements
<b>Offshore Dispersant Application Surface and Subsea</b> (continued)	<p>Confirm local availability of on-site stocks of dispersant to support an initial response to the selected spill planning scenarios and identify supplementary dispersant stocks and supply chains needed to maintain on-going dispersant operations. Exercise the mobilisation period for additional dispersant from support site to spill area. Confirm the means to monitor the effectiveness of the oil-dispersant mix.</p> <p>Confirm the availability of suitable subsea dispersant injection devices and related ancillaries, and the platforms for transport and deployment. The subsea dispersant application technics and details can be found at <a href="http://www.ioqp.org/bookstore/product/dispersants-subsea-application/">http://www.ioqp.org/bookstore/product/dispersants-subsea-application/</a>.</p>
<b>In Situ Burning</b>	<p>Pre-approval from applicable regulators/authorities for the use of in-situ burning, or where no formal pre-approval mechanism exists, seek approval on the basis that such approval may be granted by or at the time of a spill incident response.</p> <p>Consider the weather condition and limitation before burning.</p> <p>Confirm the availability of resources such as vessels and boom designed for burning operations, ignition sources and related ancillaries.</p> <p>Confirm the means to monitor the effectiveness of the burning operations and atmospheric dispersion.</p>
<b>At Sea (Offshore and Nearshore) Containment and Recovery</b>	<p>Describe in the Asset Spill Response Plan or supporting documentation, the availability of specialist and non-specialist resources, including:</p> <ol style="list-style-type: none"> <li>Vessels, booms and skimmers suitable for the prevailing operating conditions and oil characteristics.</li> <li>Offshore temporary storage available for recovered oil and water.</li> <li>Methods to transfer recovered oil and water and pre-separation.</li> <li>Onshore reception and temporary storage facilities for recovered oil and water.</li> <li>Surveillance aircraft to locate oil, direct the vessels and monitor effectiveness.</li> </ol>



Response Technique Options	Requirements
<b>Protection of Sensitive Resources (Offshore, Shoreline and Inland)</b>	Identify environmental and socio-economic sensitivities and agree on priorities for protection with applicable stakeholders and in accordance with regulatory requirements. Information regarding environmental and socioeconomic sensitivity can be found in the environmental impact assessment report. A summary of this and initial response actions shall be presented in the Asset Spill Response Plan or supporting documentation as site-specific tactical response plans.
<b>Shoreline and Inland Assessment</b>	If planning scenarios show there is potential for shoreline oiling, describe in the Asset Spill Response Plan or supporting documentation, the capability for carrying out a Shoreline Clean-up Assessment Technique (SCAT).
<b>Shoreline Clean-up</b>	If planning scenarios show there is potential for shoreline oiling, describe in the Asset Spill Response Plan or supporting documentation the roles and responsibilities for shoreline clean-up operations with national and provincial agencies/authorities. Clean-up resources shall be identified, including potential contractors and sources of plant/labour, etc.  Reception and temporary storage facilities for recovered oil and materials shall be described in the Asset Spill Response Plan or supporting documentation. Describe the processes to locate oil, direct the clean-up operations and monitor effectiveness.
<b>Inland Response</b>	If planning scenarios show there is potential for an inland response, whether it is on land or on inland waterway, describe in the Asset Spill Response Plan or supporting documentation, the range of logistical issues that could influence the response implementation (e.g. access, remoteness of operations, special precautions for designated, private and/or sensitive areas) and the availability of resources for the response. The communication system shall be available 24/7 and exercise as scheduled, especially mobile carriers.  <u>For spill scenarios at a fixed location (e.g. drilling well pad, storage tank, product pipeline, pump house or other fixed structures):</u> Confirm the availability of specialist and non-specialist resources, including, vehicles, heavy machinery, equipment and tools for the Environment, terrain, and hydrological and geological conditions, above and below ground. Reception and temporary storage facilities for recovered oil and materials shall be described in the Asset Spill Response Plan or supporting documentation.

Response Technique Options	Requirements
<b>Inland Response</b> (continued)	Describe the processes to locate oil, direct the clean-up operations and monitor effectiveness. Specialist and non-specialist equipment to monitor on/below ground and groundwater contamination as determined by the selected spill planning scenarios shall be described, along with the means to measure the quantities of recovered oil and other materials.  <u>For spill scenarios on mobile carriers on land (e.g. road/rail tankers):</u> Map out the available resources and critical sensitive area/receptor within the known transportation route. Provide estimated response times of nearest specialist and non-specialist resources, including vehicles, heavy machinery, equipment and tools to respond to different types of Environment, terrain, and hydrological and geological conditions. The processes to locate oil, direct clean-up operations and conduct monitoring programme shall be similar to the processes described for fixed structures.
<b>Oiled Wildlife Response</b>	If planning scenarios identify the potential for oiled wildlife or the presence of endangered or legally-protected species, then identify the available oiled wildlife specialists (whether locally available or internationally available) to respond to the incident. This may be sourced from the relevant government authorities, response organisations or non-governmental organisations. Critical information to be included in the Asset Spill Response Plan or supporting oiled wildlife response plan is the notification Procedures to engage these specialists, arrangements for wildlife protection and the response methodology for oiled wildlife.
<b>Waste Management</b>	Identify any country-specific or local legal and regulatory requirements pertaining to hazardous and non-hazardous waste management (including notification requirements, and how to set up temporary storage areas). Local availability of sufficient waste storage equipment and approved waste contractors for transportation of hazardous wastes shall be identified with contractual agreements for these services in place. Further, the final waste disposal location for each type of waste stream shall be identified with verification that the facility has the capability to accept the estimated volume of waste as identified in the planning scenario.  Refer to the PTTEP's Waste Management Procedure for further guidance in waste management Procedure (SSHE-106-PDR-521).



Response Technique Options	Requirements
<b>Waste Management</b> (continued)	A summary of this information shall be presented in the Spill Response Plan or supporting documentation as the site-specific tactical response plans.
<b>Stakeholder Engagement and Communications</b>	Identify stakeholders who share the risk and maintain a database of these stakeholders and their contact information. A programme shall be drawn to conduct regular communication with the stakeholders based on country-specific or local legal requirements and the duration of the operation. The frequency and need of stakeholders' engagement should be specified in the Asset Spill Response Plan or supporting documents for engagement during the planning process or in a response stage.
<b>Economic Assessment and Compensation</b>	Identify environmental and socio-economic sensitivities that may be potentially impacted by a spill from the operations. The Asset Spill Response Plan or supporting documents should include a process for mobilising resources to assess the impacts, to evaluate and to process claims and compensation to impacted communities. This shall include documentation preservation processes and any associated legal requirements of records and data. The general information of socio-economic can be found in environmental impact assessment report related-organisation in operating country.
<b>Environmental Sampling, Monitoring and Assessment</b>	<p>A monitoring programme shall be implemented before, in between and after an accident to aid in decision making, to monitor technique effectiveness or to determine the extent of spill impact to the Environment.</p> <p>Confirm the capability of subject matter experts, qualified sampling organisations and laboratories, and the equipment and logistics required to execute the monitoring programme. This shall include the local compliance requirements for environmental monitoring.</p> <p>The sampling and monitoring Procedures and the resources to support this assessment shall be included in the Asset Spill Response Plan or supporting documents.</p>

## APPENDIX D: EXAMPLE OF REQUEST FORM FOR APPROVAL OF DISPERSANT APPLICATION IN THAILAND

**กรมควบคุมมลพิษ**  
**คำขออนุญาตใช้สารเคมีจัดการน้ำมัน**

เขียนที่.....  
วันที่.....เดือน.....พ.ศ.....

เรียน อธิบดีกรมควบคุมมลพิษ

หน่วยงาน.....

ขออนุญาตใช้สารเคมีจัดการน้ำมันชนิด.....

เพื่อจัดการน้ำมันที่รั่วไหลจากสาเหตุ.....

สถานที่เกิดเหตุ.....

พิกัด.....

วันที่เกิดเหตุ.....เดือน.....พ.ศ.....เวลา.....

ชนิดน้ำมันที่รั่วไหล.....ปริมาตร.....ลิตร

น้ำมันรั่วไหลมาแล้ว.....วัน โดยทางหน่วยงานมีความประสงค์ในการใช้สารเคมีจัดการน้ำมันชนิดดังกล่าวข้างต้นเพื่อจัดการน้ำมันบริเวณ.....

จำนวน.....ลิตร โดยวิธี.....

ลงชื่อ.....ผู้ยื่นคำขอ  
(.....)  
ตำแหน่ง.....

สถานที่ติดต่อของผู้ยื่นคำขอ.....

โทรศัพท์.....โทรสาร.....

Pager.....e-mail.....

สถานที่ติดต่อกรมควบคุมมลพิษ

หมายเลขราชการ	เบอร์โทรศัพท์	เบอร์โทรสาร
กรมควบคุมมลพิษ 92 ซอยพหลโยธิน 7 ถนนพหลโยธิน แขวงสามเสนใน เขตพญาไท กรุงเทพฯ 10400	0 2521 8682 / 0 1898 3594	
โทรศัพท 0 2298 2239, 0 2298 2241-2, 0 2298 2246	รองอธิบดีกรมควบคุมมลพิษ 0 2235 6536 / 0 1638 8018	
โทรสาร 0 2298 2240	รองอธิบดีกรมควบคุมมลพิษ 0 2485 8938 / 0 1442 2661	
e-mail : marpol.mcd@pdd.go.th	ผอ. สำนักจัดการคุณภาพน้ำ 0 2411 1341 / 0 1622 4124	
email : marinepollution_pcd@yahoo.com	ผอ. ส่วนแหล่งน้ำทะเล 0 2973 4998 / 0-1816-4280	

Remark: Updated information will be available in the SSHE intranet.

# APPENDIX E: LIST OF APPROVED DISPERSANTS FOR THAILAND ASSETS

NO.	Product Name	Approved use <sup>1</sup>	Expiry Date	Revised Date	Agency permit <sup>2</sup>
1	Accell Clean® DWD	*		18 July 2011	U.S. EPA.
2	Agma DR 379	S B RS	20 June 2021		MMO
3	Ardrox 6120*	*		1 January 2012	AMSA
4	BIODISPERS (FORMERLY PETROBIODISPERS)	*		28 June 2002	U.S. EPA.
5	Caflon OSD	S B RS	20 December 2018		MMO
6	CHEMAX 307 oil spill dispersant	*	-	-	TISI
7	COREXIT® EC9500A	S	12 December 2018	13 April 1994/ 18 December 1995	MMO U.S. EPA. AMSA
8	COREXIT® EC9500B	*	13 July 2020	1 August 2013	U.S. EPA.
9	COREXIT EC9527A (Formerly Corexit 9527)	*		10 March 1978/ 18 December 1995	U.S. EPA.
10	DASIC SLICKGONE NS/ Slickgone NS	S B RS	20 February 2019	4 December 2012	AMSA / MMO
11	DASIC SLICKGONE EW/ Slickgone EW	S B RS	25 April 2018	4 April 2013	AMSA / MMO
12	Dasic Slickgone LTSW*	*		1 January 2012	AMSA
13	De Solv It 1000	S B RS	28 October 2020		MMO
14	Disperep 12	S	13 July 2021		MMO
15	DISPERSIT SPC 1000TM	*		22 April 1999	U.S. EPA.
16	Eflochem OSD	S B RS	7 February 2022		MMO
17	FFT-Solution®	*		1 November 2011	U.S. EPA.
18	Finasol OSR 51	S B RS	27 June 2017	12 November 2014	AMSA
19	Finasol OSR 52	S B RS	18 March 2020	30 January 2003	MMO U.S. EPA. AMSA

NO.	Product Name	Approved use <sup>1</sup>	Expiry Date	Revised Date	Agency permit <sup>2</sup>
20	JD-109	*		20 September 2000	U.S. EPA.
21	JD-2000 <sup>TM</sup>	*		6 August 2001	U.S. EPA.
22	MARE CLEAN 200	*		23 February 1988/ 26 January 1996	U.S. EPA
23	MARINE D-BLUE CLEAN <sup>TM</sup>	*		23 April 2012	U.S. EPA
24	Micro-Fiton	S B RS	6 August 2019		MMO
25	NEOS AB3000	*		22 April 1985/ 26 January 1996	U.S. EPA.
26	NOKOMIS 3-AA	*		31 July 2008	U.S. EPA
27	NOKOMIS 3-F4	*		4 March 2002	U.S. EPA.
28	OD 4000	S B RS	18 March 2020		MMO
29	Oil Spill Eater II	S B RS	23 January 2020		MMO
30	OSD/LT Oil Spill Dispersant	S B RS	20 June 2016		MMO
31	OSR 4000	S B RS	7 August 2018		MMO
32	Radiagreen OSD	S	19 February 2020		MMO
33	SAF-RON GOLD (a/k/a SF-GOLD DISPERSANT	*		3 January 2005	U.S. EPA.
34	SEA BRAT #4	*		26 November 2002	U.S. EPA.
35	SEACARE ECOSPERSE 52 (see FINASOL OSR 52)	S B RS	25 April 2018	30 January 2003	MMO U.S.EPA
36	Seacare Ecosperse LT23	S B RS	28 October 2018		MMO
37	SEACARE E.P.A. (see Dispersit SPC 1000 <sup>TM</sup> )	*		22 April 1999	U.S. EPA.
38	Seacare OSD	S B RS	10 May 2018		MMO
39	Seacare OSD2	S B RS	28 October 2018		MMO

NO.	Product Name	Approved use <sup>1</sup>	Expiry Date	Revised Date	Agency permit <sup>2</sup>
40	SF-GOLD DISPERSANT (see SAF-RON GOLD)	*		3 January 2005	U.S.EPA
41	Super-dispersant 25	S B RS	17 March 2020		MMO
42	ZI-400	*		16 June 2005	U.S.EPA
43	ZI - 400 OIL SPILL DISPERSANT (see ZI-400)	*		16 June 2005	U.S.EPA

Update at 29 May 2017.

Remark

<sup>1</sup>Approved use

- S = Sea  
B = Beach  
RS = Rocky shore  
\* = Unidentified

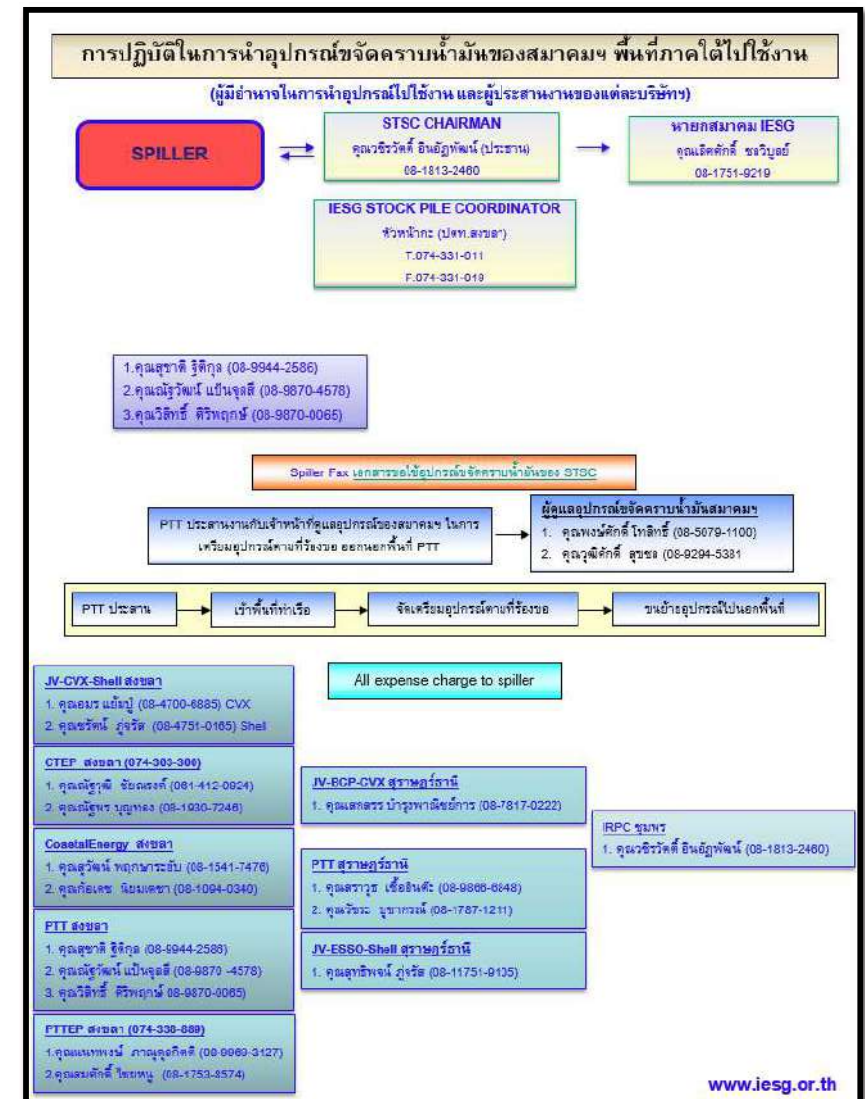
<sup>2</sup>Reference Agencies

- Marine Management Organisation : MMO  
- U.S. Environmental Protection Agency : U.S. EPA  
- Australian Maritime Safety Authority : AMSA  
- Thai Industrial Standards Institute : TISI

Reference: Pollution Control Department

Remark: Updated information will be available in the SSHE intranet.


## APPENDIX F: SPILL RESPONSE EQUIPMENT REQUEST PROCESS AND EXAMPLE FORM



Remark: Updated information will be available in the SSHE intranet and [www.iesg.or.th](http://www.iesg.or.th).

# APPENDIX G: LIST OF IESG RESOURCES AT SONGKHLA

No.	Equipment	Trade Mark	Model	Quantity	ประเภท
1	Rope Mop Skimmer (OSR-IESG-STSC-001) - Length of 3 metres-150 mm. Diameter Oleophilic - Floating rope mop pully (1) - Kit,2 year operation spares kit (1)	Ro-Clean	OM 200 DP	1 set	Skimmer
2	Weir Skimmer (OSR-IESG-STSC-002) - Spate induced self – priming flow pump (1) - House set (1)	Ro-Clean	Deemi mini-max	1 set	Skimmer
3	Disc Skimmer (OSR-IESG-STSC-003) - Power Pack (1เครื่อง) - Hydraulic hose (2 เส้น) - Discharge/ suction hose (2 เส้น) - Manual (1 เล่ม)	Vikoma	T 12	1 set	Skimmer
4	Floating Suction Head (OSR-IESG-STSC-004)	Vikoma	Delta Head	1 set	Skimmer
5	Vacuum Unit (OSR-IESG-STSC-005-U1&U2) - Hopper (Manual 2 เล่ม)	Vikoma	Powervac	2 sets	Skimmer
6	WB 20 X water pump (OSR-IESG-STSC-010) - สาย Discharge / Suction - Manual (1 เล่ม)	Honda	Wp 20X	1 เครื่อง 2 เส้น	Pump
7	Air Compressor ( Electric )	PUMA	XM-2525	1 เครื่อง	Air Compressor
8	Air Boom (Hydraulic) (OSR-IESG-STSC-007-U1&U2) - Type 100 hydraulic reel - Heavy duty PVC reel cover - Tow bridle set - Type "H" Power pack - PB 4000 Air inflator (Manual 5 เล่ม) - Air Tube interconnection - Boom repair kit for sea sentinel boom (2 กล่อง)	Vikoma	Sea Sentinel  400 m	2 ชุด 2 มิน 4 อัน 1 เครื่อง รวม 8 เส้น	Boom
9	Air Boom (Manual) (OSR-IESG-STSC-009) - Reinforced PVC boom bage (8 ลูก) - Tow bridle set (4 อัน)	Vikoma	Sea Sentinel	200 m	Boom
10	Beach Boom (OSR-IESG-STSC-010) - Reinforced PVC boom bage	Vikoma	Shore guardian	100 m	Boom



IESG

ส่วนที่ 1 แบบฟอร์มการขอใช้อุปกรณ์ขจัดคราบน้ำมันของ STSC

วันที่ .....

ถึง ☐ ประธาน STSC โทรศัพท์ 08-1813-2460 โทรสาร 0-7432-1192

☐ นายกสมาคมฯ โทรศัพท์ 08-1751-9219 โทรสาร 0-2239-7917

จาก **จ.สงขลา**

☐ JV-CVX-Shell โทรศัพท์ 074-331-778 โทรสาร 074-331-290

☐ CTEP โทรศัพท์ 074-303-300 โทรสาร 074-321-192

☐ CEC โทรศัพท์ 074-331-027-31 โทรสาร 074-331-029

☐ PTT โทรศัพท์ 074-331-778 โทรสาร 074-331-019

☐ PTTEP โทรศัพท์ 074-338-845 โทรสาร 074-338-890

**จ.สุราษฎร์ธานี**

☐ JV-CVX-Bangchak โทรศัพท์ 0-7728-3045 โทรสาร 0-7728-2935

☐ JV-ESSO-Shell โทรศัพท์ 0-7722-4121 โทรสาร 077-.....

☐ PTT โทรศัพท์ 0-7728-3978 โทรสาร 0-7728-1081

**จ.ชุมพร**

☐ IRPC โทรศัพท์ 0-7752-1074 โทรสาร 0-7752-1355

**จ.ภูเก็ต**

☐ PTT โทรศัพท์ 0-7728-3978 โทรสาร 0-7728-1081

รายการอุปกรณ์ขจัดคราบน้ำมันของ STSC ที่ร้องขอ

.....

การจัดส่ง ☐ Spiller มารับอุปกรณ์เอง

ลงชื่อผู้ร้องขอ .....

วันที่ ..... เวลา ..... โทรศัพท์/ โทรสาร .....

\*\*\*\*\*

ส่วนที่2 แบบตอบรับการร้องขอ

รายละเอียดการสนับสนุนอุปกรณ์

.....

ลงชื่อผู้อนุมัติ .....

วันที่ ..... เวลา ..... โทรศัพท์/ โทรสาร .....

จัดทำโดย : คณะกรรมการสถานป้องกันและแก้ไขการรั่วไหลของน้ำมัน เขตพื้นที่ภาคใต้ (STSC)

Remark: Updated information will be available in the SSHE intranet and [www.iesg.or.th](http://www.iesg.or.th).



No.	Equipment	Trade Mark	Model	Quantity	ประเภท
11.	Flexi Boom (OSR-IESG-STSC-011)	Vikoma	Flexi Boom 900	405 m	Boom
12.	Oil Containment Boom (OSR-IESG-STSC-012)	SK Boom	SK C105U	400 m	Boom
13.	AutoBoom Hydraulic OSR-IESG-STSC-008 - Power Pack 1 set - Roller 1 set - Air inflator 1 set	Lamor Lamor	LPP 7HA B8	200 m	Boom
14.	Anchor System (OSR-IESG-STSC-017)	Abasco	ASB-25	14 Each	Boom Accessories
15.	Tow Bridle (OSR-IESG-STSC-016)	Abasco	TB 25	6 Each	Boom Accessories
16.	Sorbent Boom (OSR-IESG-STSC-013)	Abasco	A-8-10	50 Bundles	Absorbent
17.	Sorbent Sheet (OSR-IESG-STSC-014)	Abasco	A-150	20 Rolls	Absorbent
18.	Temporary Storage (Fast Tank 2000) (OSR-IESG-STSC-018-U1&U2) - Pipe saddle for mumping over tank wall - Ground mat for under tank on rough terrain	Fast Engineering	Fast Tank 2000	2 Sets	Tank
19.	Oil Dispersant OSR-IESG-STSC-015 - AGMA DR 379 Oil Dispersant - Slickgone NS Type 2/3 (200 Liters/ Drum) y.2011	AGMA Slickgone NS	DR 379 Type 2/3	7 ถัง 9 ถัง	Dispersant
20.	Dispersant Spray Set Boat Spray 100 Dual OSR-IESG-STSC-006 - Pump Unit - AFEDO Nozzles - ถังผสมน้ำ	Lamor	BS100DFW-TS	1 Set  1 ใบ	Dispersant Spray
21.	Cargo Basket OSRE-IESG-BU-001,002/2014	Saftrol	Cargo Basket	2 set	Basket
22.	Container 40 feet OSR-IESG-STSC-020	Saim cargo container	Lp 20-005	3 set	Container
23.	Container 20 feet (จำหน่ายแล้ว 1 ชุด 2559 30,000 บาท)	Siam cargo Container	Storage container	1 set	Container
24.	CONTAINER 10 feet (OSRE-IESG-001/2014)	Saftrol	Storage container	1 set	Container
25.	WATER PUMP 11kw OSR-IESG-STSC-021	yanma		1 set	pump
26.	Oil spill Dispersant ;Dasic;slickgone NS -Contain 25L./Pail	Dasic Internationt Limited	Type II/III	32 Pails (800 L)	Dispersant

Remark: Updated information will be available in the SSHE intranet.

## APPENDIX H: 2018 PTTEP AUTHORISED PERSONNEL FOR OSRL ACTIVATION

Name	Position/Job Title	Contact No.	Email
	Senior Vice President, Safety, Security, Health & Environment Division		
	Acting EVP., Production Asset Group		
	EVP., Engineering and Development Group		
	Senior VP, Myanmar Asset		
	Vice President, Safety Operation Department		
	Vice President, Environment Management Department		
	Vice President, Australia Asset		
	Manager, SSHE		
	SSHE Manager, Myanmar Asset		
	SSHE Manager, Australia Asset		

Remark: Updated information will be available in the SSHE intranet.

**APPENDIX I: PTT GROUP NOTIFICATION FORM**

PTT Public Company Limited (PTT)

**Communication Centre:** +66(0)2537 3111/3222/3333/3444 (Tel)  
+66(0)2537 3498-9 (Fax)

Oil Spill Response and East Asia Response Limited (OSRL)

**Singapore Base:** +65 6266 1566 (Tel) +65 6266 2312 (Fax)  
**Southampton Base:** +44 23 8033 1551 (Tel) +44 23 8033 1972 (Fax)

Notification Form – Page 1 of 2

<b>To:</b> PTT Communication Center	<b>Date:</b>
<b>Cc:</b> OSRL	<b>Warning!</b> Ensure telephone contact has been established with the Duty Manager before using Email communication.
<b>From:</b>	<b>Position:</b>
<b>Company:</b>	<b>Contact Number:</b>
<b>Subject: For Your Information</b>	<b>Incident name:</b>
<b>OBLIGATORY INFORMATION REQUIRED – COMPLETE ALL DETAILS</b>	
Name of person in charge	
Position	
Company	
Contact telephone number	
Contact fax number	
Email address	
<b>Spill Details</b>	
Location of spill	
Description of slick (size/direction appearance)	
Latitude / Longitude	
Situation (cross box)	
Date & Time of spill	
<b>Source of spill</b>	
Quantity (if know)	
Spill status (cross box)	
<b>Action taken so far</b>	
<b>Oil type &amp; characteristics</b>	
Name	
Viscosity	
API/SG	
Pour point	
Asphaltene	
<b>Weather</b>	
Wind speed and direction	
Sea state	
Sea temperature	
Tides	
Forecast	



PTT Public Company Limited (PTT)

**Communication Centre:** +66(0)2537 3111/3222/3333/3444 (Tel)  
+66(0)2537 3498-9 (Fax)

Oil Spill Response and East Asia Response Limited (OSRL)

**Singapore Base:** +65 6266 1566 (Tel) +65 6266 2312 (Fax)  
**Southampton Base:** +44 23 8033 1551 (Tel) +44 23 8033 1972 (Fax)

Notification Form – Page 2 of 2

<b>ADDITIONAL INFORMATION REQUIRED – COMPLETE DETAILS IF KNOW</b>	
<b>Resources at risk</b>	
<b>Clean up resources</b>	
<b>On site / Ordered</b>	
<b>Nearest airport</b> (if know)	
Runway length	
Handling facilities	
Customs	
Handling agent	
<b>Vessel availability</b>	
Equipment deployment	
Recovered oil storage	
<b>Equipment logistics</b>	
Transport	
Secure storage	
Port of embarkation	
Location of command centre	
Other designated contacts	
<b>Special requirements of country</b>	
Security	
Visa	
Medical advise	
Vaccinations	
Others (specify)	
<b>Climate information</b>	

Remark: Updated information will be available in the SSHE intranet.



## APPENDIX J: PTT GROUP MOBILISATION AUTHORISATION FORM

### Mobilisation Authorisation

<b>To:</b> PTT Communication Center	<b>Date:</b>
<b>Tel:</b> +66 (0) 2537 3111/222/333/444/555	<b>Fax:</b> +66 (0) 2537 3498 - 9
<b>From:</b>	<b>Position:</b>
<b>Company:</b>	<b>Contact Number:</b>
<b>Subject: Mobilisation of OSRL</b>	<b>Incident name:</b>

I, \_\_\_\_\_ (Name in Block Capitals)  
 hereby authorise to request PTT for the activation of OSRL and its resources in connection  
 with the oil spill incident of \_\_\_\_\_ (Name of Ship/Oil Rig or Terminal)  
 as of \_\_\_\_\_ (Time) ON \_\_\_\_\_ (Date)

OSRL shall work under the direction of:  
 Name: \_\_\_\_\_  
 Position: \_\_\_\_\_  
 Company: \_\_\_\_\_

Signature \_\_\_\_\_ Position \_\_\_\_\_  
 Company name \_\_\_\_\_

<b>To: OSRL</b>	<b>Date:</b>
<b>Tel:</b> Singapore Base: +65 6266 1566 Southampton Base: +44 23 8033 1551	<b>Fax:</b> Singapore Base: +65 6266 2312 Southampton Base: +44 23 8033 1972
<b>From:</b> PTT Public Company Limited	<b>Contact Number:</b> +66 (0) 2537 8844/55
<b>Subject: Mobilisation of OSRL</b>	<b>Incident name:</b>

I, \_\_\_\_\_ (Name in Block Capitals)  
 hereby authorize the activation of OSRL and its resources in connection with the oil spill  
 incident of \_\_\_\_\_ (Name of Ship/Oil Rig or Terminal)  
 as of \_\_\_\_\_ (Time) ON \_\_\_\_\_ (Date)

Signature \_\_\_\_\_ Position \_\_\_\_\_  
 PTT Public Company Limited

Remark: Updated information will be available in the SSHE intranet.

## APPENDIX K: OSRL NOTIFICATION AND MOBILISATION PROCEDURE

### OSRL Request Step

PTTEP is a participant member with OSRL, and therefore has immediate access to Tier 3 technical advice, resources and expertise 365 days a year on a 24 hours basis. The following steps should be followed to request for OSRL's support:

1. In the event of an incident, a call should be placed to one of the following numbers. The Duty Manager (DM) will call Client back within 10 minutes of receiving notification of the call.

**Emergency Contact (TELEPHONE)** Singapore **+65 6266 1566**

Southampton **+44 (0)23 8033 1551**

**Emergency Contact (FAX)** Singapore **+65 6266 2312**

Southampton **+44 (0)23 8033 1972**

2. Complete the Notification (Appendix L) and Mobilisation Authorisation forms (Appendix M) as necessary, which can be sent to OSRL by fax or email. Under the Participant Member Agreement which governs the mobilisation of resources from OSRL, OSRL must receive official notification to mobilize from one of PTTEP's Nominated Call-out Authorities, summarized in the table on the next page. These are individuals within PTTEP who have been appointed to approve the expenditure of mobilizing Tier 3 equipment.

Remark: Updated information will be available in OSRL website.

## APPENDIX L: OSRL NOTIFICATION FORM

### OSRL Notification Form

(Initial Incident Information)

**Warning! Please telephone the Duty Manager before e-mailing or faxing this form**

To	Duty Manager		
OSRL Base	Southampton, UK	Loyang, Singapore	Fort Lauderdale, USA
Telephone	+44 (0)23 8033 1551	+65 6266 1566	+1 954 983 9880
Emergency Fax	+44 (0)23 8072 4314	+65 6266 2312	+1 954 987 3001
Email	dutymanagers@oilspillresponse.com		


**Guidance:** This information will be used to develop and recommend the most appropriate response strategy. If new information should become available, or the situation changes, please inform the Duty Manager as soon as possible.

Section 1 – Contact Details				
Member Company				
Name of Person Notifying OSRL				
Job Title (Designation)				
Direct Phone Number	Country code		Number	
Mobile Number	Country code		Number	
Fax Number				
Email Address				
Command Centre Address				
Date and Time of Notification	Date and Time		Time Zone	
Section 2 – Location				
Country / Region of Spill				
Latitude of spill (north/south)				
Longitude of Spill (east/west)				
Area Affected	<input type="checkbox"/> Offshore	<input type="checkbox"/> Subsea	<input type="checkbox"/> Shoreline	<input type="checkbox"/> Estuary
	<input type="checkbox"/> Port	<input type="checkbox"/> Harbour	<input type="checkbox"/> Inland	<input type="checkbox"/> River
Water Depth (if applicable)				
Section 3 – Spill Details				
Date and Time of Spill			Time Zone	
Source of Spill				
Cause of Spill				
Status of Spill	<input type="checkbox"/> Secured	<input type="checkbox"/> Uncontrolled	<input type="checkbox"/> Unknown	
Product Properties	Product Name / Type			
	Specific Gravity	AP		
	Pour Point			
	Wax Content			
	Asphaltene			
Sulphur Content				
	Reference Temperature	°C		
Type of Release	Instantaneous Release	<input type="checkbox"/>	Volume	
	OR			
	Continuous Release	<input type="checkbox"/>	Release Rate	

Section 3 – Spill Details continued				
Description of Observed Spill	Estimated Quantity			State Units
	Size			
	Appearance			
	Direction of Travel			
Section 4 – Weather and Modelling				
Weather forecast provided?	<input type="checkbox"/> Yes	<input type="checkbox"/> No OSRL to source a weather forecast		
Sea Temperature				
Sea State				
Visibility				
Cloud Base				
Do you require Oil Spill Trajectory Modelling?	<input type="checkbox"/> Surface 2D	<input type="checkbox"/> Sub-surface 3D Additional time and costs apply	<input type="checkbox"/> Not at this time	
Sub-surface 3D Modelling Information if requested	Gas to Oil Ratio	$\text{m}^3/\text{m}^3$	Release Hole Diameter	m
Section 5 – Safety and Security				
Highlight any known safety or security risks e.g. high levels of H <sub>2</sub> S, high risk country				<input type="checkbox"/> Not Applicable
Describe security arrangements for OSRL staff				<input type="checkbox"/> Not Applicable
Section 6 – Resources at Risk (if available)				
Environmental or socio-economic sensitivities that may be impacted. Provide the relevant oil spill contingency plan and sensitivity maps if available.				<input type="checkbox"/> Contingency plan included <input type="checkbox"/> Sensitivity maps included
Section 7 – Equipment (if available)				
Equipment already deployed or being mobilised (other than OSRL resources)				
Section 8 – Further Information				

Remark: Updated information will be available in the SSHE intranet and OSRL website.

## APPENDIX M: OSRL MOBILISATION AUTHORISATION FORM



**Mobilisation Authorisation Form**

Please do not hesitate in contacting the duty manager at the earliest opportunity in the event of an incident or potential incident. Please ensure you telephone the Duty Manager before e-mailing or faxing this completed form

**Safety and Security**

Oil Spill Response Limited's safety policy requires us to work closely with the mobilising party to ensure all aspects of safety and security are addressed for our personnel.

To	Duty Manager		
OSRL Base	Southampton, UK	Loyang, Singapore	Fort Lauderdale, USA
Telephone	+44 (0)23 8033 1551	+65 6266 1566	+1 954 983 9880
Emergency Fax	+44 (0)23 8072 4314	+65 6266 2312	+1 954 987 3001
Email	dutymanagers@oilspillresponse.com		

Details of Authorised Contact		
Incident Name		
Mobilising Company		
Name of Person Authorising OSRL		
Position of Authorising Representative		
Direct Phone Number	Country Code	Number
Mobile Number		
Fax Number		
Email Address		
Invoice Address if available		
Purchase Order Number		

I, the above named Authorising Representative for the Mobilising Company, approve activation of Oil Spill Response Limited and its resources in connection with the above incident under the terms of the Agreement in place between the above stated Company and Oil Spill Response Limited.

Signature:		Date / Time:	
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If Oil Spill Response Limited personnel are to work under another party's direction please complete details below:

Directing Party's Details	
Company	
Contact Name	
Position in Incident	
Direct Phone Number	
Mobile Number	
Fax Number	
Email Address	

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Remark: Updated information will be available in the SSHE intranet and OSRL website.

## APPENDIX N: SPILL CAPABILITY ASSESSMENT CHECKLIST

### Process for completion

The 'Self Check' is divided into four sections dealing with each aspect of response preparedness: Management Organisation & Training, Planning, Notification and Mobilization, and Response.

A number of questions are asked to gauge the levels of preparedness particularly in the context of interface with IESG and its members. The aim is to conduct a quick and simple gap analysis of the relationship and identify any actions that should be completed to ensure that IESG and its members resources could be effectively integrated into the response.

Answers to the questions are recorded on a numerical matrix indicating whether the issue is considered to be adequately addressed. Certain aspects are considered critical success factors, and failure in these areas would be material to the ability of IESG and its members to assist the member (spill owner), or more importantly, for the member to be able to respond effectively. The answers should be dependent upon the question context.

Answers	Status
Yes/Satisfactory/this year	1
In need of action/Review/last year	2
No/Unsatisfactory/Before last year	3

### Section 1 Management Organisation & Training

It is essential that there is a robust management structure to lead the response to any incident. The members of the response team should be aware of their individual roles and responsibilities and trained in oil spill response. The team should be aware of how IESG and its members interface with their response organisation. The organisation should be regularly exercised.

Management Organisation & Training		1	2	3
Reference document - Spill Response Plan				
M1	Is there a management structure for dealing with an oil spill incident?			
M2	Are all members of the team aware of their individual Roles and Responsibilities?			
M3	Is there a Response management System in place?			
M4	Have all of the team members been trained in oil spill response?			
M5	Have members of the management team been briefed in how IESG and its member operate and their respective responsibilities?			
M6	When was the management team last exercise?			

## Section 2 Planning

There should be a contingency plan in place to co-ordinate the response to an oil spill which will bring together various elements of the response, including cleanup equipment. It should be kept up to date and tested on a regular basis. The plan should interface with other adjacent plans. And, should have an appropriate and relevant risk assessment and identify where resources to support tier 1, 2 and 3 response can be accessed.

Planning		1	2	3
Reference document - Spill Response Plan				
P1	Is there a contingency plan in place?			
P2	When was it last review/update?			
P3	When was the plan last exercise?			
P4	Does the plan integrate with IESG response?			
P5	Does the plan interface with national and other adjacent local plans?			
P6	Does the plan risk assessment reflect the scope of the operation and anticipate credible level of IESG and its members' involvement?			
P7	Does the credible Tier 1 spill scenario identified?			
P8	Does the cleanup equipment appropriate with the Tier 1 spill scenario?			
P9	Does the equipment maintenance and test program in place?			
P10	Does the equipment mobilization & deployment logistics been planned and tested?			

## Section 3 Notification and Mobilization

An effective response is dependent upon an effective notification and mobilization system to alert the responders. This section deals with the alerting system, and ensures that all parties are aware of the required information and authorities to mobilize the support response from IESG and its members.

Notification and Mobilization		1	2	3
Reference document - Spill Response Plan				
N1	Is there a procedure in place to notify IESG of an incident?			
N2	When was it last review/update? ( <i>notification procedure</i> )			
N3	When was the procedure last exercise?			
N4	Is there a procedure in place to mobilize IESG support in the event of an incident?			
N5	When was it last review/update? ( <i>mobilization procedure</i> )			
N6	When was the system last exercise?			
N7	Are you aware of the information needed by IESG & members to mobilize a response?			
N8	Are you aware of the advice and information support that can be accessed from IESG?			
N9	Are you aware of the response time likely to be achieved in the event of a call?			

## Section 4 Response

In order for IESG and its members to be able to respond effectively with the member (spill owner) there is a need for infrastructure items to support the response. This section deals with these elements.

Response		1	2	3
Reference document - Spill Response Plan				
R1	Is there a safety management plan in place for response operations?			
R2	Have response personnel been trained in the safety aspects of oil spill response?			
R3	Is there a communications system to enable effective co-ordination of the response?			
R4	Have secure equipment stockpile areas been identified?			
R5	Have the logistical arrangements been identified to import and deploy additional equipment delivered by IESG and its members?			
R6	Has a waste management plan been developed for the response operation?			
R7	When was the system last exercise?			

**Action Summary**

Action to be taken		Who	When
<b>Management Organisation &amp; Training</b>			
M1			
M2			
M3			
M4			
M5			
M6			
<b>Planning</b>			
P1			
P2			
P3			
P4			
P5			
P6			
P7			
P8			
P9			
P10			
<b>Notification and Mobilization</b>			
N1			
N2			
N3			
N4			
N5			
N6			
N7			
N8			
N9			
<b>Response</b>			
R1			
R2			
R3			
R4			
R5			
R6			
R7			
TO BE COMPLETED BY BOTH PARTIES.			

Site representative.....

Check by.....

Date.....