

Equinor Canada LTD. Offshore Newfoundland Oil Spill Response Plan

Safety and security (SF)
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1 Objective, target group and provision

1.1 Objective

This Oil Spill Response Plan (OSRP) has been developed to support Equinor Canada Ltd.'s (Equinor) exploratory drilling operations. The plan provides guidance to persons involved in response operations associated with an oil spill during Equinor exploration drilling operations offshore Newfoundland and Labrador (NL).

1.2 Target group

The target group for this document is all parties engaged in supporting Equinor spill response activities offshore Newfoundland and Labrador (NL), including offshore and onshore staff, applicable contractors, and facilities.

1.3 Provision

This document is provided for in [SF 700 Preparedness and Response](#), *FR10 – Safety and Security and FR11 - Sustainability*.

2 Management of Change and Document Control

Consistent with the commitment to continual improvement, the Equinor SSU Manager – Canada will review and revise this OSRP as necessary to reflect changes related to regulatory expectations, the results of internal/external assurance reviews, management reviews, and lessons learned from oil spill response exercises. Changes to this OSRP shall be undertaken per management of change requirements outlined in *WR1272 Equinor Canada HSE Management plan*. Copies of updated OSRP will be distributed per the distribution list in Appendix A

3 Oil Spill Response Plan Overview

Equinor Canada's emergency management philosophy is to prevent spills from happening, and in the unlikely event a spill would occur, to reduce the impact of an emergency on people, environment, and the integrity of Equinor Canada, contractor, and third-party assets.

This OSRP is developed based on the principles of the Incident Management System (IMS). IMS is a standardized, all hazards approach to emergency management, providing a scalable and flexible system of response. This OSRP, together with the supporting documents (*WR2402 Equinor Canada Ltd. Incident Management Plan*, the *Incident Management Handbook* (reference I-110381), and the *Equinor Canada Ltd. OSRP Resources and Procedures Manual* (herein referred to as the OSRP Manual)), provide a comprehensive overview of Equinor's oil spill response, including:

- Equinor's philosophy and policies concerning oil spill response.
- The organization of Equinor's response efforts, and the evolution of those efforts with the increasing scale of the spill response (i.e., tiered response)
- Arrangements for assistance from contractors, other operators and corporate resources
- Environmental issues resulting from an offshore oil spill
- Equinor's policies concerning safety, training, and oil spill waste management

The OSRP Manual provides detailed information for the following:

- **ACTIONS** – checklists and forms to be used in-field and onshore
- **RESOURCES** – personnel, equipment and vessel resources
- **OIL SPILL FATE** – fate and characteristics of spilled hydrocarbon
- **PROCEDURES** – Stand-alone detailed procedures describing specific actions that may be undertaken
- **KEY CONTACTS** – list of contacts for Equinor IMT personnel, contractors, regulatory agencies

- **GLOSSARY** - listing and definition of oil spill terms and acronyms used in this OSRP

3.1 Scope

3.2 Geographic Area for Plan Implementation

Equinor currently holds exploration licenses (EL) and significant discovery licences (SDL) offshore Newfoundland and Labrador (NL) within Canada's 200 nautical mile exclusive economic zone (EEZ), and on the high seas on the outer Canadian Continental Shelf. The current licenses held by Equinor are illustrated in Figure 3-1: Equinor Canada Ltd. Licenses Figure 3-1.

This OSRP applies to any Equinor-operated exploration drilling program on licences held by Equinor in the NL offshore area.

3.3 Offshore Response

The Flemish Pass Exploration Drilling Program Environmental Impact Statement (EIS) [1] states that most surface oil from the release sites was predicted to move in an easterly direction due to the prevailing westerly winds and ocean currents. Winds and currents in the Project Area are similar throughout the year however, increased wind speeds in winter provide a greater potential to enhance surface breaking waves which may result in more entrainment of oil, and thereby lowering the probability that oil will remain on the surface for longer periods of time.

This OSRP, therefore, includes the management, procedures, and strategies that will be used in an oil spill response occurring inside the 500 m safety zone of the drilling unit. Within the 500 m safety zone, spills may occur from drilling activities and/or offshore support vessels within the zone.

3.4 Nearshore Response

The Flemish Pass Exploration Drilling Program Environmental Impact Statement (EIS) [1] predicts that there will be minimal oil reaching the shoreline of the island of Newfoundland. However, in the unlikely event where spilled oil reaches shoreline, the management procedures outlined in this OSRP will be expanded to include shoreline protection and response techniques.

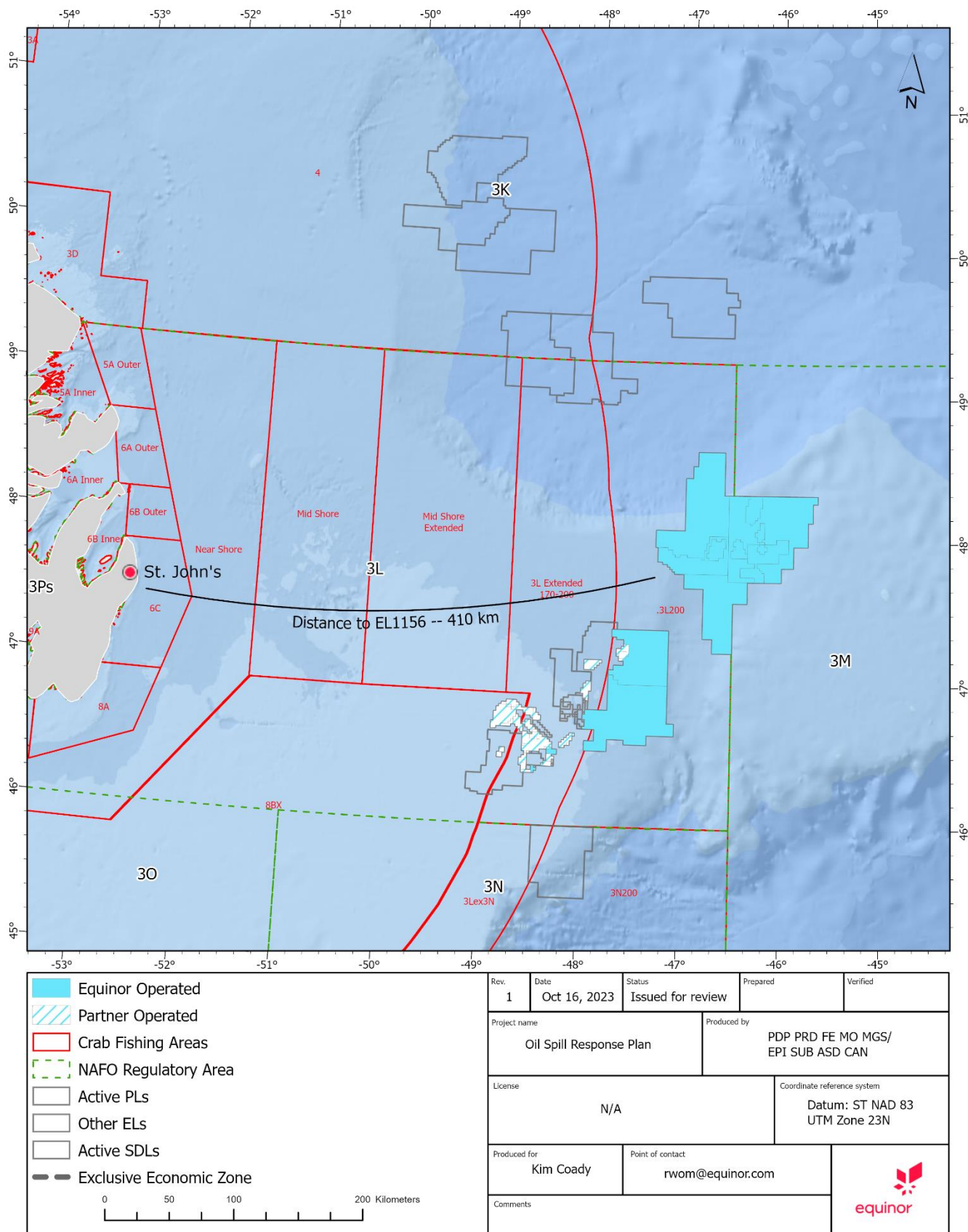


Figure 3-1: Equinor Canada Ltd. Licenses

4 Regulatory Context

4.1 Legislation Governing Offshore Oil Spill Response

All oil and gas activities are regulated by the C-NLOPB pursuant to the Accord Acts. Per Section 161 of the Accord Acts, oil spill response at an offshore installation in the NL offshore area falls under the jurisdiction of the C-NLOPB. The C-NLOPB is designated as the lead agency for spill incidents in the NL offshore area. In addition, Canada–Newfoundland and Labrador Offshore Area Petroleum Operations Framework Regulations (*Framework Regulations*) require operators to have contingency plans for oil spills in order to obtain an OA.

Spills originating from vessels within the drilling installation's 500 m safety zone are under the jurisdiction of Transport Canada (TC). However, as Operator, Equinor will always assume a responsible role for oil spills which originate within the designated safety zone for the facility, regardless of the cause of the spill. Spills originating from vessels outside the 500 m safety zone are managed by the vessel owner. This OSRP addresses the requirements of oil spill response preparedness and planning pursuant to the requirements of the Accord Acts, its regulations and associated guidance.

The C-NLOPB has Memoranda of Understanding with federal and provincial departments whereby these departments act as advisors to the CNLOPB regarding environmental matters.

The OSRP Manual provides additional information regarding the regulatory context for oil spill response in the NL offshore area.

Table 4-1 lists the relevant legislation and response authorities for offshore oil spills. Figure 4-1 provides an overview of the parties who may be involved in the response to an oil spill offshore.

Table 4-1 Legislation Governing Offshore Oil Spill Response

Key Legislation	Responsible Agency
Canada-Newfoundland Atlantic Accord Implementation Act and the Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act (the Accord Acts).	C-NLOPB
Canada Shipping Act	Transport Canada (TC)
Canadian Environmental Protection Act	Environment and Climate Change Canada (ECCC)
Fisheries Act	Fisheries and Oceans (DFO)
Transportation of Dangerous Goods Act	TC
Migratory Birds Convention Act	ECCC

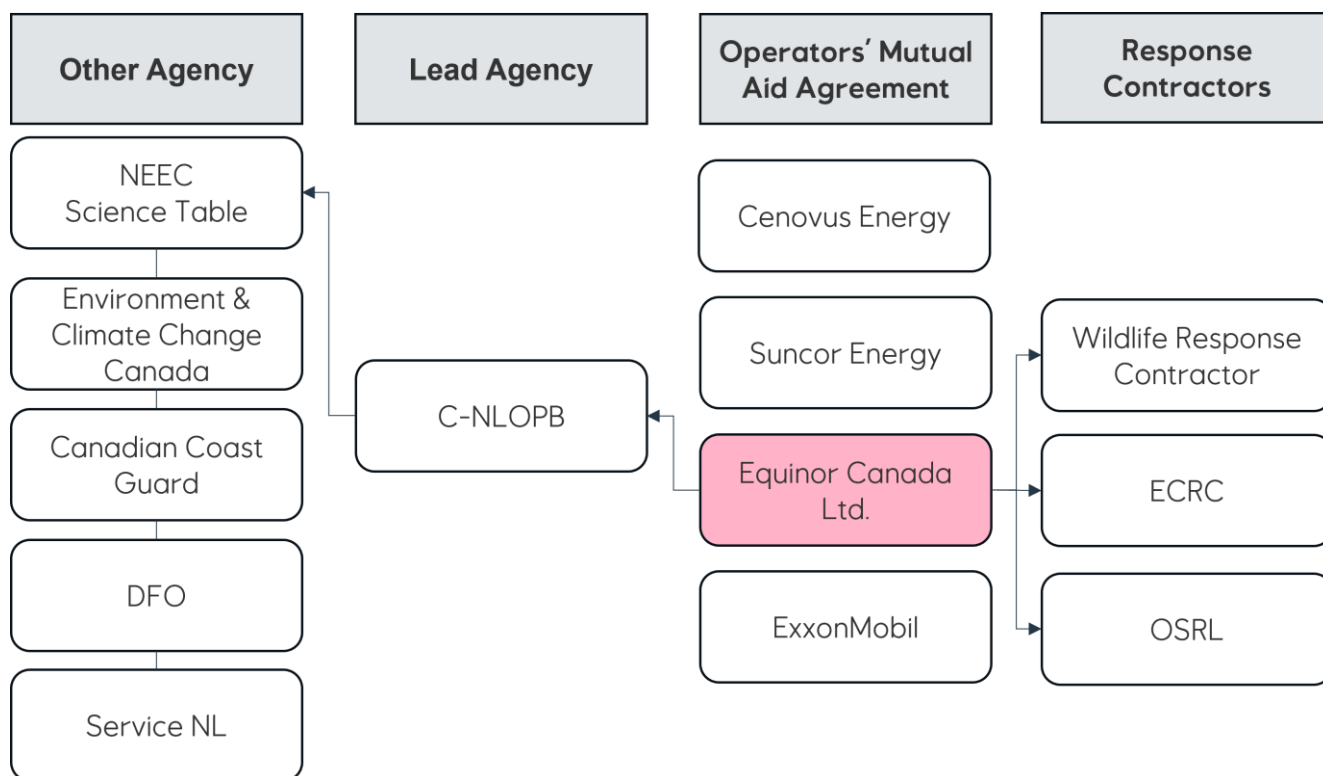


Figure 4-1 Organization of Participants in Oil Spill Response

4.2 Spill Treating Agents

Spill treating agents (STAs) may only be used in Canada if it is listed in a regulation made by the Minister of Environment and Climate Change Canada (ECCC). Currently approved STAs, pursuant to Regulations Establishing a List of Spill-treating Agents (SOR/2016-108) include:

- Corexit® EC9500A
- Corexit® EC9580A

See section 8.4 of this plan for more information on the process to be followed to obtain approval to use an STA as a spill response countermeasure.

Indigenous Consultations

Equinor Canada regularly consults with Indigenous groups, commercial fishing industry and stakeholder regarding its offshore operations.

In 2018, an industry-led engagement process was held with Indigenous groups by the NL offshore operators. Technical workshops were held with Indigenous groups across Atlantic Canada and eastern Quebec, whereby details on the various exploration drilling programs under the federal environmental assessment process were provided by respective operators and an update on the federal regional environmental assessment regional study was provided. Topics such as environmental effects of offshore drilling projects, baseline data and monitoring, and accidental events, were discussed in detail with the Indigenous groups and the opportunity for comments and concerns from any groups were discussed. Information was provided by the Impact Assessment Agency (IAAC; formerly Canadian Environmental Assessment Agency), the C-NLOPB, DFO and ECCC.

One component of the sessions was to discuss oil spill prevention and spill response planning in detail. The content developed for discussion at the workshops was based on each company’s and industry best practices, regulatory requirements and concerns and questions raised by Indigenous groups participating in the environmental assessment process - during the review of the EIS and through information requests.

Oil Spill Response topics discussed with Indigenous groups at the workshops included the following:

- Overview of oil spill modelling (i.e., what is modelling, why do we do oil spill modelling, what is the approach and overall conclusions)
- Oil fate processes in water
- Spill preparedness and response (e.g., regulatory requirements associated with preparedness, control and barriers, response and recovery, Spill Impact Mitigation Assessment (SIMA), surveillance and monitoring, etc.)
- Well control and emergency response (i.e., blowout preventer [BOP], capping and containment, and relief well)
- Overview of response options (i.e., natural attenuation, mechanical containment and recovery, in-situ burning, and dispersants)
- Shoreline monitoring and response.
- Response capabilities (e.g., tiered response, exercises, etc.)

In response to concerns expressed by Indigenous groups that they be notified and maintained informed of operations and in the case of an emergency (such as an oil spill), Equinor along with four other operators, developed an Indigenous Fisheries Communication Plan in consultation with Indigenous groups that outlines a protocol to be followed in the event of an incident or spill that may result in adverse environmental impacts.

Information on the upcoming exploration drilling programs will continue to be communicated to and discussed with applicable groups.

5 Oil Spill Response Management

5.1 Oil Spill Management Approach

Equinor employs a structured, systematic, and proportional management process in the response to any uncontrolled release of hydrocarbons at any offshore site. Priorities in managing the response are based on the **PEAR** principle:

- **P**rotection of Personnel
- **M**inimize impact on the **E**nvironment
- **M**inimize impact on **A**ssets (as it may affect human or environmental safety)
- **P**rotection of company **R**eputation

5.2 Incident Response Teams

Equinor's spill response operations consists of three levels:

- emergency response team (ERT)
- incident management team (IMT)
- crisis management team (CMT)

WR2402 Equinor Canada Ltd. Incident Management Plan provides a detailed description of the incident response teams and their roles and interactions with the other teams. The following is a high-level summary of incident response teams in overall oil spill response.

5.2.1 Emergency Response Team (ERT)

The ERT is the in-field tactical level response team focused on on-scene management of rescue and response operations, cooperating with local tactical response services, and requesting and cooperating with Equinor Incident Management Team.

5.2.2 Incident Management Team (IMT)

The IMT operates at the operational level onshore with overall responsibility for spill response, provision of tactical guidance, personnel, and material resources to the ERT, liaison with C-NLOPB and other regulatory authorities, coordination with the Crisis Management Team (CMT) and monitoring spill related environmental effects. Equinor’s IMT function and role within oil spill response is fully explained in *WR2402 Equinor Canada Ltd. Incident Management Plan*. The function of the IMT is illustrated in Figure 5-1.

Each function can be expanded from the core on-call team to an extended team, which can meet the needs of oil spill response. Only the resources are that necessary for the response are mobilized.

Equinor Canada Ltd.

Incident Management Team (IMT) Organization

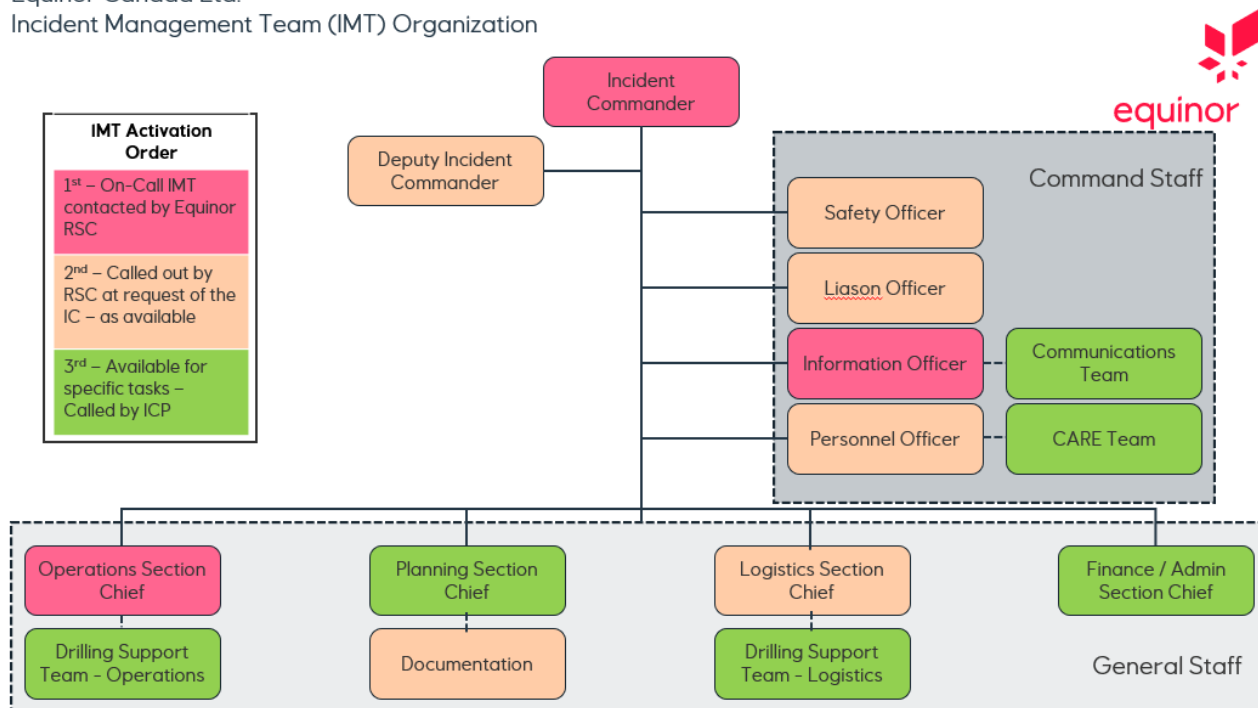


Figure 5-1 Equinor Canada Ltd. IMT Organization

5.2.3 Crisis Management Team

The CMT operates at the strategic level providing support to the IMT organization. The CMT is responsible for the management of the community, the business and communications aspects of the response at a corporate level. This level is often referred to as the “up and out” perspective.

5.3 Incident Command System in an Equinor Oil Spill Response

Within the IMT, Equinor’s management of the planning, coordinating, and documenting of the oil spill response are structured by the principles of the Incident Command System (ICS). Key features of this system include:

- Management is divided into five functional groups (Command; Planning; Operations; Logistics and Finance). While each group has its own responsibilities, considerable interaction between groups is necessary to ensure efficiency in the response operation
- Regardless of the phase of the response, the ICS process relies on a continuing cycle of planning and implementation
- Plans are developed for a defined period and are focused on meeting defined objectives in consideration of operating conditions, available resources, and performance during previous operating periods
- The planning cycle provides the basis for both tactical and strategic resourcing.

To support more complex spill response operations, Equinor's global response organization – Global Incident Management Assistance Team (GIMAT) – can provide support to the Equinor Canada IMT in any functional group of the ICS. GIMAT also provides the ability for succession planning for the IMT in the event additional resources or back-up/replacement positions are required during spill response operations. GIMAT resource are mobilized on the authority of the Incident Commander within Equinor Canada's IMT.

5.4 Initial Response Management

Any oil spill response will begin with Tier 1 activities. Management structure processes will expand with time to meet the needs of an escalating spill incident and will work through an initial reactive stage into a longer-term proactive phase.

During the initial phase of spill response, the Offshore Installation Manager (OIM) acts as the On-Scene Commander and assumes command and control of the spill response.

5.5 Prioritized Objectives and Strategies

In line with the PEAR (People – Environment – Asset – Reputation) principle, it is important that clear response objectives be established by the Incident Commander to ensure that both environmental and stakeholder issues are addressed. These objectives will become guidelines for all subsequent planning and for tactical decision making.

The prioritized objectives will be especially helpful when conducting a real-time SIMA (see Section 5.10). Equinor will safely employ measures that are reasonable to minimize the effects of the spill and in a way that results in net environmental benefit. Reasonableness will be based on safety, impact to the environment, practicality, and cost-effectiveness. Equinor may consult with and seek input from C-NLOPB who will, in turn, consult with supporting federal and provincial government agencies through the Science Table.

The objectives will depend on the circumstances at the time of the spill. *WR2402 Equinor Canada Ltd. Incident Management Plan* provides a list of Defined Hazard Situational Assessments (DHSA). These DHSAs will be used in setting spill response objectives.

It is important that in spill response, effective response strategies are employed. Several factors are considered in determining response strategies. Paramount is safety; other factors include the anticipated fate of the spilled oil, operating conditions, and the potential impact of the spilled oil on the receiving environment and socio-economic resources.

5.5.1 Priorities during simultaneous emergencies

Oil spills may occur in conjunction with other facility emergencies (e.g., fires, explosions, loss of personnel, etc.). Response to an emergency event which threatens personnel will always be Equinor's first priority. As such, where protection of persons is paramount, the drilling unit's emergency response protocols will take priority over on-scene oil spill response and all procedures in this OSRP. During an emergency, oil spill response actions will be limited to preparations for onshore management and the activation of corporate resources, response contractors, equipment, and personnel. Active spill response operations will be undertaken after the emergency has passed.

In the event of an emergency that results in a General Platform Alarm, spill response will be secondary to emergency response. Safety of personnel will be the priority.

5.6 Situational Assessment

No action should be taken in response to a marine oil spill without an understanding of the nature of the incident. This will provide the information required to decide:

- Whether a response is necessary
- The safest manner to conduct that response
- Where and how to implement the response in the most effective manner

The decision process for oil spill response is illustrated in Figure 5-2 and requires ongoing collection and assessment of information from the spill site, including:

- Nature and type of spill
- Trajectory, volume, and weathering of oil
- Weather and environmental conditions
- Resource sensitivity
- Logistics, equipment and personnel availability
- Effectiveness of the response to date

Based on this assessment, a response option is selected that can best achieve the response objectives, and the selected option is evaluated for operational feasibility.

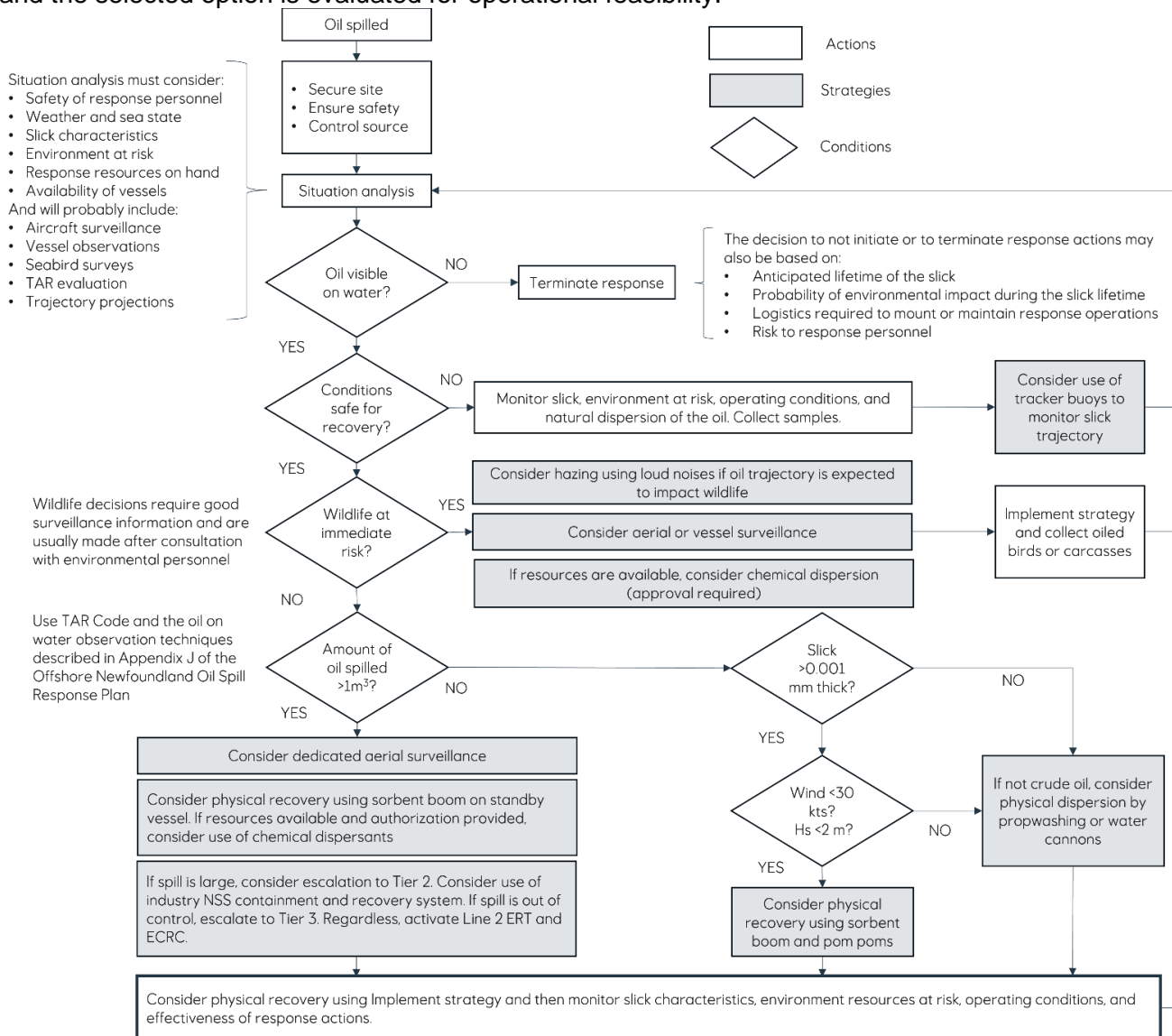


Figure 5-2 – Decision Making Process for Oil Spill Response

5.7 Spill Response Decision Making

Guidelines to be followed when developing a response strategy include:

- SAFETY IS PARAMOUNT
- The On-Scene Commander (OSC) should make informed decisions in consultation with responders
- When high sea state prohibits a response natural dispersion of oil is enhanced

- Sorbent boom should be considered in the initial stages because of the speed of deployment and the high probability of capturing surface oil before spreading
- Every planned task should include frequent situation analysis
- If dispersant application is an appropriate response; application process should be initiated as early as possible to avoid delays with possible execution, and degradation of oil
- Ensure waste disposal measures are in place. Wherever possible, waste products should only be handled once to prevent secondary contamination

5.8 Environmental and Socio-Economic Concerns

In the event of an offshore spill incident, there are several environmental and socio-economic factors that must be considered including presence of seabirds, fish, marine mammals, and commercial fisheries operations. The following information provides a summary of these concerns. The Flemish Pass Exploration Drilling Environmental Assessment [1] should be referenced for more detailed information regarding potential environmental effects from accidental events.

5.8.1 Seabirds

Seabirds that live on or close to the sea surface are vulnerable to an offshore oil spill event. Small amounts of oil on feathers will affect a bird's buoyancy and insulation. The degree of impact would be determined by their seasonal distribution, behavioural characteristics and reproductive strategy. Seabirds are present year-round offshore, although their occurrence and abundance can vary depending on the season and location. The level and extent of impact from an oil spill primarily depends on the time of year in which it occurs. Refer to section 6.2 of the Flemish Pass Exploration Drilling Program EIS [1] for more information on seabird populations offshore.

Information on seabird monitoring and observations is provided in Section 7.4 of this OSRP. Equinor Canada's Wildlife Response plan provides additional detailed information on wildlife monitoring and rehabilitation activities in the event of a spill. ECCC's Canadian Wildlife Service (CWS) will be consulted regarding seabird monitoring.

5.8.2 Other Wildlife

Whales, dolphins, seals and turtles also occur in the operations area. In general, cetaceans and seals do not exhibit large behavioural or physiological reactions to limited surface oiling, incidental exposure to contaminated food, or ingestion of oil. There is low likelihood that sea turtles would be exposed to oil from an accidental spill in the licence areas held by Equinor. The small number of sea turtles transiting the area makes exposure to spilled oil unlikely.

For more information on marine mammals presence and likely effects refer to Section 6.3 of the Flemish Pass Exploration Drilling Program EIS [1].

Information on wildlife monitoring and observations are provided in Section 7.4 of this OSRP. Equinor Canada's Wildlife Response Plan provides additional detailed information on wildlife monitoring and rehabilitation activities in the event of a spill. DFO will be consulted regarding marine mammal observations and monitoring during spill response.

5.8.3 Commercial Fisheries and other users

The Flemish pass area, primarily the western slope and Flemish Cap areas are used by fish and invertebrate species of commercial, cultural, and/or ecological value and support regionally important areas of biodiversity and marine productivity. There is the potential for an oil spill to impact on commercial fisheries and other users (i.e., commercial shipping) transiting the area. For more information on commercial fisheries and other ocean uses and potential effects from oil spills refer to Chapter 7 of the Flemish Pass Exploration Drilling Program EIS [1].

Equinor has and will continue to work to minimize any interference with the established fishing industry operating in the Offshore Newfoundland area. Information regarding notifications to commercial fishers during an accidental event can be found in the "Equinor Canada Fisheries Communications Plan".

5.9 Wildlife Response Plan (WRP)

The WRP serves as both a guidance document and tactical response plan in support of Equinor Canada's OSRP. The WRP was developed as an interface document to the OSRP, and the following documents and guidelines:

- Spill Impact Mitigation Assessment (SIMA) [2]
- Environmental Impact Statement (EIS) [1]
- Incident Command System (ICS), Wildlife Operations (Incident Management Handbook)
- Equinor Incident Management Plan
- Wildlife response standards established by the International Petroleum Industry Environmental Conversation Association (IPIECA)
- Guidelines and expectations of the Environment and Climate Change Canada-Canadian Wildlife Services (ECCC-CWS) Emergency Wildlife Response Planning Guidelines.

5.10 Spill Impact Mitigation Assessment (SIMA)

Each spill response option, or combination of options, may have some impact on the site environment beyond that of the spill itself. The Equinor response strategy is based on the principle of spill impact mitigation assessment (SIMA). SIMA takes into consideration the advantages and disadvantages of response actions and their impact on the environment. Some response methods have the potential to cause adverse environmental impacts but may be justifiable because of overriding benefits and/or the avoidance of further, more serious, impacts.

In considering dispersant use the "Guidelines on Implementing Spill Impact Mitigation Assessment (SIMA)" [3] provides the strategy for analysing oil spill impacts and facilitating the selection of the most appropriate response option. Equinor prepared a SIMA for its exploration drilling activities in 2020 [2].

In the event of a spill, a "day-of" SIMA will be prepared. In preparing the "day-of" SIMA, Equinor will consult with ECRC, C-NLOPB and the NEEC Science Table regarding the following:

- Compile and evaluate data to identify exposure scenarios and potential response options, and to understand the potential impacts of that spill scenario
- Predict scenario outcomes to determine which techniques are effective and feasible for on-site conditions
- Balance trade-offs by evaluating the range of ecological benefits and drawbacks for each response options, including socio-economic benefits and costs for each option
- Select response options that result in the greatest environmental benefit and/or least adverse effects on key resources.

6 Oil Spill Response

6.1 Tiered approach to Oil Spill Response

Within Equinor's incident management approach, spill response is classified into three tiers which considers the volume of oil spilled and the response effort required. This classification allows for an appropriate initial response to each level of spill, and explicitly provides for the escalation of the response should the potential impact of the spill increase. The parameters to be considered in selecting the appropriate Level of Response (Tier) include:

- Size and nature of the oil spill
- Environmental and operational conditions at the time of the spill
- Vessel and equipment availability
- On-site waste oil storage
- Corporate impacts as a result of the oil spill

Table 6-1 provides an overview of each Tiered Response.

Any oil spill response will begin with Tier 1 activities. Management structure processes will expand with time to meet the needs of an escalating spill incident and will work through an initial reactive stage into a longer-term proactive phase.

Table 6-2 Tiered Response to Oil Spill

Tier 1	<p>The incident is small and under control:</p> <ul style="list-style-type: none"> • The spill likely disperses before leaving the safety zone • The environmental impact is minor • The spill response can be managed using resources available at site • Little or no media attention
Tier 2	<p>The incident is larger, but under control</p> <ul style="list-style-type: none"> • The spill likely extends beyond the safety zone • Potential impact to local environmental and socio-economic resources • Response requires local shore-based management support and operational resources in addition to those already at-site • Mutual Aid Response capability may be activated • Local to national media attention
Tier 3	<p>The incident is large and not under control</p> <ul style="list-style-type: none"> • Impact to local environmental and socio-economic resources • Response effort involves considerable corporate and contract resources, drawn from local, regional, and international sources • Resources from outside Newfoundland and Labrador are required • Significant regulatory presence • Global media attention

Any oil spill response will begin with Tier 1 activities. Management structure processes will expand with time to meet the needs of an escalating spill incident and will work through an initial reactive stage into a longer-term proactive phase.

6.2 Tier 1 Spill Response Management

Response to the spill will be managed offshore. The drilling unit OIM, as the On-Scene-Commander, will assume command and control of the spill response.

While a Tier 1 response is undertaken involving resources at-site, the Equinor IMT may be asked for advice regarding appropriate response techniques and monitoring requirements (i.e., tracking, oil and wildlife sampling, wildlife monitoring, etc.).

Figure 6-1 illustrates Tier 1 Incident Management with linkages between onshore and offshore responses.

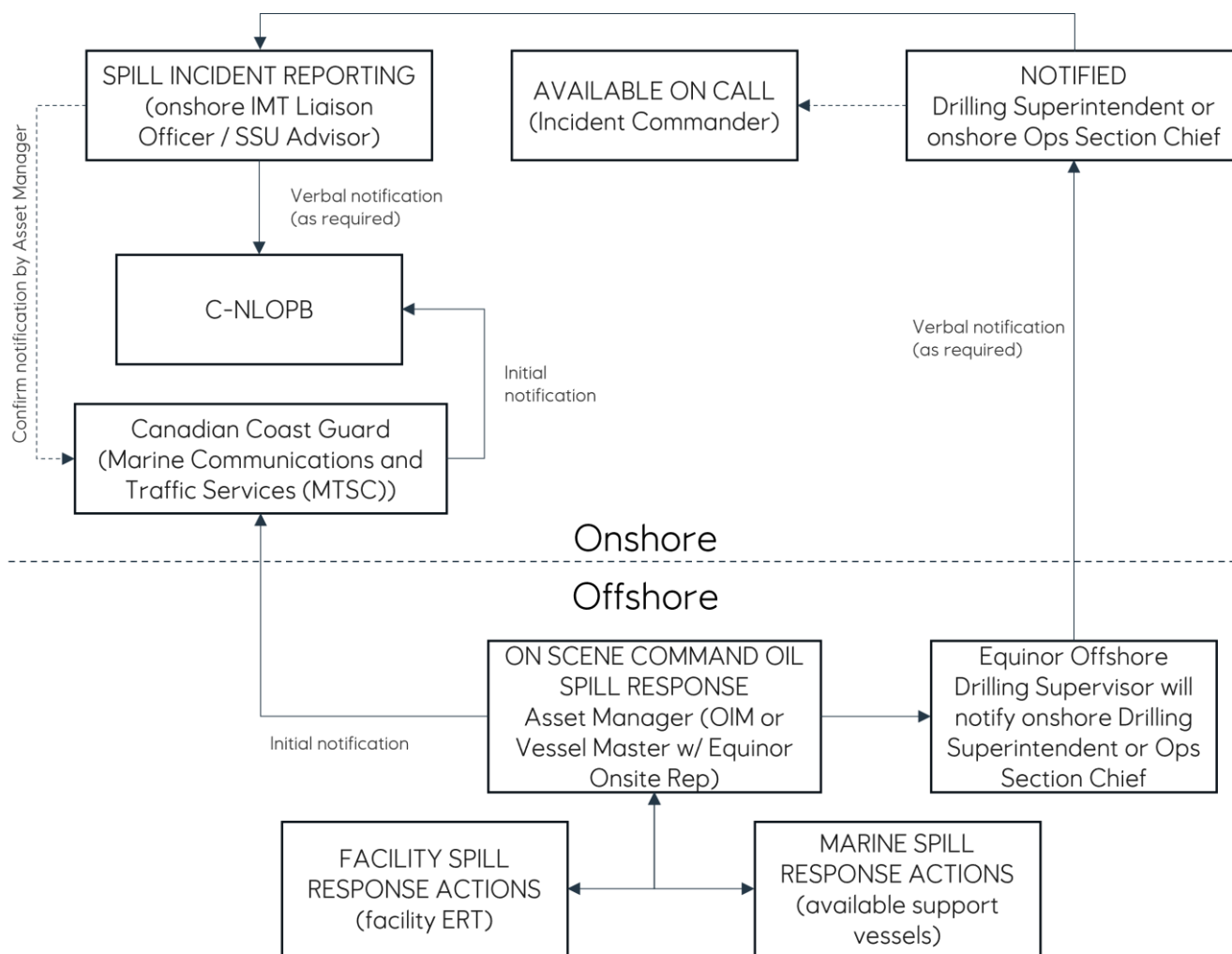


Figure 6-1: Tier 1 Oil Spill Response Management Organization

6.3 Tier 2 & 3 Spill Response Management

As the response escalates to Tier 2, the response will require onshore management through the activation of Equinor’s onshore IMT. The Equinor IMT will expand as outlined in the Incident Management Handbook (reference I-110381) using the ICS structure as explained in Section 5.2

Transition of command from the OIM as On-Scene-Commander (OSC) to the on-shore Incident Commander will occur at an appropriate time, as discussed between the OIM, the drilling contractor and Equinor onshore IMT. Refer to Figure 6-2 regarding Tier 2 /Tier 3 transition of command.

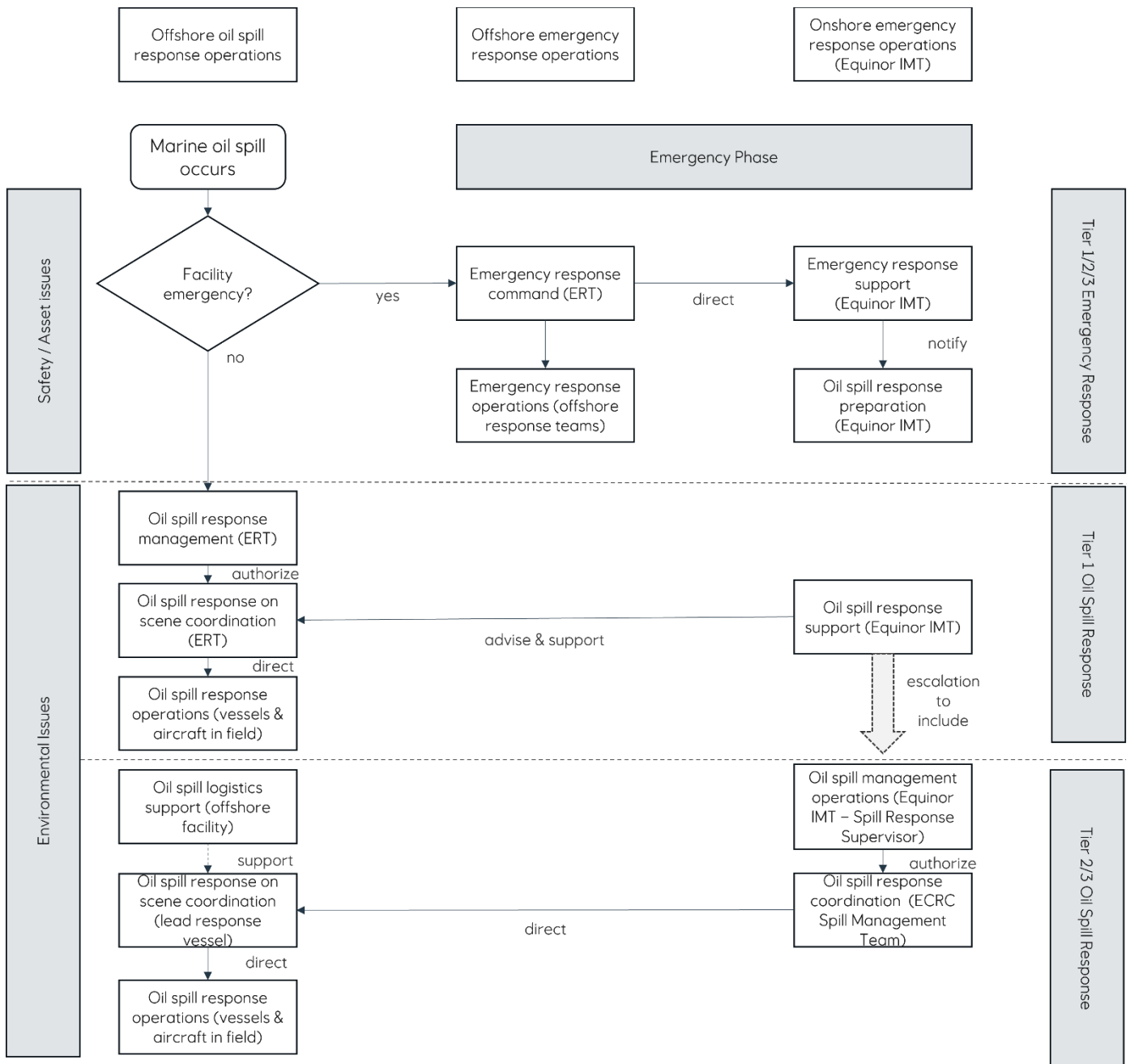


Figure 6-2: Transition of Command - Tier 2 and Tier 3 level of response.

6.4 Notification for All Offshore Spills

Oil spill notification procedures are described in detail in the OSRP Manual and the *WR2402 Equinor Canada Ltd. Incident Management Plan*. Internal Equinor notifications will be completed as per *WR2402 Equinor Canada Ltd. Incident Management Plan*.

In summary, the notification process is:

As soon as is practical after the spill occurs, the OIM or designate will make the following notifications (note: all phone numbers can be found in the Equinor Canada Incident Management Plan and the Equinor Canada OSRP Manual)

- Canadian Coast Guard Spill Notification Line
- Drilling Contractor Emergency Duty Officer and Drilling Contractor Rig Manager
- Equinor offshore Drilling Supervisor

The Equinor offshore Drilling Supervisor will contact:

- the Equinor on-call onshore Drilling Superintendent /Operations Section Chief (OSC)

Equinor will contact the C-NLOPB Duty Officer per the *Incident Reporting and Investigation Guidelines* [4]. Should the response escalate to Tier 2, the Equinor onshore IMT will be activated. The Equinor onshore Drilling Supervisor / OSC will activate the Equinor IMT via the Equinor Response and Support Centre. Notification of fishers and Indigenous groups will be undertaken as indicated in the Fisheries Communication Plan and the Indigenous Fisheries Communication Plan, respectively.

6.5 Oil Spill Response Personnel - Equinor IMT

The Equinor onshore IMT is described in Section 5.2. Detail information regarding Equinor's IMT can be found in *WR2402 Equinor Canada Ltd. Incident Management Plan*.

6.6 Oil Spill Response Personnel – External

Equinor can rely on assistance from competent contractors in the response to an offshore oil spill. Eastern Canada Response Corporation (ECRC), located in St. John's, can be immediately available in the event of a spill and can coordinate the provision of additional resources from outside the province if required.

Equinor is a member with Oil Spill Response Limited (OSRL), and therefore has immediate access to Tier 3 technical advice, resources and expertise, 365 days a year on a 24-hour basis.

6.6.1 ECRC

ECRC is a full-time oil spill Response Organization (RO) certified by Transport Canada under Chapter 36 of the *Canada Shipping Act*. ECRC's role is to provide marine oil spill response services when requested. ECRC can provide comprehensive response management services, equipment and trained field personnel to implement technical operations in the field.

ECRC has established mutual aid support agreements with the three other ROs in Canada: ALERT and Point Tupper Marine Services in eastern Canada and Western Canada Response Corporation in British Columbia. ECRC maintains a pool of trained responders and consultants that can be called out at short notice to assist with the response. ECRC equipment and personnel are stationed at six response depots in Atlantic Canada, Quebec, and Ontario.

Arrangements between Equinor and ECRC are in place to utilize ECRC's pool of personnel resources, including Operator owned equipment, for Equinor operations outside Canada's 200 nautical mile EEZ. The response services that ECRC can offer Equinor include:

- Operational services which includes field personnel who have been trained to work with offshore response equipment on industry vessels;
- Logistics services in the provision of personnel, equipment, and third-party services to support operational activities; and

- Response management services to support Equinor's IMT and GIMAT.

ECRC is responsible for the direction of resources provided by other contractors and offshore operators under the authority of the Incident Commander and to provide spill management services in support of the Equinor's emergency response process. A list of ECRC spill response resources is provided in the OSRP Manual.

Equinor Canada has a contract with ECRC "Equinor Offshore Exploration Preparedness Program" whereby ECRC provides Tier 1 spill response services and a preparedness and Services Program management services. Tier 1 services include maintenance of Tier 1 response kits and vessel crew training on use of these kits and operational support. Preparedness support and program management include the provision of technical advisory services related to oil spill response equipment.

The ECRC Spill Management System (SMS) is structured on the principles of ICS and is compatible with the expanded structure of the IMT.

ECRC maintains a 24-hour call centre for activation. The procedure for activating ECRC is outlined in the OSRP Manual.

When ECRC is activated, their Spill Management Team (SMT) activities will include:

- Monitor conditions and response activities offshore
- Develop tactical and strategic plans for field operations (ECRC plans must be authorized by the Equinor Incident Commander before implementation)
- Coordinate response actions in the field

ECRC will be. ECRC SMT can be integrated into the Equinor IMT at multiple levels and will be incorporated into the Equinor expanded IMT as per the Incident Management Handbook (ref. I-110381). Their SMT is similar in structure to the ICS process which enables integration in the event of an escalating response.

6.6.2 Oil Spill Response Ltd.

OSRL is a large oil spill response cooperative that specializes in providing global Tier 3 oil spill response services from their base in Southampton, UK, Bahrain, Singapore and Miami.

Included in Equinor's membership in OSRL is access to the OSRL Subsea Well Intervention Services which gives access to the Capping Stack Systems and Subsea Incident Response Toolkit (SIRT) per well incident. In addition, Equinor also has membership to the Global Dispersant Stockpile (GDS) which would be mobilised simultaneously with the SIRT.

OSRL equipment pool is pre-packaged with appropriate shipping and customs documentation ready to be transported by air or sea to any international destination on short notice. OSRL provides:

- Large pool of experienced personnel
- Access to Global Response Network resources
- Large scale aerial STA capability on 24-hr standby
- On-call duty office available 24/7 to receive activation request

When OSRL is activated, their roles include provision of Tier 3 technical advice, resources and expertise, particularly as it relates to STA and source control.

The list of OSR equipment can be found at: <https://www.oilspillresponse.com/services/member-response-services/equipment-list/>.

The activation of OSRL is outlined in Equinor's Incident Management Plan.

6.6.3 Global Response Network

Both ECRC and OSRL are members of the Global Response Network which enables them to access equipment, processes and personnel from other oil spill response organizations in Canada and internationally, including NOFO (Norway), Marine Spill Response Corporation (USA) and Australian Marine Oil Spill Centre.

6.6.4 Canadian Coast Guard

The Canadian Coast Guard (CCG) Environmental Emergencies Branch has a pool of equipment and trained personnel at its Newfoundland Region Depot in Donovan's Industrial Park in Mount Pearl. If available to Equinor at the time of the spill, these resources would be provided on a commercial basis independent of CCG's role as a resource agency to C-NLOPB.

6.6.5 Mutual Aid

Equinor is a party to a formal *Mutual Emergency Assistance Agreement* (MEAA) with the other Grand Banks Operators (Cenovus, Suncor, ExxonMobil Canada and Hibernia Management and Development Company). The MEAA establishes the terms in which emergency services and resources can be provided to each other. Supply vessels, surveillance aircraft and helicopters on contract to the offshore operators can all be considered as potential resources to assist in spill response. It must be noted that resources will be provided to a requesting party only to the extent the donor's operations is not jeopardized or its personnel or facilities are put at risk. A list of equipment available the MEAA is provided in the OSRP Manual.

6.6.5.1 Production Operator Tier 2 OSR Equipment Sharing Agreement

Equinor maintains a Sharing Agreement with Suncor (Operator of the Terra Nova Project), on behalf of the Grand Banks long-term production Operators (HMDC, ExxonMobil Canada Properties and Cenovus Energy), for Operator owned Tier 2 Oil Spill Response Equipment. This sharing agreement allows Equinor access to the equipment for training exercises or in the event of responding to an oil spill. This equipment is stored and maintained by ECRC. This contractual arrangement is made outside of the Mutual Aid Agreement.

6.7 Spill Environmental Effects Monitoring (EEM)

The initial biophysical conditions of exploration drilling sites have been assessed as a baseline for comparison of environmental effects following an oil spill. The level of environmental monitoring activity following a spill is determined by spill volume, the nature of the product spilled; the resources at risk and observed environmental impacts. The C-NLOPB may recommend an EEM program relating to the spill be undertaken. Equinor, in cooperation with the C-NLOPB will determine the temporal and spatial scope.

7 Oil Spill Operations

7.1 Response options summary

At the time of an oil spill, appropriate countermeasures, based on site conditions, must be implemented quickly. While every spill response will be unique, there are only a few basic techniques that can be practically considered. The response options available during a spill offshore Newfoundland are listed in Table 7-2. The capability at site for any of these options is limited to response to small (Tier 1) spills only. For larger spills (Tier 2 or 3), additional resources from other facilities or from shore will be required. Equipment available offshore to respond to a spill incident is listed in the OSRP Manual.

Table 7-2: Potential Response Options at Site

Response Options	Comments
Natural Dispersion / Degradation	<ul style="list-style-type: none"> • Weathered oil breaks into small droplets by wave action • Droplets are naturally metabolized by micro-organisms • Effectiveness improves as wind and sea state increase • Favourable conditions when winds > 25-30 kts, sea state > 2.5-3.0 m
Surveillance and Monitoring	<ul style="list-style-type: none"> • Assists in determining scope of the problem prior to forming a strategy • Confirms effectiveness of response actions • More difficult in darkness or low visibility • Monitoring is the only response option in poor conditions • Oil spill tracker buoys are equipped on offshore supply vessels (OSVs), drilling installation
Containment and Recovery	<ul style="list-style-type: none"> • Effective but limited by sea state, encounter rate of boom system, and need for high logistics support • Low recovery rates as slick spreads • Two available options at site: <ul style="list-style-type: none"> - Sorbent boom on OSVs; and - Single Vessel Side-Sweep System containers stored at the four production installations (see Section 7.6.5) • ECRC equipment mobilized to site • National/international options: <ul style="list-style-type: none"> - ECRC - booms and skimmers in Dartmouth and Quebec City that can be used offshore - Containment and recovery equipment that could also be sourced through the GRN via ECRC or OSRL (see Section 6.6)
Mechanical Dispersion	<ul style="list-style-type: none"> • Prop washing • High pressure water spray (Fire Monitor) • Good for small spills/thin layers of oil, not good for crude oil as the mixing with water can encourage emulsification • Quick implementation, no equipment required
Spill Treating Agents	<ul style="list-style-type: none"> • Approval required from C-NLOPB before application • May be used in a large oil spill event or where significant human or environmental resources are at risk of impact • Weathering of the oil will reduce the window of opportunity for use of STAs • Airborne application using OSRL is recommended
Wildlife Measures	<ul style="list-style-type: none"> • Surveillance to determine distribution of wildlife and potential for impact from surface oil (See Section 7.4) • Techniques for deterring wildlife are limited to loud noise • Consult Equinor IMT in any incident involving wildlife • Recover and clean wildlife (refer to Wildlife Monitoring Plan)
Oil and Wildlife Sampling	<ul style="list-style-type: none"> • Sampling kits are available on OSVs for the collection of oil and water, oiled wildlife samples • ECCC (per CWS) requires that all oiled birds collected be retained as samples for further assessment on shore • Equinor obtains a permit issued by CWS for the collection of oiled seabirds

7.2 Spill Countermeasure descriptions

7.2.1 Tier 1 Countermeasures

The response equipment listed in Table 7-1: Tier 1 Response Equipment Available at Site is stored offshore at all times during drilling operations and is available for prompt deployment for a Tier 1 response, or as a first response in a larger (Tier 2 or Tier 3) event.

Table 7-1: Tier 1 Response Equipment Available at Site

Equipment	Storage Location	Deployment Time
GPS/Satellite spill tracking buoys	1 MetOcean iSphere buoy on each OSV and drilling installation	Less than 15 minutes
8" sorbent boom	320 ft. of boom and 100 ft. of pompoms stored onboard each OSV	Less than 30 minutes
Oil sampling kit	Each OSV	Immediate

7.2.2 Tier 2 and 3 Countermeasures

In the event of a Tier 2 or Tier 3 spill situation, there several response equipment options available as discussed in Section 7. A listing of Tier 2/3 equipment can be found in the OSRP Manual

7.3 Spill treating agents (STA) process

In the event of a larger spill offshore (i.e., Tier 2 or Tier 3), Equinor will begin the process of applying for approval to use STAs as soon as possible in the spill event.

STAs may only be used in a spill response operation if the following regulatory requirements are met:

- the STA is listed in a regulation made by the Minister ECCC;
- the use of the STA is permitted for use under an authorization issued to the operator by the C-NLOPB;
- The C-NLOPB's Chief Conservation Officer (CCO) determines, in response to a spill, that the use of the STA is likely to achieve a net environmental benefit in the particular circumstances of the spill and approves the use of the STA;
- the STA is used in accordance with conditions set out in any regulations and any other conditions stipulated by the CCO at the time of the spill

Equinor will evaluate the use of STAs during a spill response provided the following criteria are met:

1. Decision process for use of STA (refer to OSRP Resource manual) confirms use of STAs
2. If decision process confirms STA an appropriate spill countermeasure, apply to CNLOPB for use of STA
3. Conduct preliminary in-field test application to determine effectiveness of STA for actual spill event
4. Commencing use of STA as soon as practicable once approval obtained.

Figure 7-1 illustrates the decision-making process that Equinor will apply when determining if STAs are appropriate as a spill response option.

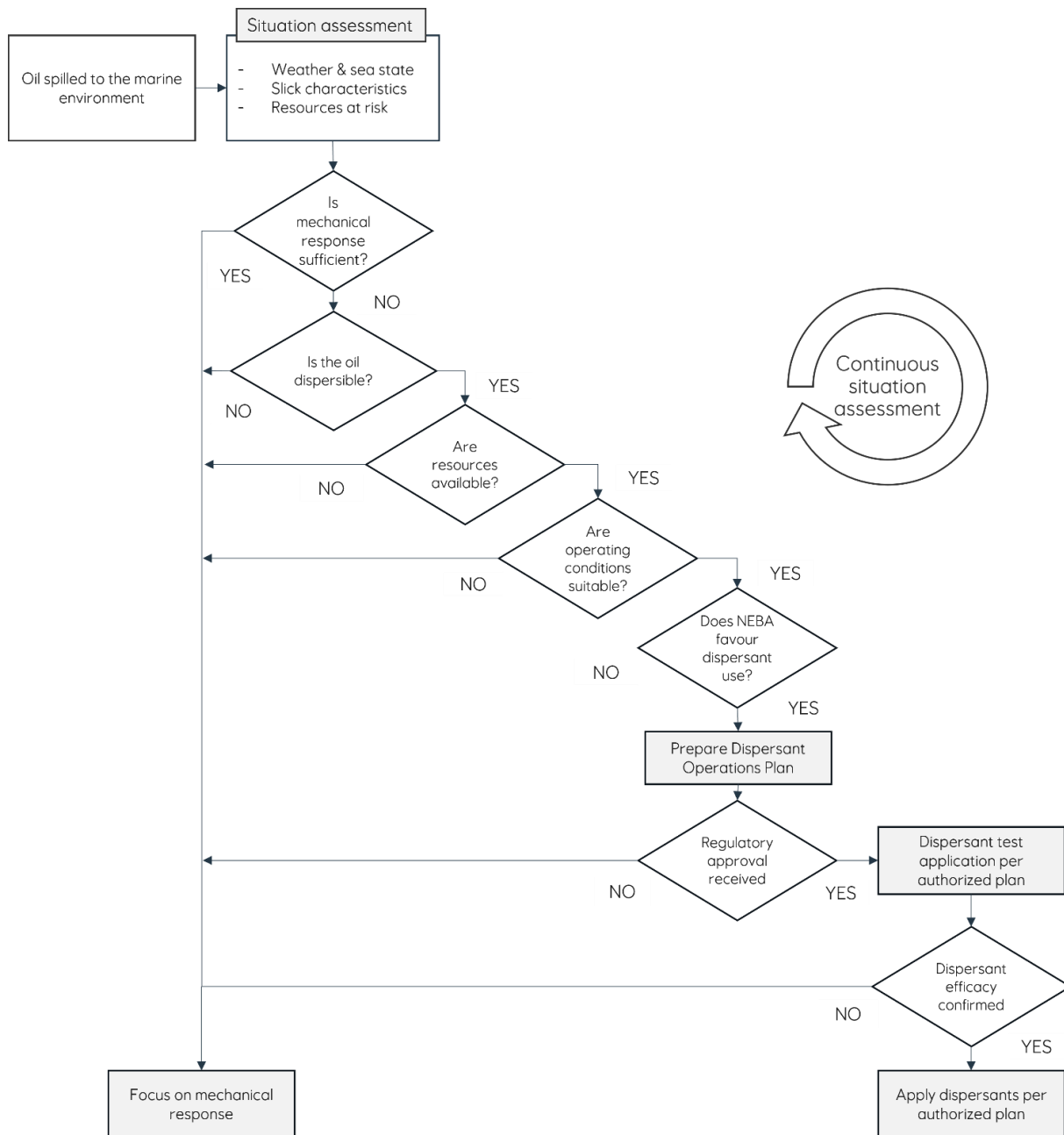


Figure 7-1 – Decision Matrix for use of STA in spill response

7.4 Wildlife Response

Wildlife operations will be a component of the offshore spill response. The Wildlife Response Plan provides detailed information on the various actions that will be undertaken for wildlife operations. Such activities may include, but not limited to hazing, monitoring, handling, and / or rehabilitation.

7.5 EEM in the Event of a Spill

C-NLOPB may recommend that an Environmental Effects Monitoring (EEM) program relating to the spill be undertaken, which may also include recommendations regarding its temporal and/or spatial scope. The level of post-spill EEM will be determined in consideration of the following:

- Volume of spill
- Type of product spilled
- Likely resources at risk, and
- Observed environmental degradation

Environmental parameters that may be monitored following a spill event may include, but not limited to:

- Sensory testing of seafood for taint
- Chemical analysis of commercially harvested fish for oil concentrations or other contaminants
- Chemical analysis of seabed for contamination
- Monitoring of benthic organisms for potential impact (smoothing, degradation of habitat, etc.)
- Monitoring of seabirds, marine mammals and/or sea turtles for signs of oiling
- Observational data collection on seabird, marine mammals and/or sea turtles to determine presence in area and resulting potential impact

7.6 Initial Action Summary

Figure 7-2 provides a general summary of the actions undertaken in the event of a spill as described in this OSRP.

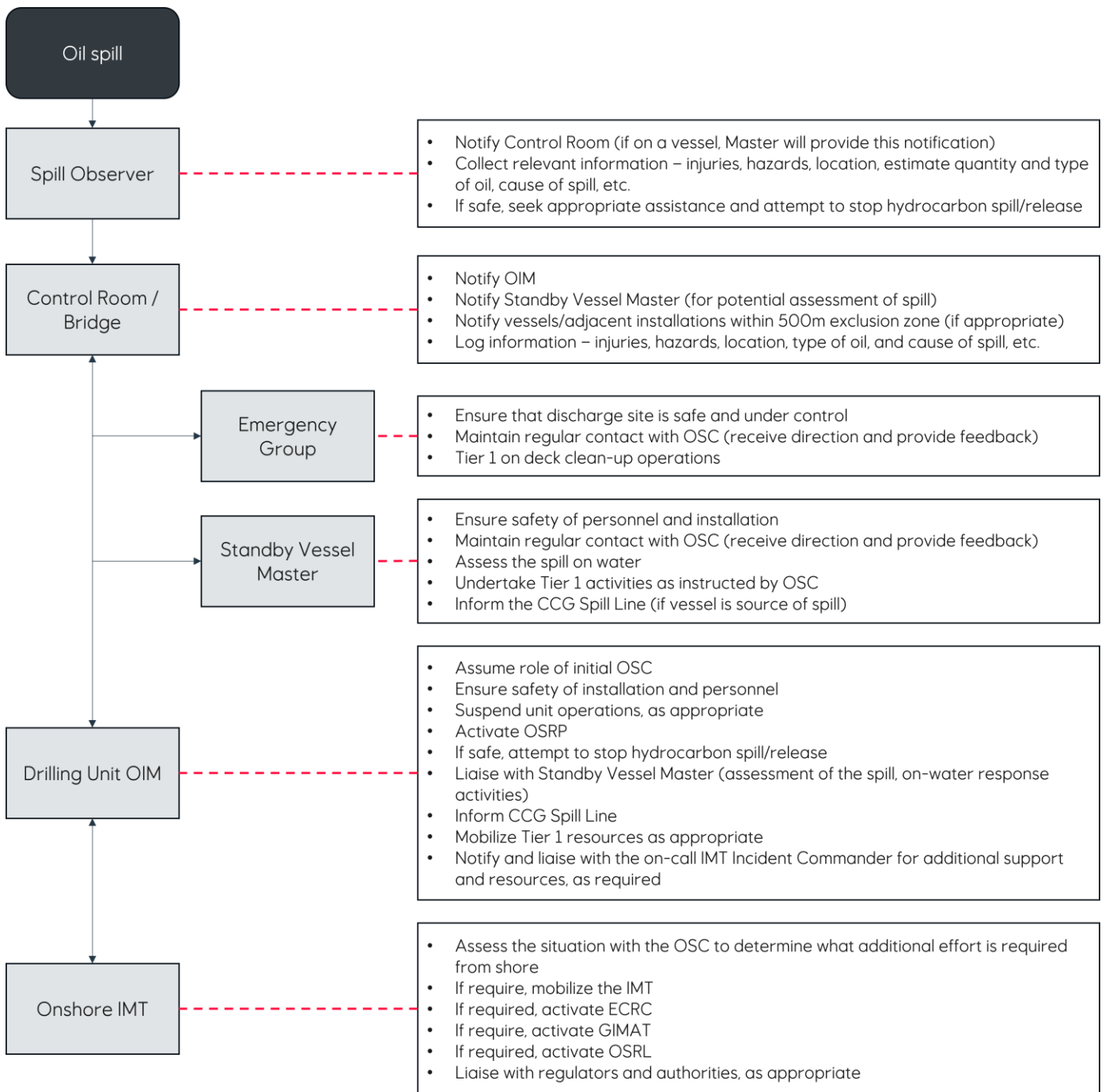


Figure 7-2 Summary of Initial Actions in event of an Oil Spill

8 Health and Safety

In any oil spill response, Equinor’s primary focus will be on personnel safety. Ultimate responsibility for safety will rest with the asset manager (vessel master or OIM on drilling installation). At any time, regardless of the environmental severity of the oil spill or planned response actions, operations may be terminated if conditions are deemed to be unsafe by the Asset Manager.

8.1 Health and Safety References

Refer to the OSRP Manual for information on the following HSE procedures:

- General health and safety procedures
- Working in teams
- Hand Communication Signals
- Pre-Job Safety meetings
- Risk
- Work permits
- PPE
- Confined Space Entry
- Transportation Safety
- Atmospheric Testing
- Housekeeping
- Worker/Supervisor Responsibilities

9 Waste Management

Waste Management is an important component of any marine oil spill response. The primary concerns associated with collecting oil on water and management of that waste includes:

- Safe storage of petroleum products following collection;
- Limiting secondary contamination of vessels, equipment, and personnel during collection;
- Segregation of waste products for efficient disposal;
- Temporary storage prior to disposal; and
- Appropriate disposal of waste materials

9.1 Waste Management References

Equinor Canada Ltd. *WR2929 Waste Management Plan* will be used as a basis for waste management in the event of an oil spill and will be scaled up as required. Detailed Information on waste management in the event of a spill, including regulatory requirements, can be found in the OSRP Manual.

10 Training and Exercises

10.1 Training

Equinor's oil spill response training program is modular and structured to provide a variety of skills to the team(s) that may be assembled in the event of an offshore oil spill. The overall program takes into account the following general areas:

- Oil spill response overview
- Response Management
- Response Operations and Equipment training

Training for offshore OSV personnel includes:

- Tier 1 Training
- Sorbent boom system operations
- Surveillance and monitoring

Training for Equinor IMT personnel is provided for in *WR2402 Equinor Canada Ltd. Incident Management Plan*.

10.2 Operational Exercises

Equinor undertakes training in the form of operational exercises with personnel involved in oil spill response, including the IMT, drilling installation crew and OSV crews. Training exercises include smaller desk top type exercises to larger ICS-exercises involving the entire IMT. In the event that dispersants prove to be a viable option, crew training will also be provided for that countermeasure technique.

10.2.1 Joint Operators' Equipment Exercise (Synergy)

Equinor, in conjunction with other Grand Banks Operators, participates in a full-scale equipment deployment exercise near St. John's on an annual basis. The exercise will include mobilization of Operator and ECRC equipment and personnel.

11 Additional information

11.1 Changes from previous version

Date	Revision/Review	Descriptions	Version
Oct 2023	Revision	<ul style="list-style-type: none"> Update plan to align with current program Added decision matrix for spill treating agents OSRP Appendices now contained within OSRP Manual 	3

11.2 List of Acronyms

BOP	Blowout Preventer
CCG	Canadian Coast Guard
CCO	Chief Conservation Officer
CMT	Crisis Management Team
C-NLOPB	Canada-Newfoundland and Labrador Offshore Petroleum Board
CWS	Canadian Wildlife Service
DFO	Department of Fisheries and Oceans
DHSA	Defined Hazard Situational Assessments
ECCC	Environment and Climate Change Canada
ECRC	Eastern Canada Response Corporation
EEM	Environmental Effects Monitoring
EEZ	Exclusive Economic Zone
EIS	Environmental Impact Statement
EL	Exploration License
ERT	Emergency Response Team
GDS	Global Dispersant Toolkit
GIMAT	Global Incident Management Assistance Team
IAAC	Impact Assessment Agency of Canada
ICP	Incident Command Post
ICS	Incident Command System
IMS	Incident Management System
IMT	Incident Management Team
IPIECA	International Petroleum Industry Environmental Conversation Association
MEAA	Mutual Emergency Assistance Agreement
NEEC	National Environmental Emergencies Centre
OA	Operations Authorization
OIM	Offshore Installation Manager
OSC	On-scene Commander
OSC	Operations Section Chief
OSRL	Oil Spill Response Limited
OSRP	Oil Spill Response Plan
OSV	Offshore Supply Vessel
RO	Response Organization
SIMA	Spill Impact Mitigation Assessment
SIRT	Subsea Incident Response Team
SMS	Spill Management System
SMT	Spill Management Team
STA	Spill Treating Agent
TAR	Thickness Appearance Rating
TC	Transport Canada
WRP	Wildlife Response Plan

12 References

- [1] Statoil, "Flemish Pass Exploration Drilling Program Environmental Impact Statement," 2017.
- [2] Sponson Group, "Equinor Canada Ltd. - East Coast Operations Newfoundland and Labrador Offshore Area Spill Impact Mitigation Assessment," 2020.
- [3] Industry Environmental Conservation Association, American Petroleum Institute & International Oil and Gas Producers (IPIECA-API-IOGP) , "Guidelines on Implementing Spill Impact Mitigation Assessment (SIMA). IOGP Report 593.," 2017.
- [4] C-NLOPB and CNSOPB, "Incident Reporting Guidelines," 2018.
- [5] Equinor , "The Equinor Book," 2023.

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