WCMRC Oil Spill Response Plan

17-250-WCMRC-OSRP

Document Version 1

Date of issue – 1st September 2017

DECLARATION AND SUBMISSION

Response Organization Declaration – 2017

Pursuant to paragraph 169.(3)(a) of the Canada Shipping Act, 2001, I, Kevin Gardner, for and on behalf of Western Canada Marine Response Corporation, declare that the procedures, equipment and resources referred to in the Response Plan, October 2017 Submission, are available to the Response Organization in conformity with the Response Organization and Oil Handling Facilities Regulations and the Response Organization Standards and guidance documents.

Kevin Gardner, President/General Manager

Western Canada Marine Response Corporation

206 – 3500 Gilmore Way, Burnaby. B.C. V5G 4W7

Reference: Canada Shipping Act, 2001: Response Organizations and Oil Handling Facilities Regulations: 10.

Submission for Certificate of Designation - 2017

This Oil Spill Response Plan, originally submitted in 1995, is a document intended to inform Transport Canada (TC) as to how Western Canada Marine Response Corporation (WCMRC) complies with response organization regulations and standards.

Four copies of this document comprise the submission to the Minister of Transport.

Reference: Canada Shipping Act, 2001: Response Organizations and Oil Handling Facilities Regulations: 7.

Elements of this submission include:

- A summary, in point form, of the Canada Shipping Act, 2001 (CSA, 2001) requirements for response organizations
- A brief description of WCMRC's interpretation of the CSA, 2001 regulations and standards. These interpretations were reviewed with Transport Canada in February 2004 and June 2007

- A brief description of ongoing enhancements to WCMRC's management tools and systems
- A visual aid describing the relationship of the plan and related management systems
- An extract, for reference, from the applicable CSA, 2001 regulations and standards (including submission requirements for re-certification)
- A demonstration on how WCMRC meets each of the applicable CSA, 2001 regulations and standards

Minister's Review

The Minister shall review a response plan within 90 days after the day on which it was submitted.

Submission Date: October 2017

Reference: Canada Shipping Act, 2001: Response Organizations and Oil Handling Facilities Regulations: 8.

Certificate of Designation

A certificate of designation has been issued pursuant to subsection 660.4(1) of CSA, 2001 to a response organization is valid for three years after the day on which it is issued or the day the response organization becomes insolvent; commits an act of bankruptcy; is dissolved; or abandons or transfers its business. The Minister may refuse to issue or renew a certificate, and may suspend or cancel a certificate if circumstances warrant.

Canada Shipping Act, 2001: Response Organizations and Oil Handling Facilities Regulations: 11.

Example - Certificate shown is for the 2010 to 2013 certification period.

Transport Canada Transports Canada

This attests that

Ceci atteste que

Western Canada Marine Response Corporation

is a Certified Response Organization pursuant to section 169.(1) of the *Canada Shipping Act, 2001*

est un Organisme d'intervention agréé en vertu de la section 169.(1) de la *Loi de 2001 sur la marine marchande du Canada*

Maximum capacity of

Capacité maximale de

10,000 Tonnes

Geographical Area of Response

The waters covering the coastal portions of the Province of British Columbia and extending throughout the Exclusive Economic Zone (200 nautical miles offshore) as provided in federal legislation, and including, but not limited to, the inland waters of the Province.

Secteur géographique d'intervention

Les eaux couvrant la zone côtière de la Colombie-Britannique et s'étendant sur la zone économique exclusive (200 milles marins au large) comme il est stipulé dans la législation fédérale, y compris, mais non exclusivement, les eaux intérieures de la province.

Director General - Marine Safety - Directeur général - Sécurité maritime

Ottawa, Ontario
Issued at - Délivré à

04-10-2013
Expiry date - Date d'expiration
(dd-mm-yyyy / jj-mm-aaaa)

81-0023 (0711-03)

Canada

Compliance Testing

A declaration submitted by a person or body for the purpose of subsection 169(3) of the Act shall be in the form set out in Part 1 of the schedule. Canada Shipping Act, 2001: Response Organizations and Oil Handling Facilities Regulations: 10.

The Minister shall review a response plan within 90 days after the day on which it is submitted.

Reference: Canada Shipping Act, 2001: Response Organizations and Oil Handling Facilities Regulations: 8.

A response organization to which a certificate of designation has been issued pursuant to subsection 169.(1) of the Act shall notify the Minister of all substantive changes to its response plan immediately after they are made and shall, at least annually, update its response plan. Canada Shipping Act, 2001: Response Organizations and Oil Handling Facilities Regulations: 9. The Minister may refuse to issue or renew a certificate, and may suspend or cancel a certificate if circumstances warrant.

PART A – RESPONSE

1 INTRODUCTION

1.1 WCMRC Response Organization

This plan, parts A and B, forms the basis of Western Canada Marine Response Corporation (WCMRC's) procedures to respond to marine oil spills in line with the requirements of the Canada Shipping Act, 2001 (CSA, 2001) – Response Organization and Oil Handling Facilities Regulations and Response Organization applicable regulations and standards. Under amendments to the Canada Shipping Act, which received Royal Assent in June 1993 and the CSA, 2001 as amended in July 2007, Response Organization's (RO's) are required to demonstrate that they meet the Response Organizations Standards (1995). It is WCMRC's intention to continue to meet the requirements for a 10,000 tonne RO, providing response to marine spills that originate from oil handling facilities during loading/unloading operations, tankers larger than 150 gross tons, and vessels other than tankers larger than 400 gross tons that have an agreement in place with WCMRC for such response.

WCMRC has been in existence since 1976, during which time it has grown, and through the RO certification process, has matured to its present level of response capability. Over this period, WCMRC has responded to more than 750 spill incidents and in addition has acted as a contractor in support to other spill response operations, including the Exxon Valdez and the BP response in the Gulf of Mexico. WCMRC has an infrastructure, equipment base and competent personnel/management resources to ensure a safe, effective and cost-efficient response to a 10,000-tonne spill. WCMRC's capability however, extends beyond the 10,000-tonne spill threshold. WCMRC maintains additional equipment, as well as arrangements for cascading opportunities of additional spill personnel (both management and response) and equipment resources from other ROs, mutual aid support, and contracted organizations.

WCMRC's Geographic Area of Response (GAR) includes the waters covering the coastal portions of the Province of British Columbia (BC) and extending throughout the Exclusive Economic Zone (200 nautical miles offshore), see Figure 1.1. It includes three specific response areas (see Figure 1.2), namely:

- **Designated Port:** The Port of Vancouver is recognized as handling a minimum of 500,000 tonnes of oil annually, as being impacted by traffic density and convergence, and being capable of providing the necessary infrastructure to support the location of a certified RO. It is therefore a designated port as defined by the CSA. WCMRC will not move dedicated equipment outside of the Designated Port without the authorization of Transport Canada (TC).
- **Primary Area of Response (PAR):** Because most large spills (>1,000 tonnes) occur outside port boundaries where vessels converge, the Canadian Coast Guard (CCG)

identified Primary Areas of Response (PARs) as areas associated with Designated Ports, that require a specific level of response capability and mobilization within designated times.

- **Enhanced Response Area (ERA):** Marine areas not covered under the above designation (the Juan de Fuca Strait), but holding a higher risk of oil spills due to traffic convergence and volume of shipping were identified as ERAs.

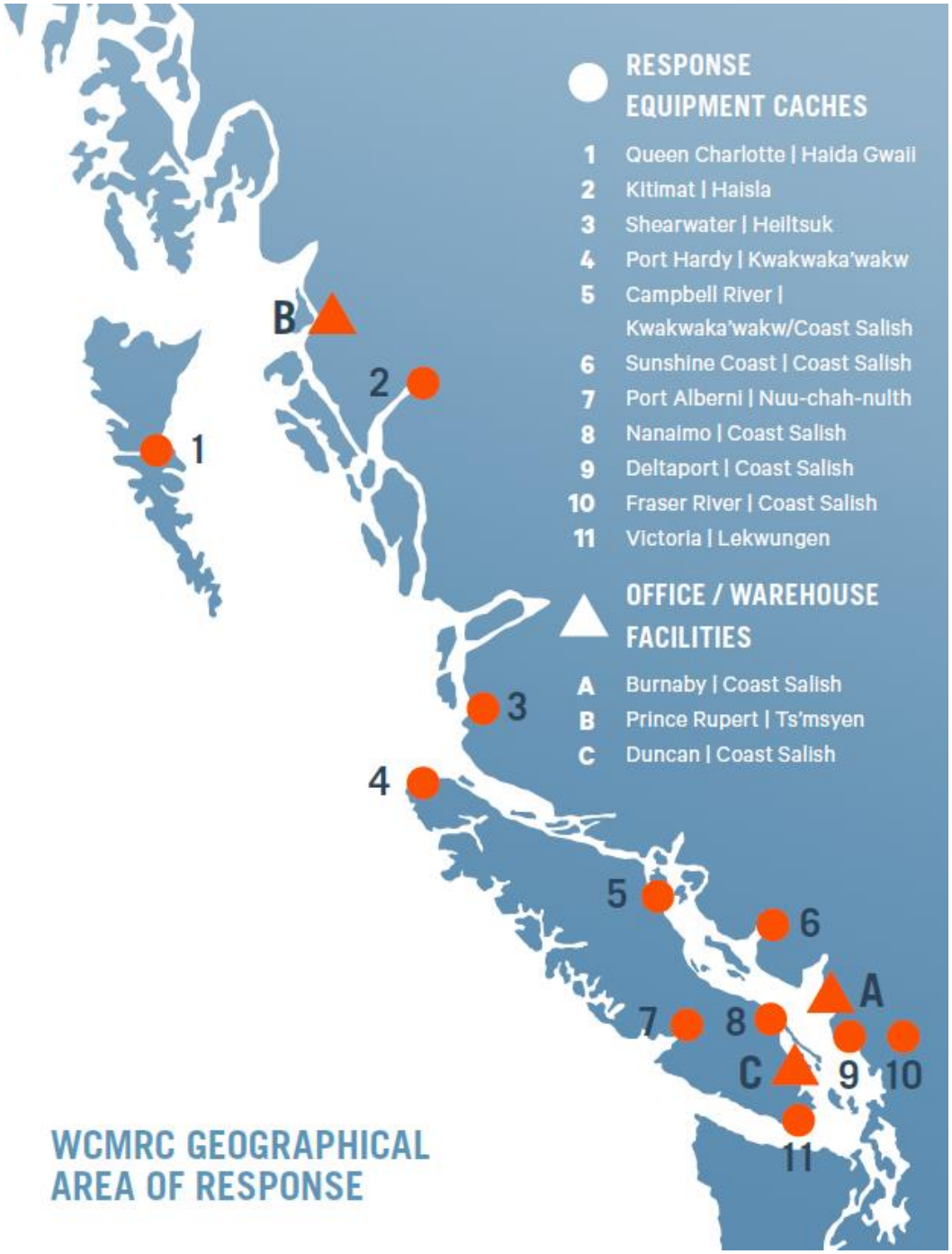

Figure 1.1 - WCMRC's Geographic Area of Response (GAR)

The amount and type of equipment used in any spill response operation is governed by the environmental conditions prevalent in the area of the incident. The CCG, in consultation with Environment Canada (EC), adopted the following response percentages for the operating environments in the GAR covered by this plan (Table 1.1).

Table 1.1 - Response Allocations by Geographic Area

PAR / ERA	Onshore	Sheltered	Unsheltered
Vancouver	40%	40%	20%
Juan de Fuca Strait	40%	20%	40%

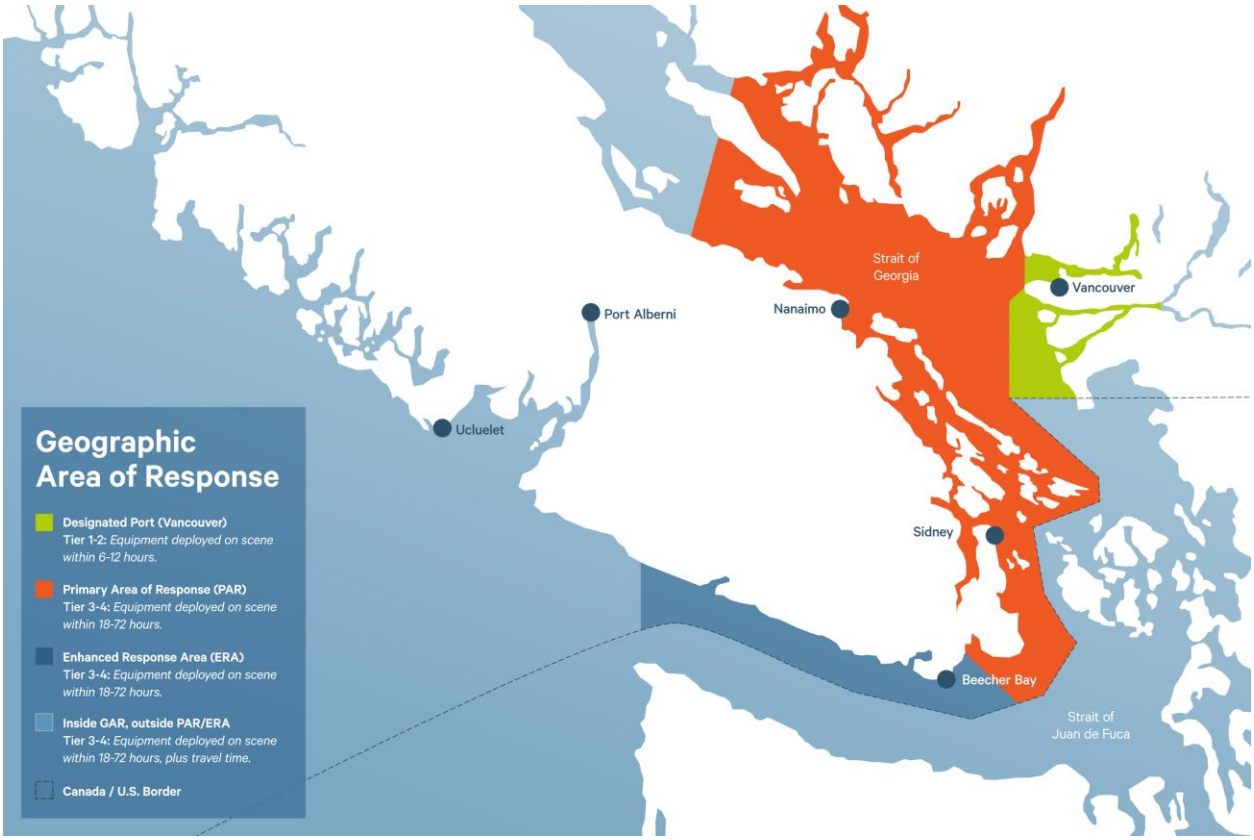

Figure 1.2 – Designated Port (Vancouver), Primary Area of Response (PAR) and Enhanced Response Area (ERA)

1.2 Integration of Other Response Documentation

This document is intended to act as a stand-alone Spill Response Manual that will assist the Incident Management Team (IMT) during the initial response to an incident and/or to aid further planning as incident complexity increases. It is in a number of parts to aid navigation, these are:

- OSRP Part A: A stand-alone document for use during a response
- OSRP Parts B, C and D: Supplementary to Part A these provides a legal perspective to the plan and covers the details of WCMRC's preparedness measures. In addition, these parts act as reference documents and to demonstrate how WCMRC continues to meet the required regulations and planning standards under the CSA, 2001

Alongside this response manual are a suite of documentation that will assist and document the response and preparedness efforts of WCMRC, these are:

- **Field Operations Guides (FOG's):** A FOG serves to provide individual field positions with roles and responsibilities contains checklists of actions together with objectives pertinent to the roles. Each FOG contains a list of relevant documentation to equip each field operative to respond quickly and efficiently, without ambiguity over their specific responsibilities or what documentation they are required to complete/refer to.
- **Job Aids:** A Job Aid serves to provide individual positions within the IMT structure with roles and responsibilities. Job Aids contain checklists of actions together with objectives pertinent to the IMT positions. Each Job Aid contains a list of relevant documentation to equip each member of personnel to respond quickly and efficiently, without ambiguity over their specific responsibilities or what documentation they are required to complete/refer to.
- **Technical Manual:** These manuals provide the reader with methods/tactics relevant to carrying out the response strategies discussed in this OSRP. They can be used by the IMT to aid in strategy selection, providing context to the decision makers, as well as providing a useful tool to onsite operators.
- **Geographic Response Strategies (GRS):** In 2013 WCMRC developed an online Geographic Information Systems (GIS) mapping application, which serves as a platform to document sensitivities, coordinate resources and plan actions in a response. Within the application are layers of information pertaining to the logistical, environmental and operational aspects of a response. With regards to its operational functionality, the mapping application is used to geo-locate GRS, allowing for quick and efficient

deployment. GRS's are two page operational documents that identify the location of sensitive shoreline features and describe how to protect them. They are intended to be used in the emergency phase of a response to prevent oil from hitting the shoreline. See Section 15.7 for more details.

1.3 Use of this Plan

This Plan should be used as a response tool that guides the WCMRC Duty Officer (DO) and/or Spill Response Manager (SRM) and supporting personnel through the steps required for initial response namely:

- **Notification:** From Responsible Party (RP) or Government Agency to RO.
- **Assessment:** Situation details and spill characteristics used to assess severity of the incident and the level of response required.
- **Mobilization:** Mobilization of appropriate resources as soon as possible, including internal notifications. Fast mobilization of personnel to the field will allow first response actions to be carried out, as well as providing further information for assessment.
- **Appointing** a SRM and identifying the IMT requirements, both in the field and command centre. This should be the start of the process from being reactive to establishing an ongoing response.

Once the response is established and initial actions have been undertaken the response will move from a reactive to a proactive phase. This document aids this process by giving guidance on:

- Incident Command System (ICS) **roles and responsibilities.**
- The response **planning cycle.**
- **Response strategy** selection.

This process is shown in Figure 1.3 – The Response Procedure Tree.

The document does not provide all the information required, but acts as a signposting document to the actions to take and documentation that will be required to support. To this end at the beginning of each chapter is a data references table in which can be found references to data/documents required.

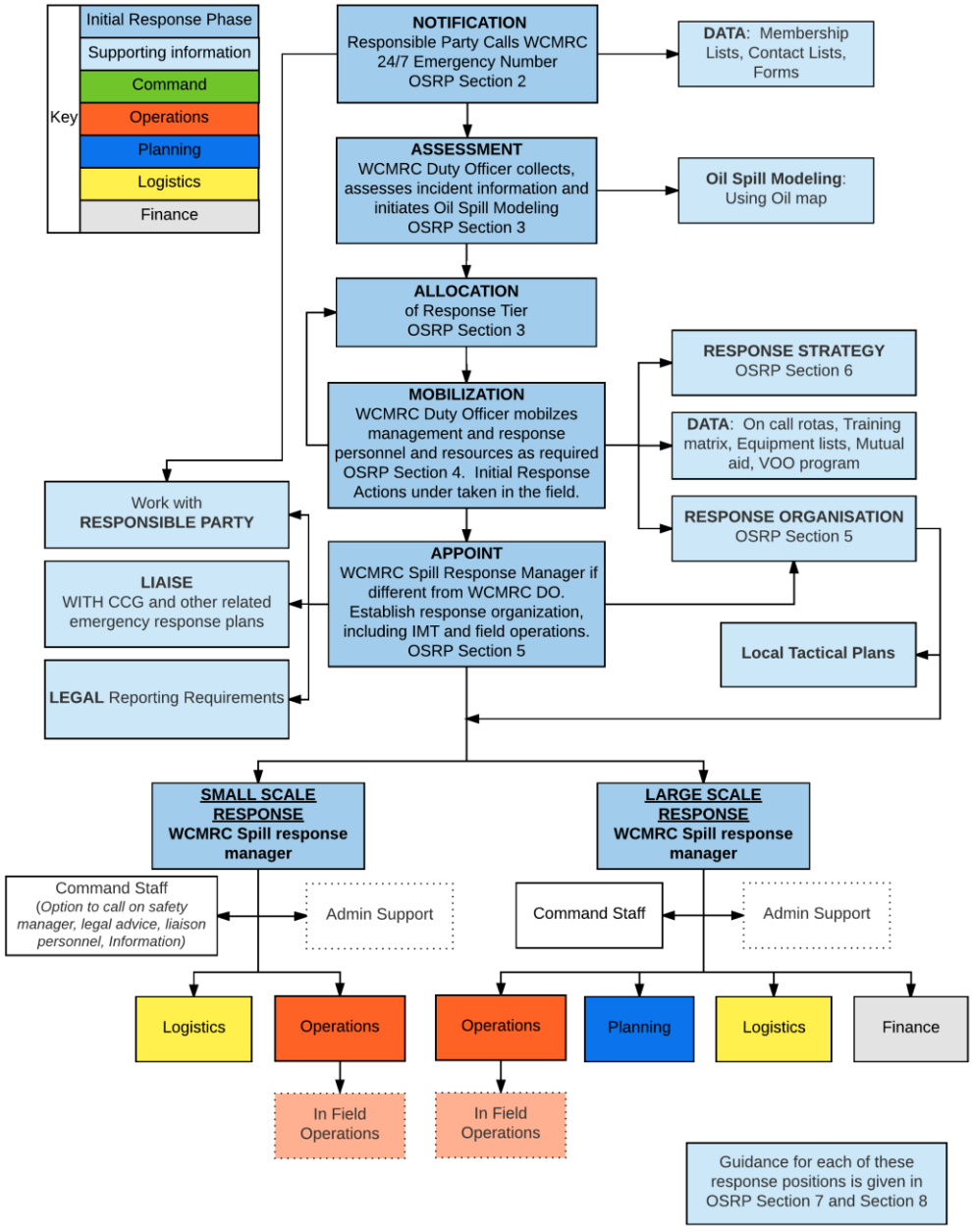

Figure 1.3 – The Response Procedure Tree

2 NOTIFICATION

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Duty Roster	Internal WCMRC document	See Section 15.2 WCMRC Duty Roster
Special 'Operations Calendar'	Internal WCMRC document	Follow this link to access an electronic copy
Membership Contact List	Internal WCMRC document	See Section 15.1 Membership List & CRMS
External Agencies Contact list	Internal WCMRC document	See Section 15.5 External Contractors & CRMS
Third Party Contract	Internal WCMRC document	See Section 12.2 WCMRC Contracts and & CRMS

USE OF THIS SECTION

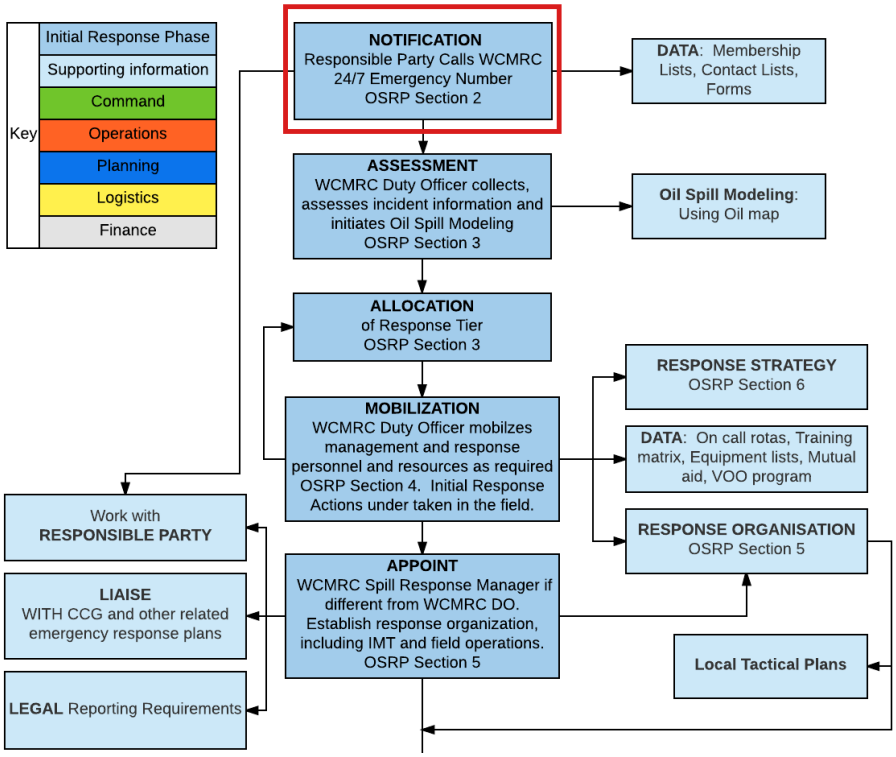

Figure 2.1 - Response Procedure Tree: Notification

This first stage of response is the fast and effective Notification to WCMRC, as the RO, by the RP. It is the responsibility of the RP to call WCMRC in a timely manner; WCMRC must then notify, assess and mobilize as quickly as possible. To this end WCMRC operates a call out system and are ready to respond 24/7, see Section 2.1.1.

External spill notifications are the responsibility of the Polluter/RP and therefore WCMRC is not required to make any calls outside of its own organization, except to its contractors and Mutual Aid Partners. As a courtesy, WCMRC will call TC at the outset of each incident. This section gives details of the notification process, and indicates who should be notified and when.

2.1 WCMRC Notification Procedure

The notification procedure to be followed is shown in Figure 2.2 - Initial Notifications. On receiving the call, the WCMRC DO will, as soon as possible, call the RP to ascertain the incident details and complete the Initial Incident Information Form (see Section 2.1.2). Following assessment (see Section 3 INCIDENT ASSESSMENT), they will then make internal notifications as required and mobilize (see Section 4 MOBILIZATION), the necessary resources, this will include responders, management as well as external contractors as required. The checklist below should be used as a guide for this process.

Table 2.1 - Duty Officer Notification Check List

DUTY OFFICER NOTIFICATION CHECKLIST		**CK 1**
☑	**Notifications**	**Reference Information**
☐	Receive Initial Call	
☐	Call and make initial contact with RP	See Membership Contact List
☐	Ensure RP is an active member and the person calling is listed as an Authorized Individual. If the RP is a non-member, a third-party agreement must be in place before deployment of resources.	Use the Bridge under Spill Site See Third Party Contract
☐	Record detail of the incident on the Initial Incident Information Form	See Section 2.1.2
☐	Notify most appropriate Area Manager or Supervisor.	See Duty Roster
☐	Notify and prepare for mobilization most appropriate first response team	See Duty Roster
☐	Notify senior management personnel who may be required to form the IMT.	See Duty Roster

DUTY OFFICER NOTIFICATION CHECKLIST		CK 1
☑	**Notifications**	**Reference Information**
☐	Appoint SRM for on-going spill management.	See Annual Duty Roster and Section 2.2
☐	Notify Canadian Coast Guard (CCG) if not already aware	See External Agencies Contact List
☐	Complete Spill Incident Report Checklist (W200)	See Forms – Section 16.2.1

Be aware that the RP is responsible for notifications to all applicable government agencies, however it is important that this is carried out in a timely manner and as a courtesy WCMRC will call TC at the outset of each incident.

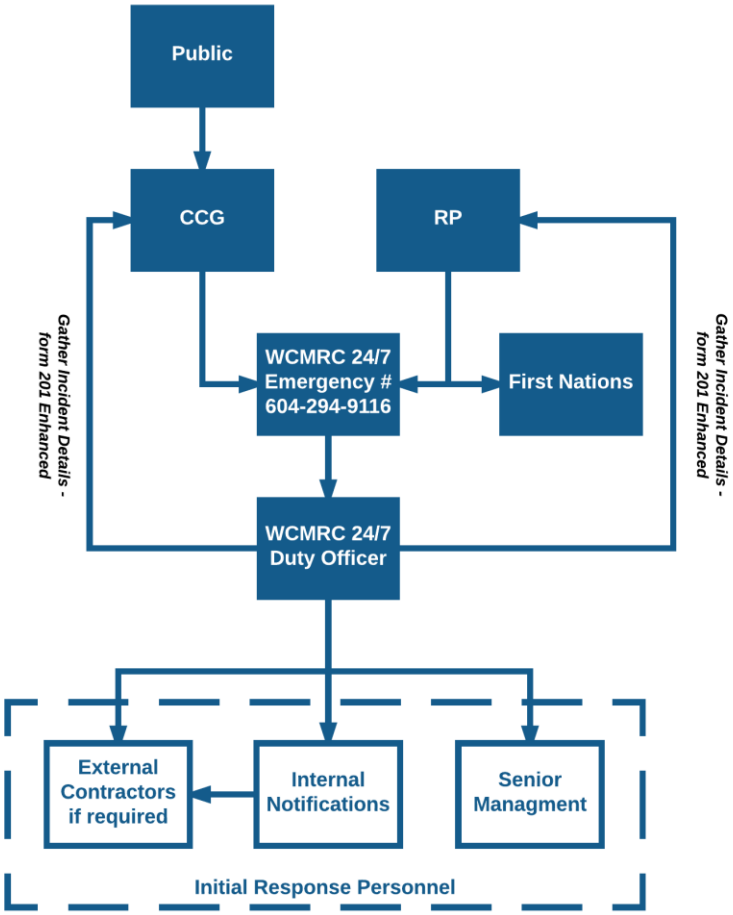

Figure 2.2 - Initial Notifications

2.1.1 Personnel Standby Procedure

WCMRC maintains a 24 hour per day, 7 days per week standby system. At all times, a WCMRC operational person is on duty, the DO, and is supported by other WCMRC personnel and resources. An annual Duty Roster is prepared to be effective January 1 each year. All changes in coverage must be agreed in advance by an Area Manager or designate and updates made; therefore, an up to date version of the roster is available to the DO at all times. All DO's ensure that:

- Duty kit, including the DO Surface tablet and other supporting materials.
- Access to the Duty Roster at all times when providing DO cover.
- Ensure contactable 24/7 during on call period.

For circumstances, such as summer vacations and Christmas, or when large numbers of key personnel are absent at the same time, an "operations calendar" is prepared to identify personnel who are available during the period in question. Part time employees and contractors may be polled to determine their availability and placed on standby.

2.1.2 Initial Incident Information Form

DO to complete the Initial Incident Information Form below, to capture initial incident information

Date of Call		**Time of Call UTC**	
Person Reporting Spill			
Authorised company representative			
Contact #1		**Contact #2**	
Reporting Company			
Reporting Vessel			
Type of membership			
Spill location			
Lat		**Long**	
Product Spilled			

Source		☐ **Controlled** ☐ **Uncontrolled**
Volume spilled (m^3)		
Receiving medium (land, vessel deck, freshwater, salt water etc.)		
MARPOL listing		
Is a Safety Data Sheets (SDS) available? Where?		
Operating environment (On water, sheltered, unsheltered, onshore etc.)		
Who has been notified?		

2.2 Internal Notification

Personnel notified and/or mobilized will depend on the type and scale of incident, see Section 3 INCIDENT ASSESSMENT. In the first stages of a response the DO should contact the most appropriate Area Manager and/or local response personnel. If the incident is likely to escalate then management personnel should also be called to assist with the response, personnel available for response and the positions they may fulfil are found in Section 15 of this plan which gives a quick reference guide to key data.

2.3 External Notifications

WCMRC maintains a network of support contracts and mutual aid agreements to ensure that they are able to fulfil the requirements of the CSA, 2001. These include:

- Coastal Response Program Partners
  - Contractors
  - Advisors
  - Vessels of Opportunity (VOO)
  - Mutual Aid Partners
  - Field support contractors

A full list of these, together with their response capability is given in a quick reference section, Section 15. All external contact details are kept in the Customer Relationship Management Software (CRMS).

The Area-Managers from South Coast (SC), Vancouver Island (VI) and North Coast (NC) maintain a roster of available and suitably trained part-time, contractor, or support/advisory personnel who will be available to support response activities (initial and long-term) and to provide operational cover during their absences. The name and complete contact information for the alternate(s) is included in the duty roster/operations calendar.

3 INCIDENT ASSESSMENT

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Technical Reference Manuals	Internal WCMRC document	See Section 17.1 Technical References
Oil Spill Modelling Guidance	Internal WCMRC document	Follow this link to access an electronic copy

USE OF THIS SECTION

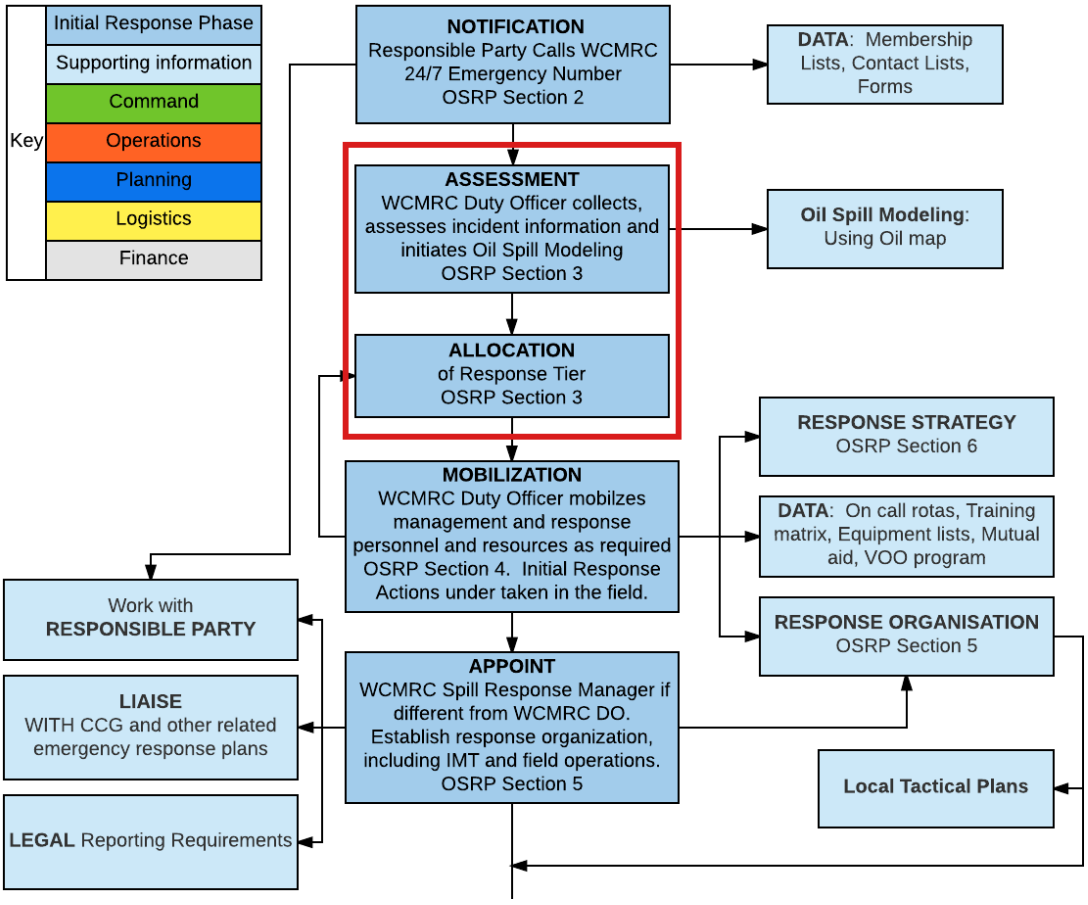

Figure 3.1 - Response Procedure Tree: Assessment and Allocation

Throughout the spill notification phase the WCMRC DO will have collated as much information about the incident as possible, and formalized this by completing the ICS 201 Initial Incident Information and Briefing Form. Through this process, early spill assessment will have taken place with personnel using experience and expertise to initiate the response and ensure that there is no delay in mobilizing personnel and resources as quickly as possible. The information collated at this point should be used as soon as possible to complete an Initial Safety Incident Assessment (see Section 9.1).

Field reports will then pass situational information back to the DO as soon as possible to further inform early decision making. For a small spill these may be the only actions required, however this section should be used to guide the DO and IMT, to fully assess the incident potential and allocate a WCMRC Response Level. In conjunction with this the TC Tier classification is dictated and assigned by TC, using the criteria established in the CSA, 2001 (see Section 3.2).

For the WCMRC Response Level, the TC Tier allocation will help to dictate:

- Statutory response requirements, see Section 4 MOBILIZATION.
- Level and type of spill response resources needed.
- The Incident Management Structure, see Section 5 RESPONSE ORGANIZATION.
- The Incident Management resources required – need for external contractors.
- Support and involvement with CCG.

In line with this WCMRC has defined Response Levels as follows in

Table 3.1. Early dialogue with TC is essential to ensure the WCMRC requirements and obligations, as the RO, are understood by all parties. These Response Levels should not be confused with the TC Tiers established within the legislation, see Section 3.2. This is because WCMRC require more flexibility to adapt to the characteristics of each incident with levels of response, for example a small quantity of oil (defined as a TC Tier 1) may require high levels of resource and therefore be a WCMRC Response Level 3. Example response organizations for the different response levels are shown in Section 5.

Table 3.1 – WCMRC Response Level Definition

	RESPONSE LEVEL 1	RESPONSE LEVEL 2	RESPONSE LEVEL 3
Spill characteristics	Small spill, contained locally	Larger spill, or a smaller spill of a persistent oil. Large spill offshore of non-persistent oil. Larger geographical area impacted	Large ongoing spill, large area impacted with multiple sensitivities.
Incident Management	Reduced incident management structure	Reduced incident management structure, with intermittent support from internal or external experts. Appointment of SRM	Full ICS structure. May form part of Unified Command (UC). Appointment of SRM and Deputy
Level of resources	Local resources involving 1 Response Base.	Regional resources involving 2 or more Response Bases	Multi regional resources involving 2 or more response areas. Ex. VI plus SC

3.1 Incident Assessment Criteria

The following checklist (

Table 3.2), should be used initially by the DO to assess the potential of an incident; by considering each of these elements then a picture of the scale and severity of the spill is developed allowing for an allocation of WCMRC Response Level and subsequent mobilization of the most appropriate IMT and response resources. Figure 3.2 is then used to help interpret this information to define the most appropriate Response Level. This should be used as a guide only; ALL spills are unique and in every case response level should be over assessed initially to ensure that adequate response resources are mobilized in a timely manner.

Table 3.2 - Spill Assessment Checklist

SPILL ASSESSMENT CHECKLIST	
Review each row of the below check list in turn. Tick the boxes next to all the criteria that apply. Report the Response Level as the highest level with any checked criteria.	
☑	**Response Level 1**
☐	Indicative spill size: 150 tonnes to 1500 tonnes (TC Tier 1 or 2)
☐	Resources deployed initially (Tier 1) are adequate to combat the spill
☐	No specific sensitivity or oil limited to one area only
☑	**Response Level 2**
☐	Indicative spill size: greater than 1500 tonnes to 2500 tonnes (TC Tier 2 or 3)
☐	Oil persistent and spill larger than ~150 tonnes
☐	Additional resources required to combat the spill
☐	Specific sensitivity at risk (relatively large spill: ~2500 tonnes)
☐	Multiple areas/sensitivities at risk (relatively small spill: ~2500 tonnes)
☐	Air monitoring required
☑	**Response Level 3**
☐	Indicative spill size: greater than 2500 tonnes (TC Tier 3 or 4)
☐	Additional resources required to combat the spill (in addition to Response Level 2 resources)
☐	Multiple areas/sensitivities at risk and spill larger than ~2500 tonnes
☐	Source is not, and will not be controlled quickly
Further considerations	
☐	Is the oil actionable? Ensure appropriate resources are deployed based on oil properties and weathering
☐	Spill trajectory determined?
☐	Objectives?

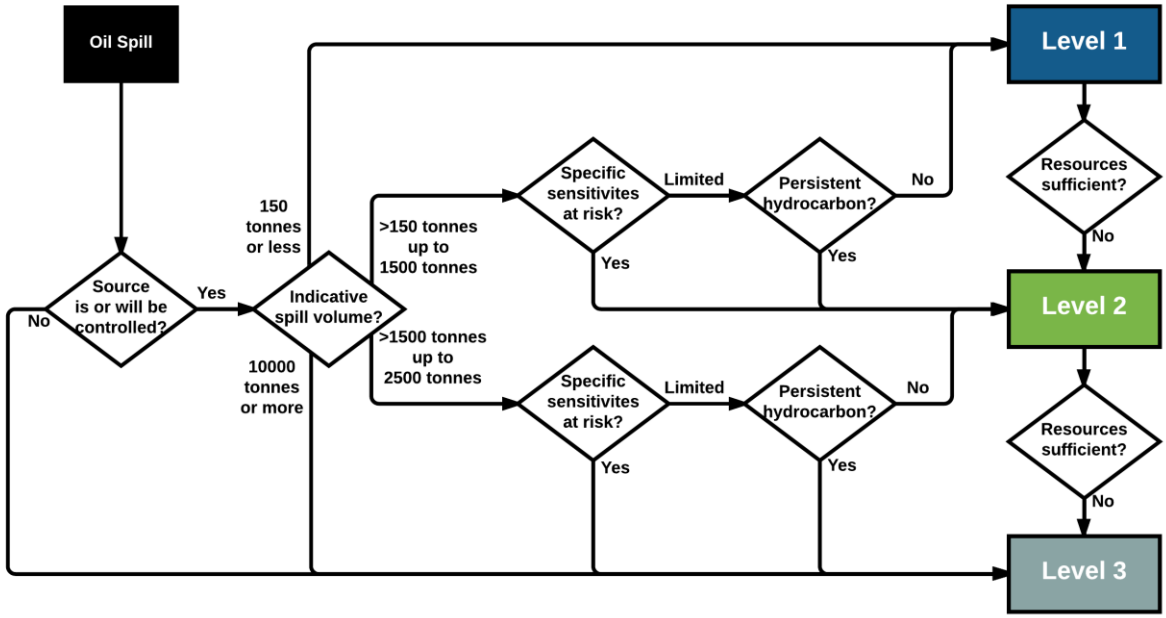

Figure 3.2 – WCMRC Response Level Assessment Flowchart

3.2 TC Tiered Response Definitions

The following table (Table 3.3 – TC Response Tier Capability Requirements), gives the definitions, as stated in law by TC, which establish the response capability required to respond to oil spills. Whilst WCMRC will assess each incident based on a number of characteristics (see Section 3.1), TC have established 4 tiers of spill based only on volume, Table 3.3. These tiers are used primarily to assess the capability of a RO; however, they should be used as guidance when assessing Response Level required. In all cases WCMRC over anticipate the scale of the incident initially to ensure timely mobilization of resources.

Table 3.3 – TC Response Tier Capability Requirements

TIER	MAXIMUM OIL SPILLED
Tier 1 response capability	150 tonnes
Tier 2 response capability	1000 tonnes
Tier 3 response capability	2500 tonnes
Tier 4 response capability	10000 tonnes

4 MOBILIZATION

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Equipment Lists/catalogue	Internal WCMRC document	See Section 15.4 Equipment and Resources
Equipment Mobilization Times	Internal WCMRC document	See Section 15.4 Equipment and Resources
Duty Roster	Internal WCMRC document	See Section 15.2 WCMRC Duty Roster
Response Contractors/external partners List	Internal WCMRC document	See Section 15.6.2 External Agencies Contact List and Section 15.6.3 Spill Response Contractors
WCMRC Cross Border Procedures Manual	Internal WCMRC document	Follow this link to access an electronic copy

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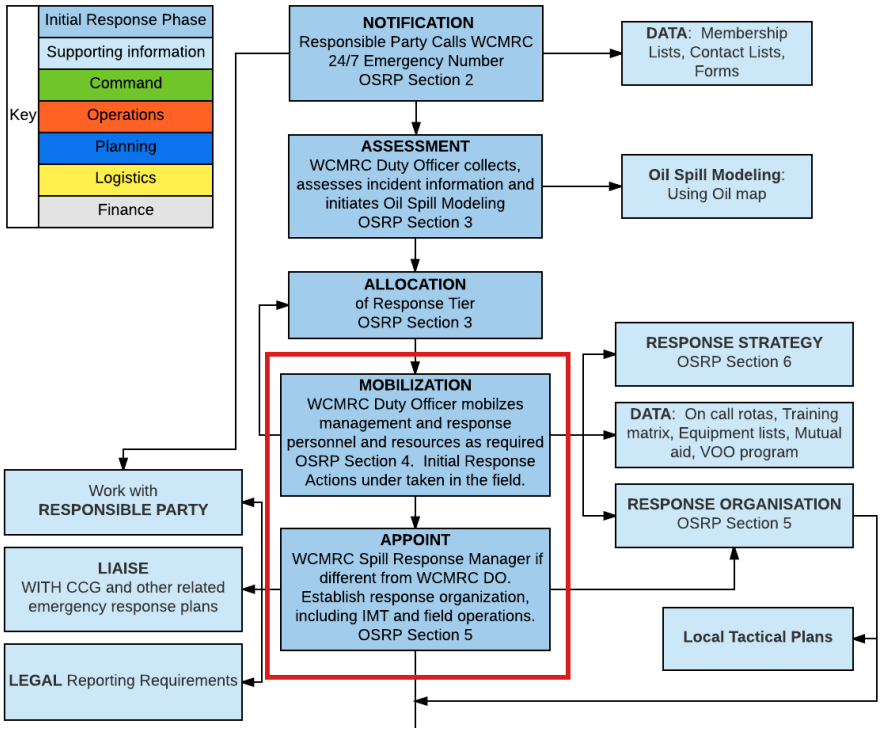

Figure 4.1 - Response Procedure Tree: Mobilization

This section serves to formalize the mobilization procedures used during the initial response phase, and then ongoing as the response is established (see Section 7 PLANNING CYCLE).

Once the DO receives the initial notification call they will, as soon as possible, take initial steps to notify key personnel and if necessary they will mobilize. The assessment phase and allocation of Response Level will then take place with further mobilization of resources dependent on the information gathered and assumptions made. During this phase, the DO will look to agree and mobilize a SRM. The SRM should have the necessary skills and experience as well as authority to manage the spill into the proactive phase.

Depending on the nature and scale of response, this process may be on going for many days seeing the allocation and mobilization of resources to meet specific response objectives.

4.1 Mobilization Process

Figure 4.2 below shows the process that should be followed for the mobilization of equipment and personnel. Further detail and reference is also given in the sections below.

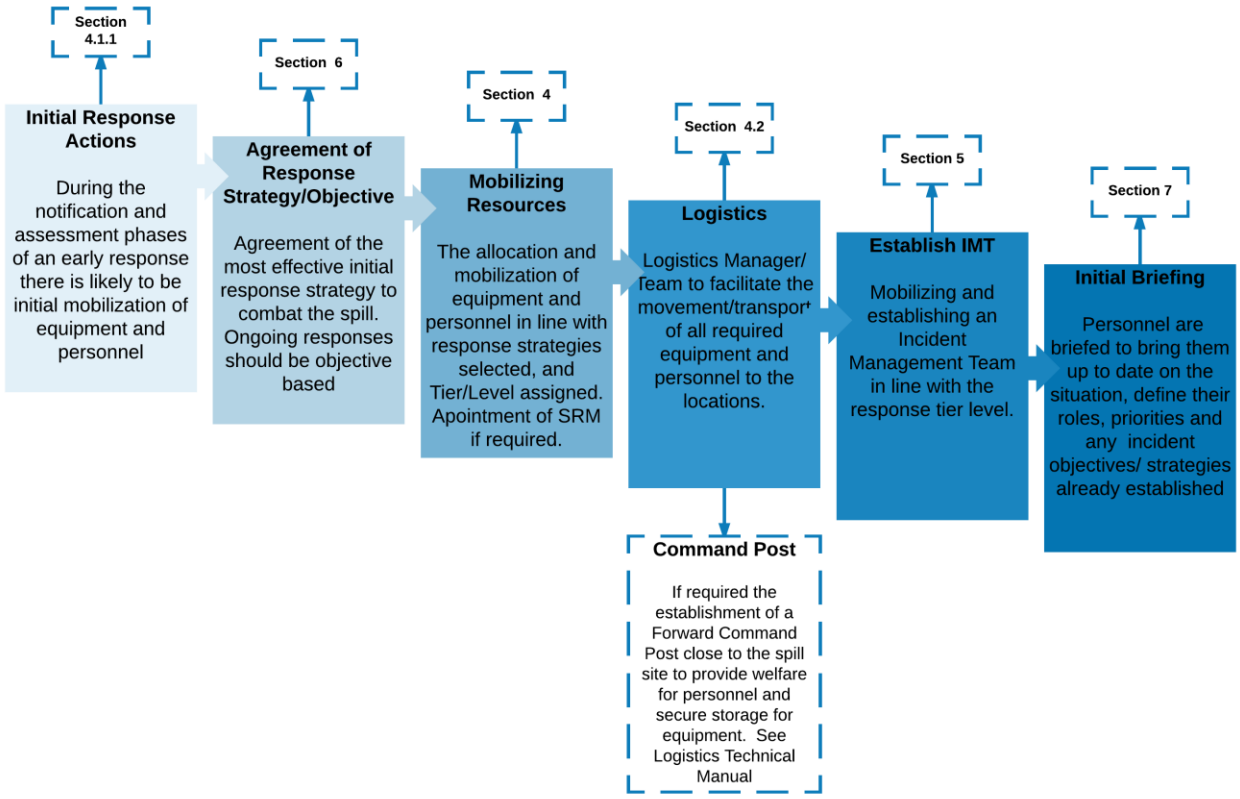

Figure 4.2 - Mobilization Process

4.1.1 Initial Response Actions

Throughout the assessment and Response Level allocation phase and in line with Section 3 of this plan, the DO will take initial actions as soon as possible after notification to mobilize resources that may be required and to gather as much information as possible. Typically, this may be the deployment of quick response vessels or equipment trailers with response personnel.

Field personnel are also required to carry out initial actions to establish a response, such as:

- Implementing local emergency response plans.
- Establishing Unified Command and integration of the Response Organization.
- Ensure site safety procedures are implemented.
- Establishing and testing on-site and off-site communications.

4.1.2 Agreement of Response Strategy

Once adequate information is known the most appropriate response strategy is selected for the Incident Action Plan (IAP), see Section 6 RESPONSE STRATEGY AND STRATEGY SELECTION. Depending on the scale of the incident this will be reviewed as the Incident Commander (IC) follows the response Planning Cycle, Section 7 PLANNING CYCLE. For a larger scale response incident management personnel, should consider response priorities and mobilize resources accordingly.

4.1.3 Mobilizing Personnel and Equipment

Once the response strategies and/or response objectives have been established equipment and resources should be deployed to fulfil these objectives. Response times for resources, which are a legal obligation for WCMRC as a RO, are given in Table 4.1 and shown in Figure 4.3. Also see Section 15.4 Equipment and Resources for further details.

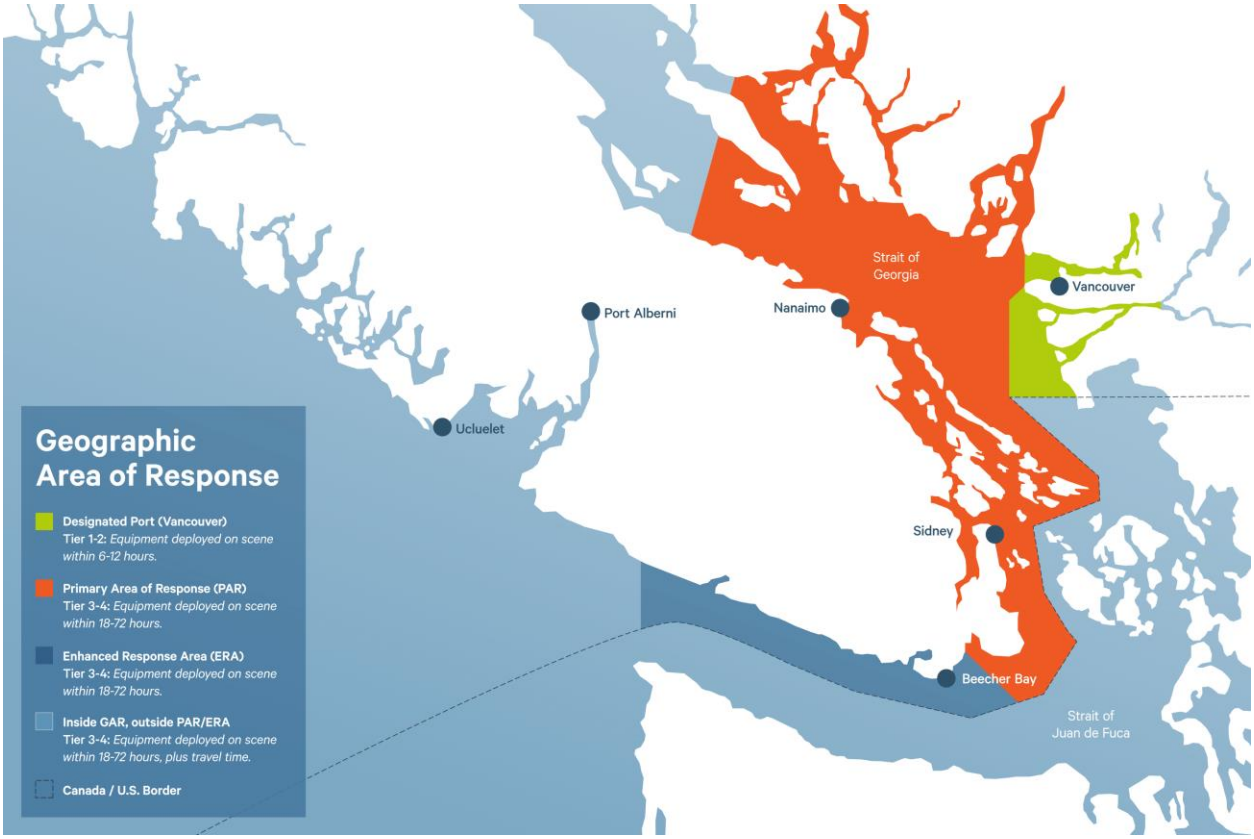

Figure 4.3 - GAR and Response Time Planning Standards

Table 4.1 - Response Time Standards for TC Tiers

TC Tier	Tier 1-150 tonnes	Tier 2-1000 tonnes	Tier 3-2500 tonnes	Tier 4-10000 tonnes
Inside Port Boundary	**Deployed** on-scene in Designated Port (dedicated resident equipment) from time of notification **Time:** 6 hours	**Deployed** on-scene in Designated Port from time of notification **Time:** 12 hours	**Not Applicable**	**Not Applicable**
Inside PAR/ERA	**Not Applicable**	**Not Applicable**	**Delivered** on-scene within the PAR/ERA from time of notification. **Time:** 18 hours	**Delivered** on-scene within the PAR/ERA from time of notification **Time:** 72 hours
Outside PAR/ERA Inside GAR	**Not Applicable**	**Not Applicable**	**Delivered** on-scene from time of notification **Time:** 18 hours + travel time	**Delivered** from time of notification **Time:** 72 hours + travel time

The IMT members, supervisors, field supervisors, vessel skippers and crews, technical assistance and advisors, and the logistical support are pooled from WCMRC staff, contractors, and mutual aid agreements with other RO's across Canada (Eastern Canada Response Corporation, ECRC) and the USA. These are listed in Section 15, all contact details for all external partners are held in the contacts database or CRMS.

A full response structure is shown in Section 5 RESPONSE ORGANIZATION, this will be adapted depending on the nature and scale of the incident with WCMRC staff fulfilling their assigned role and all other roles filled, as required, by trained personnel available to WCMRC through support contractors and/or mutual aid agreements. Throughout a response personnel and equipment in the immediate vicinity will be deployed first.

Current contracts with WCMRC members allow WCMRC to implement best effort response procedures for the first 24 hours with a Dry Bulk Cargo vessel and Designated Oil Handling Facility and 48 hours for tankers without RP approval. After that, WCMRC will work to a plan approved by the RP.

4.2 Logistics

WCMRC will be required to make provision for the transportation of personnel and equipment. This may require the use of a variety of assets including land, marine and air. The logistical requirements will be met by the DO initially but, as the incident develops support should be sought from the Logistics Section. A list of contractors is given in Section 15, all contact details for all external partners are held in the contacts database.

For larger spills consideration, should be given to establishing an Incident Command Post (ICP) and or Field Posts close to the incident. For a small incident, this may be use of a mobile operations and communications vehicle, however for a large spill, specific facilities may be sought. See Logistics Technical Manual.

Note: Movement of equipment cross boarder will require a Cross Border Form to be completed. Reference WCMRC Cross Border Procedures Manual

4.3 Establish IMT and Appointment of a SRM

For larger, on-going spills, an IMT will be required, with all appropriate roles within the ICS organization filled, whilst for smaller scale incidents this structure will be reduced, see Section 5 RESPONSE ORGANIZATION. External personnel available are listed in Section 15 for quick reference, all contact details for all external partners are held in the contacts database. Nominated personnel for IMT roles are shown in Section 15.2 WCMRC Duty Roster with further detail in Section 5 RESPONSE ORGANIZATION.

Critical to establishing the ongoing response management structure will be the appointment of a SRM. The Spill Response Manager will be a member of Senior Management with the necessary skills, experience and authority to manage the WCMRC response to the incident in support of the Responsible Party's Incident Commander. WCMRC job roles considered for this position are given in, and Table 15.2 lists the names of trained WCMRC personnel available for different positions in an oil spill incident.

4.4 Initial Incident Brief

When an ICP is established and personnel have begun to gather the RP IC, WCMRC DO or SRM (if yet appointed) conduct an Initial Briefing for Command Staff, General Staff, and Government Agency representatives (see Table 4.2 and ICS 201 in Section 16.3.1). This then makes the start of the formal ICS planning process, see Section 7 PLANNING CYCLE.

The goals of the briefing are to:

1. Bring responders up to date on the facts known about the incident.
2. Clearly define the roles of the RP and RO team members.
3. Define critical issues that must be worked as priorities in each section.
4. Begin to define the overall objectives and strategies for the response.
5. Decisions and actions will be recorded on the ICS 201 (Section 16.3.1) until such a time that the first Incident Action Plan is approved and implemented.

Table 4.2 - Incident Briefing Agenda

INCIDENT BRIEFING AGENDA	
Current Situation	
☐	Incident type
☐	Location
☐	Scale
☐	Status
☐	Impacts to people, environment, property
☐	Safety issues – hazards, risks, mitigations
Current Response	
☐	Current objectives and priorities
☐	Current actions and progress
☐	Response organization
☐	Resources assigned
☐	Incident facilities established
☐	Any additional actions underway by the Responsible Party
Incident Potential – Possible Escalation	
☐	Planning assumption

INCIDENT BRIEFING AGENDA	
☐	Worst case
Plan	
☐	Objectives and priorities
☐	Planned actions
☐	Resources ordered
☐	Incident potential – planning assumptions, worst case
☐	Time of next meeting

Refer to Incident Management Handbook, Section 2 and ICS 201 in Section 16.3.1 of this document for further guidance.

5 RESPONSE ORGANIZATION

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
IMT Job Aids	Internal WCMRC Document	Follow this link to access electronic copies
The ICS Incident Management Handbook (IMH)	Internal WCMRC Document	Follow this link to access an electronic copy
External Roles and Responsibilities	N/A	See Section 13.1 External Parties Roles and Responsibilities
Related Emergency Plans, that dovetail with this OSRP	N/A	See Section 13.2 Related Emergency Plans and the Management System
Technical Reference Manuals	N/A	See Section 17.1 Technical References

USE OF THIS SECTION

The RO will depend largely on the type and size of the incident, therefore the WCMRC response structure must be flexible to adapt to each incident depending on the size and nature of the incident and the requirements of the RP and TC.

5.1 Overview of Response Management Structure

WCMRC uses ICS to facilitate the integration and coordination of various teams and its own personnel into its response operations. WCMRC full time employees may fill management and other key roles while other positions may be filled by contract personnel, see Section 4.1.3. Job descriptions and task descriptions for all the roles are included in the WCMRC IMT Job Aids which are available for review by all members and government agencies.

5.2 Command Integration

Unless unknown, unable or unwilling, the RP oversees the overall response and appoints an IC. The IC is responsible for the deployment of required resources and for providing the CCG with an acceptable plan of action. The CCG monitors response operations undertaken by the RP. WCMRC, therefore, provide the response resources required to contain, control, and recover the spilled oil whilst the RP or Lead Agency (LA) retains command and control of the response. WCMRC personnel will be able to assist with and provide advice on operations and technical issues. In addition to participating in all planning and debriefing meetings, and interfacing with

provincial and/or federal authorities, as needed. For smaller incidents WCMRC may be in sole control reporting only to the RP and CCG.

Response to a spill may include various personnel representing the following organizations:

- Polluter/RP
- RO
- TC
- CCG
- Provincial authorities
- ECCC
- Department of Fisheries and Oceans (DFO)
- First Nations
- Local municipal authorities
- Port authorities
- Wildlife organizations
- Contracted commercial response companies
- USCG
- Other impacted stakeholders

The following table provides clarity in the roles of the RP to those of the WCMRC SRM.

Table 5.1 - RP and RO Roles and Responsibilities, including in Unified Command

RP	RO - WCMRC
ICS roles: • IC • Public Information Officer (PIO) • Corporate RP legal • May fill other ICS roles but this is at the discretion of RP management	ICS roles: • SRM • Capable of filling all ICS roles requested by RP management (command staff/section chiefs and supporting roles) • All field operations
Notification of and continued liaison with the relevant First Nations	Provide support to RP on First Nation liaison
Overall IAP Approval	Development of a practical and executable plan
Management of Public Relations/Community and Corporate interface	Support for Public Affairs – technical info and tactics being implemented (Operations)
Management of Legal Issues	Input and Support to RP Legal Council
Management of Complaints, Claims, Compensation and Liabilities	Provision of Trained Staff – can arrange personnel on behalf of RP

RP	RO - WCMRC
Resolving Issues of Strategies and Priorities, in conjunction with Government Agencies and Stakeholders	Coordinate Government interface and provide resources and Personnel for Execution of Response Plan
Communicating Action Plans with RP legal, corporate management and local Government Authorities	• Development of coordinated IAP • Execution of Plan --- following Identified Priorities and Strategies
Management of Casualty	• Management of field Spill Clean up • Coordination of activities/response with Government Agencies, Consultants, and Contractors
Waste Disposal	Assist with Waste Plan, waste contractors
Environmental Affairs and Natural Resources Damage Assessments	Safety for WCMRC and subcontractors
Wildlife Management	Wildlife hazing/scaring. Assist with wildlife plan.
ICS roles, if RP chooses to. Must fill the IC and PIO role	All ICS roles for Spill Response Management
RP Role	Related WCMRC Action

5.3 WCMRC Management Structure.

The ICS management structure adopted by WCMRC provides a flexible response capability that can be adjusted to the magnitude of the incident. The Incident Command staff are activated and deactivated according to need. At the outset of any incident, all Incident Command response functions are initially vested in the DO and subsequently the SRM (in a small spill, the SRM might be the only management responder). When the SRM identifies the need for assistance, one or more Section Chiefs may be activated. The Section Chief(s) is expected to carry out all the functional responsibilities of the section until additional help is needed. Depending on the complexity of the incident, the Section Chief can activate one or more unit leaders, managers, supervisors and advisors.

The WCMRC SRM is in charge of the spill activities of the RO, however the RP should have overall incident command. It is possible, particularly for small spills or where the RP has little expertise that the WCMRC SRM will also act as IC. The SRM will likely communicate directly with the CCG Incident Commander or Duty Officer should the CCG assume control of the

incident response, or with the IC of the RP. Incident Command response functions are initially vested in the SRM (in a small spill, the SRM might be the only management responder).

Current contracts with WCMRC members allow WCMRC to implement best effort response procedures for the first 24 hours with a Dry Bulk Cargo vessel and Designated Oil Handling Facility and 48 hours for tankers without RP approval. After that, WCMRC will work to a plan approved by the RP.

The SRM and Section Chiefs have access to consultants and advisors who are recognized experts in the field of spill response. The SRM must regularly evaluate and address Incident Command needs. This may result in the activation of additional response personnel and equipment, the continued use of existing response personnel and equipment, or the deactivation of response personnel and equipment that are no longer required.

In evaluating the situation, the SRM will be guided by the three critical strategic considerations — people, the environment and property. Those strategic considerations would be met in consultation with the RP, the LA, as part of UC.

The WCMRC ICS is structured to address the following major functions that must be carried out in order to provide marine oil spill response services:

- Spill Response Management (SRM – WCMRC's IC, Liaison Officer (LNO), Safety Officer (SOFR), Legal Officer, Information Officer and Deputy SRM or Deputy IC)
- Operations
- Logistics
- Finance/Administration
- Planning

In a smaller incident for which WCMRC Response Level; 1 or Level 2 is adequate (see Section 3) the organization may be similar to that shown in Figure 5.1 – Small Scale WCMRC Response Organization. For larger incidents, a larger ICS structure may be required, Figure 5.2 – Full ICS Structure.

Roles and responsibilities for each of the response sections can be found in Section 8 BRANCH ROLES AND RESPONSIBILITIES, with a list of external contractor and available personnel found in **Error! Reference source not found.** for quick reference.

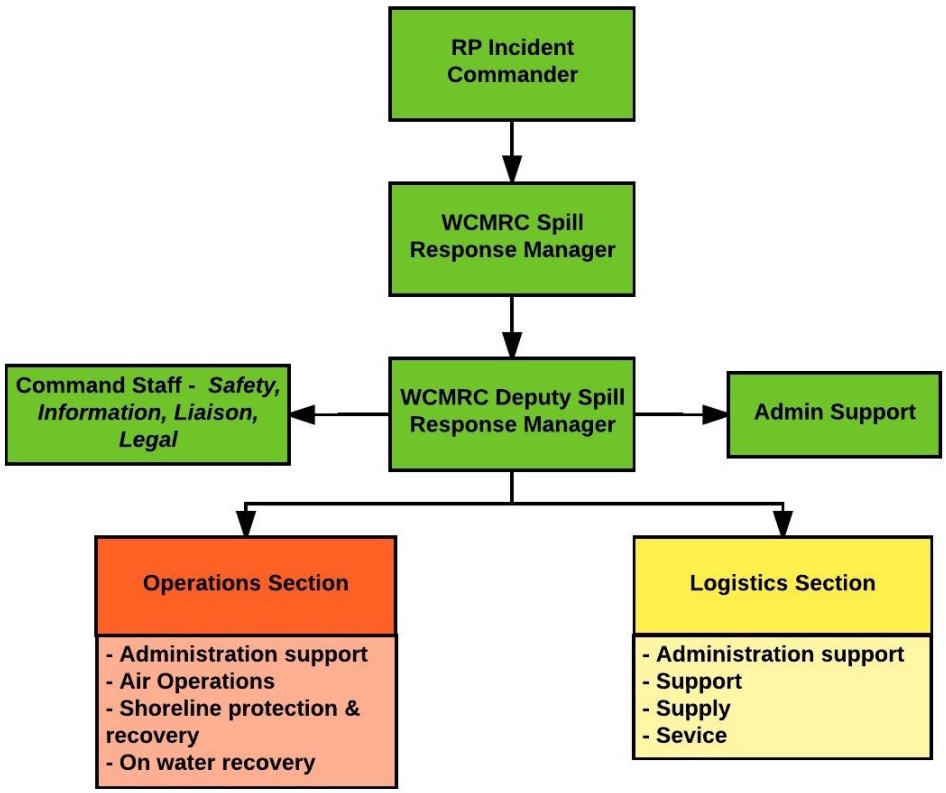

Figure 5.1 – Small Scale WCMRC Response Organization (e.g. Initial or Level 1/Tier 1 Response)

Figure 5.2 – Full ICS Structure (e.g. an ongoing Response Level or Tier 3/4 Response)

6 RESPONSE STRATEGY AND STRATEGY SELECTION

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
WCMRC Strategy Technical Manuals: • Monitor and evaluate • Dispersants/In-Situ Burn • At Sea Containment and Recovery • Shoreline Assessment - SCAT • Shoreline Clean up • Inland Response	Internal WCMRC document	Follow this link to access electronic copies
Technical Reference Manuals	N/A	See Section 17.1 Technical References
Equipment and Resource Summaries and Mobilization times	N/A	See Section 15.4 Equipment and Resources
Current WCMRC Equipment List	Internal WCMRC document	Follow this link to access an electronic copy XXX
Convergent Volunteer Plan	Internal WCMRC document	Follow this link to access an electronic copy

USE OF THIS SECTION

This section should be used to develop a justifiable response strategy to combat an oil spill. The use of Spill Impact Mitigation Analysis (SIMA), formerly NEBA (Net Environmental Benefit Analysis), is critical to ensure the most appropriate response; guidance is given on this process, together with an outline on the most common countermeasures that are used for oil spill response. For further reference see strategy specific Technical Manuals.

6.1 Spill Impact Mitigation Analysis (SIMA)

Spill Impact Mitigation Analysis (SIMA) is a process used to make the best choice of all the response options to minimize the impacts of oil spills on the environment and surrounding community. It involves consideration and judgment to compare the likely outcomes of using different oil spill response strategies. The steps in the SIMA process are outlined.

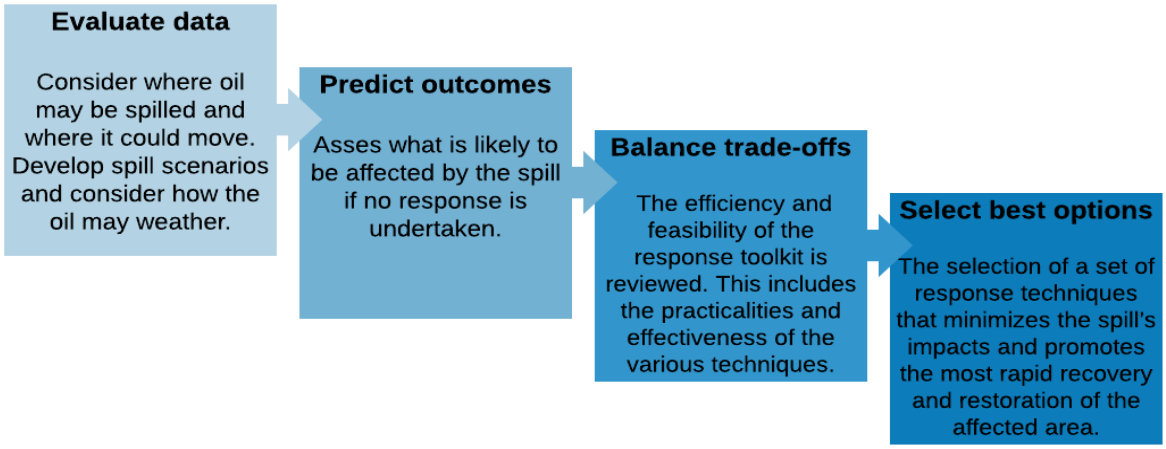

Figure 6.1– Spill Impact Mitigation Assessment (SIMA)

The following decision tree (Figure 6.2 - Response Decision Tree), should be used to support response strategy selection. It is likely that for a larger incident several strategies are used.

6.2 Decision Tree

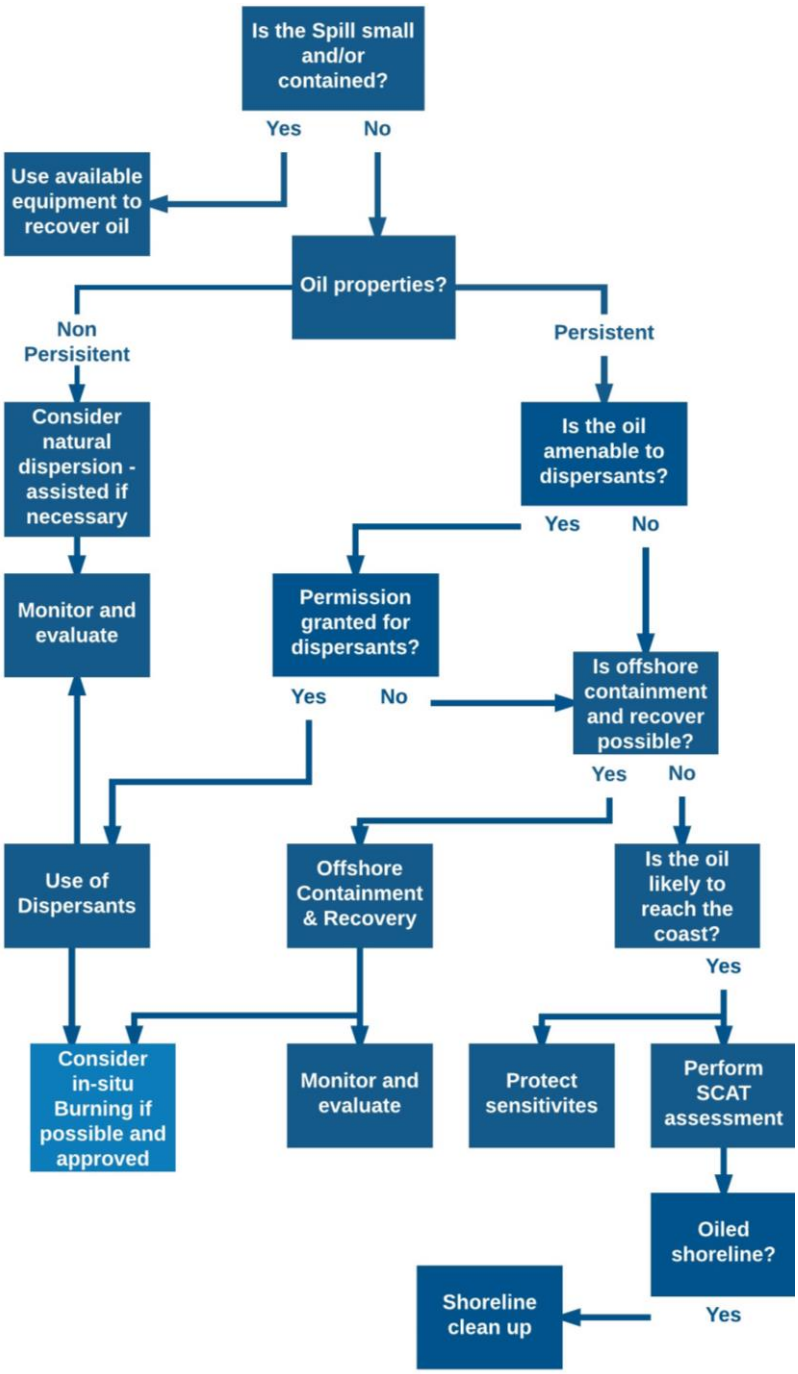

Figure 6.2 - Response Decision Tree

6.3 Countermeasures

The following information is given on each of the available countermeasures as guidance to responders, further information may be found in references given in Section 17

6.3.1 Monitor and Evaluate

All oil spills regardless of size and severity should be monitored as soon as possible, this may be from the shoreline or vessel, or ideally from the air. Continuous monitoring of a spill enables the following information to be collected for the IMT:

- Confirmation and verification of the location and extent of the spill
- An estimation of the volume
- An assessment of the effectiveness of response strategies and the location/type of resources
- High level survey of sensitive areas

Visual observation from the air gives the best quality information and data on the spill. Helicopters are best used for surveillance over near shore waters, where flexibility is an advantage and long range is not necessary. Over the open sea there is less need for rapid changes in flying speed, direction and altitude, therefore the speed and range of a fixed wing aircraft is more suited. Aerostats tethered to vessels or land bases can also be used to continuously monitor a slick or response operation. In addition, drones are increasingly used to monitor an oil spill in a specific location, this is fast and effective, although can only be used in line of sight for short time periods.

Remote sensing equipment mounted in aircraft or aerostats can be used to monitor, detect and identify sources of pollution. Remote sensors work by detecting properties of the sea surface; colour, reflectance, temperature or roughness. The most commonly employed combinations of sensors include Side-Looking Airborne Radar (SLAR) and downward looking thermal infra-red (IR) and ultra-violet (UV) detectors or imagining systems.

6.3.2 At Sea Containment and Recovery

Oil spill containment, protection, and recovery activities involve a wide range of hardware systems and techniques. A combination of booms, skimmers, and sorbents will likely be used. The decision to use specific containment and recovery techniques will depend upon the circumstances of the spill, the size, location and potential movement of the spill, the type of cargo spilled, geographic constraints, environmental conditions, and logistics, as well as the availability of equipment and human resources.

The most effective method of containing oil spills on water is to use floating boom. Several different types of boom have been developed for various applications including: fixed installations, harbour, coastal waters and open ocean. Each type of boom is designed for maximum performance under a specific set of wave, current, and wind conditions. Initial response actions should attempt to corral the oil, or limit the loss of oil from its source by containment booming, if safe to do so. Often, several barriers of boom may need to be used to adequately control the spread of oil. Use of other available materials, such as log booms and rafts, may increase the effective boom capacity for spill countermeasures. Similarly, a variety of recovery devices are available, each suitable for different oil types and circumstances, i.e. offshore, nearshore, harbour etc.

For containment and recovery to be successful, the oil slick must be located and the response deployed in an effective arrangement. The sea state and weather conditions must be calm enough for the response to function well and for the response personnel to operate any equipment with minimal health and safety risk (up to and including a Beaufort Force 4 only). The oil must also be amenable for containment and recovery using the skimmers available.

TC guidelines for on-water recovery stipulate that skimmer resources be identified to meet the recovery capability of the organization over a 10-day operational period. WCMRC maintains a skimmer inventory that meets the planning standards for on-water recovery of a 10,000-tonne spill in either the PAR or ERA, during this timeframe. Recovery equipment used to arrive at this planning standard, has been de-rated to 20% of its nameplate capacity, to ensure realistic estimates.

6.3.3 Shoreline/Sensitivity Protection

A priority in spill countermeasures is to minimize the possible impacts of the spill on human use and environmental interests. The Environmental Emergency Science Table EEST provides a mechanism whereby parties with interests and responsibilities for protection of the environment can provide input, recommendations, and guidance concerning environmental sensitivities and response priorities.

WCMRC has made a significant effort to collect, identify, and analyse sensitivity information for most of the sensitive resource areas in its GAR. WCMRC utilizes the sensitivity information to develop corresponding booming strategies known as Geographic Response Strategies (GRS). The objective of a GRS is to reduce decision making time during the initial response to a spill and help identify potential equipment needs. See Section 15.7 for more details.

In addition, the Oil Spill Response Information Service (OSRIS) database, maintained and being developed primarily through the BC Ministry of Environment (BCMOE) provides a sophisticated platform from which oil spill response planning can be conducted. Currently, the OSRIS

database provides hard cover and electronic atlases covering the Salish Sea (Strait of Georgia) and the southern half of Vancouver Island, Juan de Fuca Strait, and southwest Vancouver Island. Data has been gathered for the remainder of Vancouver Island, the northern Strait of Georgia, and most of the North Coast and Haida Gwaii. Under an arrangement between WCMRC and the Province of BC, custom resources and sensitivity maps for those areas not covered by atlases, can be produced for WCMRC in real time by provincial response staff. The atlases provide responders with critical spill response information that includes:

- Environmental and human use resources
- Relative sensitivities on a seasonal basis
- Shoreline videotape footage
- Suggested booming configurations
- Shoreline segmentation for survey and planning purposes
- Shoreline classification

Once identified response teams may use booms to prevent oil reaching a certain area.

6.3.4 Shoreline Clean-up Assessment Technique (SCAT)

Acquiring information on conditions at the time of a spill event is an important element in decisions concerning the type of response techniques that may be implemented during a spill. SCAT surveys provide data and/or technical advice for use in planning protection and clean-up countermeasures. The SCAT process generates information for the decision process. The SCAT team does not decide on treatment or clean-up methods but can identify operational constraints, such as ecological sites, cultural resources, or access considerations.

Priorities for shoreline assessment surveys may be determined using information from aerial surveys and pre-existing sensitivity atlases and databases. The shoreline is divided into working units called segments within which the shoreline character is relatively homogeneous in terms of physical features and sediment type. Segments should consider jurisdictional, land management, administrative and/or political boundaries.

WCMRC also has an in-house trajectory modelling capability (Applied Sciences Associates “OilMap”) which can be used in the event of a spill. Base maps for the system can be derived from digital charts and current, tide and wind data, as well as information about the oil spill, can be entered at the time of the spill. Some areas (i.e. the Burrard Inlet) have already had basic tidal currents entered and models could be run almost immediately in the event of a spill. The model can also be updated with real-time or observed data.

6.3.5 Shoreline Clean-up

In most instances, onshore clean-up efforts are not subject to the same time constraints as offshore or near shore response operations, so that it is usually possible to develop a strategy and operational plan. However, the longer oil persists on the shoreline the more it is weathered may become buried in sediments or stick to surfaces more firmly, it also poses greater harm to life. For these reasons, it is important to begin the clean-up of oil from contaminated shorelines as quickly as possible providing it is safe to do so.

However, clean-up of the affected areas is implemented as rapidly as possible to reduce the potential for remobilization of stranded oil, and the potential subsequent migration to clean shorelines. The assumptions are that approximately 500 m of shoreline is treated daily.

Shoreline clean-up will be coordinated with the Provincial and Federal Incident Commander (IC) representatives, with EEST's input. SCAT will take the lead in assessing shorelines, prioritizing them for clean-up, and suggesting appropriate techniques. The objective of the shoreline clean-up should be to remove as much oil as possible, while causing minimal extra damage to biotic communities and resources. The steps in clean-up are:

- Identify the extent of the problem (usually accomplished by SCAT field assessment surveys of the shore following oiling)
- Plan the clean-up in conjunction with the federal and provincial on-scene representatives and land-owners
- Conduct and monitor the clean-up

6.3.6 Inland Response

Containing spilled oil and then manually or mechanically recovering it is by far the most common inland response technique. The WCMRC response tool kit currently utilities deflection/diversion booming and/or exclusion booming in inland response. If the use of booms is considered, it should be noted that there are specific deployment tactics for their use in fast flowing waters. For oil stranded on freshwater shores, manual recovery of the oil is likely to be the dominant approach in many countries. The use of dispersants is typically limited to marine waters deeper than a specific minimum depth and beyond a specified distance from the coastline, where dilution can quickly mitigate the impact of dispersed oil and facilitate biodegradation; furthermore, dispersants are not usually formulated for use in fresh water and, as such, are much less effective in a fresh water context.

6.3.7 Dispersants

Chemical spill treating agents, dispersants, were developed for application onto oil slicks to result in the formation of oil droplets which subsequently disperse throughout the water column. Dispersing oil decreases the amount reaching shore. Adhesion is reduced, rapid dilution and biodegradation are promoted, and impacts are minimized. Dispersants must be used with caution since they can contain toxic components, or can increase the effective toxicity of the oil to certain aquatic life by promoting solution of petroleum hydrocarbons into the water column.

To meet the requirements of most SIMA processes spilt oil must be dispersed relatively quickly after release to reduce the risk of oil reaching sensitivities or the shoreline to warrant the use of chemical dispersion. The effectiveness of chemical dispersants on oil pollution should be continually monitored and the response terminated when dispersant application is no longer effective. The use of spotter aircraft is recommended to coordinate dispersant efforts, guiding vessels and aircraft to the areas of the slick most amenable to chemical dispersion. If the slick is significantly broken, weathered or has spread into a sheen over a very wide area the application of dispersant may prove un-pragmatic.

As chemical dispersants effectively disperse different oils with variable success its recommended that a basic field dispersant effectiveness test be performed beforehand. Continual visual assessment should shed light on the effectiveness of the dispersant. No change in the appearance of the slick, or if the dispersant runs off the oil in milky plumes, indicate that the application was unsuccessful.

The use of spill treating agents in Canada must be approved by Environmental Emergency Science Table (EEST) led by ECCC and approved by Unified Command and TC, as the LA for ship source spills.

6.4 Support Activities

6.4.1 Waste Management

Typically, the RP is accountable for waste disposal, wildlife rescue and rehabilitation and site remediation. They can, however, contract assistance from the RO.

Physical recovery of oil and oiled debris from the environment commonly produces volumes of waste much larger than the volume of the initial spill. After the oil waste is recovered, it must be recycled, reused or disposed of. The WCMRC Technical Manual/SOP on Waste Management provides further guidance. Appendix 6 of the BC Marine Oil Spill Contingency Plan, "Guidelines for Waste Disposal", also outlines the strategy, objectives, and authority for waste treatment/disposal. Additional information and guidance can be found in *Guidelines: Waste Management for Marine Oil Spill Response - British Columbia,* prepared for the BC Ministry of Environment and from the CCG.

WCMRC in each of its GAR has sufficient primary storage to maintain recovery operations of oil or oily-waste continuously for a 24-hour period; as well as secondary temporary storage to store at least twice the total 24-hour period quantity. See Section 15.4 Equipment and Resources, and links therein for further details.

WCMRC is required by the RO Standards to have liquid storage requirements for a 10,000-tonne spill in the Vancouver PAR. WCMRC can employ all of its storage resources including on-board storage (where applicable), as well as Burrard Cleaner No. 10 and Burrard Cleaner No. 17 (approximately 3,700t. total). Secondary storage is available in the form of contract barges. Additional resources are listed in WCMRC's online equipment list.

6.4.2 Wildlife

WCMRC maintains appropriate hazing equipment. If requested under the direction of the RP and with the appropriate approvals through ECCC's EEST, WCMRC will activate the equipment for the hazing and deterrence of wildlife from oiled shorelines, and if possible from oil on water. The EEST will guide WCMRC's bird hazing activities and locations. Hazing and rehabilitation of marine mammals requires special expertise and equipment, and thus, may be undertaken by organizations such as the *Department of Fisheries and Oceans*, and the *Vancouver Aquarium*. Contact details may be found in the CRM database.

Bird species respond differently to hazing techniques, and their behaviour is further influenced by the local geography. In recognition of this fact, WCMRC will consider EEST's advice concerning the target bird group and the area's geography before designing a specific hazing plan. Hazing techniques that may be used without permits from the provincial and federal

governments include propane cannons, boats, air horns, strobe lights, Mylar tape and all-terrain vehicles. In most cases, the use of pyrotechnics and aircraft require permit approval. WCMRC has nine identical hazing packages designed for rapid deployment in the GAR.

Kit contacts include:

- Hazing tools: Zon gun (propane cannon) and instructions; air horn; mylar tape; Safety circle measurement rope; Scary Eye Bird Distracters; Safety circle posts; Safety Circle instructions; hazing signs;
- Personal protective equipment (PPE): hard hats; eye protection; hearing protection; hearing protection signs; gloves; rain suits; safety boots; first aid kit; fire extinguisher; caution tape;
- Tools: deci-damps; zap straps; duct tape; multi-head screwdriver; sledgehammer; crescent wrench; exacto knife

Kit locations are:

- Burnaby: Breco buoy and Hazing kit (4);
- Hatch Point: Hazing kit (2)
- Prince Rupert: Hazing kit (2)
- Kitimat: Hazing kit (1)

WCMRC provides support to the Oiled Wildlife Society of BC (OWSBC), a group composed primarily of non-government organizations involved in oiled bird rehabilitation. The Society supports the West Coast Protocol in Oiled Bird Rehabilitation. WCMRC assists by being caretaker for two oiled bird response trailers. The equipment contained within the trailers is owned and maintained by the Society.

In the event of a spill response requiring wildlife operations, trained rehabilitation personnel and volunteers are activated by the RP with the assistance of EEST, the Canadian Wildlife Service (CWS) and the Province of BC. The RP must complete a rental agreement and receive the approval of 2 members of the OWSBC Board of Directors before equipment will be dispatched by the Society.

7 PLANNING CYCLE

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
The ICS Incident Management Handbook (IMH)	Internal WCMRC document	Follow this link to access an electronic copy
WCMRC IMT Job Aids	Internal WCMRC document	Follow this link to access electronic copies
Technical Reference Manuals	N/A	See Section 17.1 Technical References

USE OF THIS SECTION

This section should be used to guide the DO or SRM through the ICS planning cycle.

7.1 Overview

Table 7.1 and Figure 7.1 - The Planning P shows the response planning cycle which should be followed by the IMT. The DO will initiate the response - assessing, notifying and mobilizing within the first few hours. For Level 1 spills this may be all that is required, even if the response clean up continues for days or weeks. For larger spills, with more people and organizations involved, further planning cycles will be required. The steps in this process are described below.

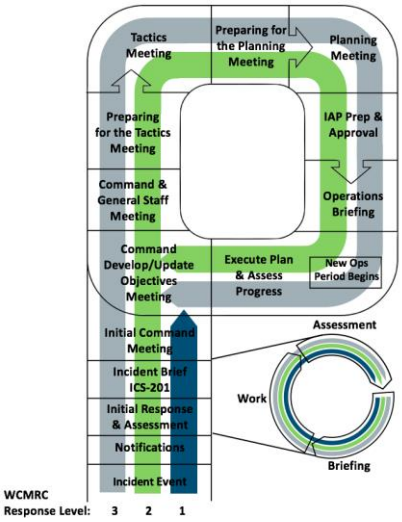

Figure 7.1 - The Planning P

Grey = Level 3, Green = Level 2; Navy = Level 1

Table 7.1 - The Planning P

Event	This is the initiation incident or event that triggers the response. It is usually an unexpected urgent occurrence, but can be a slower developing forewarned event e.g. incoming severe weather.
Notifications	If an incident occurs those directly involved should make the first level notifications; primarily to alert those directly affected. Complex or protracted incidents usually require notifications to regulators, supporting organizations and others. See Section 2 NOTIFICATION, for details of who to notify and the information requirement.
Assessment	First Responders need to gain good situational awareness to be able to make notifications and take initial actions, see Section 3 INCIDENT ASSESSMENT. Early assessments will be done rapidly and cover essential information under these headings: • Situation – what has happened and what is happening now? • Response – What is being done about it? • Incident Potential – Possible escalation? • Planning – what are the next things to be done? may be reported verbally. Subsequent assessments are crucial and should be documented and have increasing amounts of information. See 2.1.2 Initial Incident Information Form. Once established the IMT will need to regularly gather information from Field Operations as the incident progresses.
Initial Field Response	This is the major part of the reactive phase when initial field operations commence. The following should be considered by the IMT: • Field Operations Organization • Implementation of local response plan where possible • Site control • Site safety • Site Management • Communications

	• Application of ICS Current contracts with WCMRC members allow WCMRC to implement best effort response procedures for the first 24 hours with a Dry Bulk Cargo vessel and Designated Oil Handling Facility and 48 hours for tankers without RP approval. After that, WCMRC will work to a plan approved by the RP.
Initial Response IMT	The initial structure of WCMRC IMT is based on the known risk and ICS principles. The Key functions identified for are IC and Deputy, SOFR, LNO, Legal, Administration Support, Operations Section and Logistics Section. See Section 5 RESPONSE ORGANIZATION.
Initial Response – ICP	In the very early stages of an incident, SRM should establish a suitable ICP. This may simply be at a good tactical position or in some cases at a pre-determined location that has good access to information and communications. The facility must match the needs of the specific IMT and the structure/roles being used.
Incident Briefing	When an ICP is established and personnel have begun to gather, the RP IC or SRM will conduct an Initial Briefing for Command Staff, General Staff and Government Agency representatives – see Section 4.4 Initial Incident Brief. The goals of the briefing are to: • Bring responders up to date on the facts known about the incident • Clearly define the roles of the RP and RO personnel • Define critical issues that must be worked as priorities in each section • Begin to define the overall objectives and strategies for the response
Transfer of Command	Incident Brief ICS Form 201 helps to assist transfer of command to a new IC (the WCMRC SRM), this should follow a number of steps: 1) The incoming IC should, if possible, perform an assessment of the incident situation via a face-to-face briefing with the existing IC covering all ICS 201 agenda items and information.

	2) After this briefing, the incoming IC should take over or set a time for actual transfer of command. 3) Inform all relevant people and organizations of the change of IC. 4) The incoming IC may give the previous IC another assignment utilising their experience and knowledge of the incident.

7.2 Response Objectives

All response activities should be objective driven, with strategies and tactics developed to meet specific incident objectives. Incident objectives must be realistic, measurable and achievable. Experience has shown that in most incidents there are 10 common priorities for a spill response and they typically form the key objectives. These are outlined below as a guideline for the spill response team:

- Ensure the safety of response personnel and the public
- Control the source of the spill
- Manage a coordinated response effort
- Maximize the protection of environmentally sensitive areas
- Contain and recover the spilled oil/material
- Recover and rehabilitate injured wildlife
- Remove oil from impacted shoreline areas
- Minimize economic impacts
- Keep stakeholders informed of response activities
- Keep the public informed of response activities

7.3 Initial Response Phase

The Initial Response Phase (the leg of the P – see Figure 7.1 - The Planning P) starts with the initial notification to WCMRC that a spill has occurred, and ends at the beginning of the ICS Planning Phase. This phase includes Notification, Assessment, Mobilization and establishing the Incident Organization (see Sections 2, 3, 4 and 5 respectively for further information on the DO/SRM's role).

Further detail and guidance, in line with standard ICS process is given in Table 7.2 - The Initial Response Phase and in the IMH.

Table 7.2 - The Initial Response Phase

Event	This is the initiation incident or event that triggers the response. It is usually an unexpected urgent occurrence, but can be a slower developing forewarned event e.g. incoming severe weather.
Notifications	If an incident occurs those directly involved should make the first level notifications; primarily to alert those directly affected. Complex or protracted incidents usually require notifications to regulators, supporting organizations and others. See Section 2 NOTIFICATION, for details of who to notify and the information requirement.
Assessment	First Responders need to gain good situational awareness to be able to make notifications and take initial actions, see Section 3 INCIDENT ASSESSMENT. Early assessments will be done rapidly and cover essential information under these headings: • Situation – what has happened and what is happening now? • Response – What is being done about it? • Incident Potential – Possible escalation? • Planning – what are the next things to be done? and may be reported verbally. Subsequent assessments are crucial and should be documented and have increasing amounts of information. See 2.1.2 Initial Incident Information Form. Once established the IMT will need to regularly gather information from Field Operations as the incident progresses.
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Initial Response – ICP	In the very early stages of an incident, SRM should establish a suitable ICP. This may simply be at a good tactical position or in some cases at a pre-determined location that has good access to information and communications. The facility must match the needs of the specific IMT and the structure/roles being used.
Incident Briefing	When an ICP is established and personnel have begun to gather, the RP IC or SRM will conduct an Initial Briefing for Command Staff, General Staff and Government Agency representatives – see Section 4.4 Initial Incident Brief. The goals of the briefing are to: • Bring responders up to date on the facts known about the incident. • Clearly define the roles of the RP and RO personnel. • Define critical issues that must be worked as priorities in each section. • Begin to define the overall objectives and strategies for the response.
Transfer of Command	Incident Brief ICS Form 201 helps to assist transfer of command to a new IC (the WCMRC SRM), this should follow a number of steps: 1) The incoming IC should, if possible, perform an assessment of the incident situation via a face-to-face briefing with the existing IC covering all ICS 201 agenda items and information.

	2) After this briefing, the incoming IC should take over or set a time for actual transfer of command. 3) Inform all relevant people and organizations of the change of IC. 4) The incoming IC may give the previous IC another assignment utilising their experience and knowledge of the incident.

7.4 Proactive Response Phase

The Proactive Phase (the head of the P – see Figure 7.1 - The Planning P) follows on from the Initial Response Phase. This Phase is characterized by a set Operational Period and a planned approach to the spill response driven by development of the IAP. Many, if not most, of the required Command and General Staff positions have been filled and tasks will begin to become routine over the course of the Operational Phase. These are summarised in Table 7.3 and in the IMH.

Table 7.3 - The Proactive Response Phase

Command Objectives Meeting	In this meeting Command, will set response priorities, identify any limitations and constraints, develop incident objectives, and establish guidelines for the IMT to follow. Products from this meeting, along with decisions and direction from the Initial Command Meeting will be presented at the Command and General Staff Meeting.
Command and General Staff Meeting	Early in the Operational Phase, the IC will conduct meeting Command and General Staff. This meeting should clarify and ensure understanding of the decisions, directives, priorities, limitations, and constraints. The main items being presented is the objectives for the Next Operational Period (NOP) and any non-NOP specific functional tasks. The goals of the meeting are to: • Review latest status of incident • Reinforce safety as a priority • Brief General Staff on the status of the initial priorities • Reassess next steps, continue with initial response priorities, add additional ones and consider options

Preparing for Tactics Meeting	This period of time is for the IMT to convert the objectives given to them by command into strategies and tactics to be implanted in the NOP. The OSC and PSC firstly identify which sections or roles will be responsible for each objective. The OSC and PSC will ensure the relevant roles and sections work together where necessary to draft an ICS 234 - Work Analysis Matrix to identify and document the best possible strategies and tactics for each objective. ICS 215 - Operational Planning Worksheets can then be drafted detailing the tactics and resources needed, and subsequently the OSC can plan the Operations Section organization charts.
Tactics Meeting	This meeting is primarily for the OSC to share the planned operational activity and for the PSC to ensure they meet the objectives command have set. The SOFR will also present a ICS 215a - Hazard Risk Analysis to support the plan, as well as other IMT members presenting their draft products that will form the overall IAP.
Preparing for the Planning Meeting	This period of time is when the relevant IMT members finalise elements of the 'draft plan' that was discussed at the Tactics Meeting. The PSC is responsible for ensuring all the products to be used or discussed at the planning meeting i.e. any element that will comprise the overall IAP, are being finalised ready for presentation. In this time, it is often necessary to order resources and start writing ICS 204 - assignment lists to ensure the plan can be implemented when intended.
Planning Meeting	In this meeting the OSC, supported by Command staff and General staff, will present the proposed plan to Command for review and comment. The OSC will also briefly discuss how the incident will be managed along with work assignments and resources and support required to implement the proposed plan. This meeting provides the opportunity for Command and General staff to discuss and resolve any issues or concerns prior to assembling the IAP.
IAP Preparation and Approval	Appropriate IMT members must immediately complete the assigned tasks/products that must be included in the IAP. These products must meet the deadline as set by the PSC, so that planning can assemble the IAP components. The deadline must be early enough to permit

	timely Command review, approval and duplication of sufficient copies for the Operations Briefing. The IAP will be approved by the WCMRC SRM and the IC for the RP (under a response directed by the RP). For response under the CCG, WCMRC staff will provide advice to the IAP prepared by the CCG. Members or non-members representatives must also sign the daily work order authorizing the daily IAP.
Operations Briefing	This Briefing presents the IAP to the Operations Section oncoming shift supervisors. After this Briefing, has occurred and during shift change, off-going supervisors should consult their relief and OSC to validate the previous IAP's effectiveness.
Execute Plan and Assess Progress	Assessment is a continuous process to help adjust current operations and plan for future operations. Following briefing and shift change, all Command and General Staff Section Chiefs will review the incident response progress and make recommendations to the Command in preparation for the next Command Objectives Meeting.

7.5 Demobilization Phase

The Demobilization Phase or "Demob" for any position or function may occur at any time during the response. It typically occurs when a function, position, or resource is no longer required for the spill response. In some cases, this phase may begin before the resource is withdrawn from service

8 BRANCH ROLES AND RESPONSIBILITIES

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
WCMRC IMT Job Aids	Internal WCMRC document	Follow this link to access electronic copies
The ICS Incident Management Handbook (IMH)	Internal WCMRC document	Follow this link to access an electronic copy
Technical Reference Manuals	N/A	See Section 17.1 Technical References

USE OF THIS SECTION

Specific roles and responsibilities of each branch within the ICS structure can be found in this section. This section should be referred to by all section chiefs and command staff and provides initial clarity on the exact roles and actions each branch should be taking. Roles and responsibilities for each position can be found in the relevant IMT Job Aid.

The sections below outline specific branch roles for each of the phases of response namely:

1. Initial Response Phase - Section 7.3.
2. Proactive Response Phase - Section 7.4.
3. Demobilization Phase – Section 7.5

For quick reference Section 8.1 General Responsibilities gives an overview of WCMRC positions general responsibilities.

8.1 General Responsibilities

Command	• Establishes incident objectives and priorities. • Assumes overall responsibility for the incident. • Overall incident safety. • Scope of the response - vessel, terminal, marine and shoreline activities. • Effectiveness of response operations. • Business controls. • Establishes IMT and ICP if necessary. • Briefs Command Staff and Section Chiefs. • Ensures Planning Meetings are scheduled as required. • Final approval and authorization on equipment orders/releases. • Manages the demobilization of the incident when appropriate. • Authorizes the release of information to the media. • Maintain a log of all activities (ICS 214) and forward to Documentation Unit at the end of the shift.
Operations	• Determines tactics and resources for achieving objectives with Planning. • Maintains communication with all IMT members to enable them support Operations. • Organizes and manages all response assignments directed at containing and recovering spilled oil, protecting sensitive resource areas and treating impacted areas. • Carries out the response activities described in the IAP. • Maintains contact with operational field personnel. • Maintain a log of all activities (ICS 214) and forward to Documentation Unit at the end of the shift.
Planning	• Tracks resources. • Compiles and maintains documentation. • Develops strategies and tactics with Operations for the IAP. • Acts as the link between the IMT and any government technical groups, such as the EEST. • Collects, evaluates and displays incident information. • Maintains status of resources. • Compilation and preparation of status reports. • Facilitates tactical (short term) planning and strategic (long term) planning. • Prepares and coordinates strategies for a wide variety of functions, such as - storage and disposal of liquid and solid oily and non-oily wastes; conducting shoreline treatment assessment operations; and planning demobilization activities. • Interfaces with technical advisors and services supplied by contracted companies or by various governments, usually through EEST. • Maintain a log of all activities (ICS 214) and forward to Documentation Unit at the end of the shift.
Logistics	• Provides all support resources to keep the response activity at its peak performance. • Provides all support for purchasing, transportation, communications and security. • Keeps the equipment and the response personnel operational in the field. • Maintain a log of all activities (ICS 214) and forward to Documentation Unit at the end of the shift.

Finance/ Administration	• Accounts for expenditure. • Procures needed resources. • Sets up claims and compensation procedures. • Monitors all activities with respect to time and billing. • Provides the IC with regular, accurate and up-to-date reports on the response expenditures and commitments. • Tracks the receipt and distribution of resources, monitors costs and audits contractor attendance. • Maintain a log of all activities (ICS 214) and forward to Documentation Unit at the end of the shift.

8.2 Initial Response Phase Responsibilities

Command	• Identify and appoint SRM. • Establish incident objectives and priorities. • Assumes overall responsibility for the incident. • Briefs Command Staff and Section Chiefs. • Overall incident safety. • Authorizes the release of information to the media. • Share current organization information with the Planning Section.
Operations	• Ensure ICS 201 is accurate and complete before hand over to SRM. • Establish a Divisions Map to identify geographical divisions and operational groups. • Define and record all current work assignments underway on the ICS 201. • Work with the Planning Section and EEST to identify sensitives requiring protection. • Ensure that field air monitoring has been established by Safety and is underway prior to any operational response. • Ensure safety tailgate meetings are being conducted and documented for each operation. • Establish safety watch positions as applicable for the field. • Share current organization information with the Planning Section and Command.
Planning	• Work with Operations on an immediate plan to protect key sensitivities. • Establish the Planning Section (assign specific tasks and integrate resources, such as EEST. • Establish the Resources Unit. • Establish Incident Situation Display (ICS 209) and maintain up-to-date with latest information. • Establish media briefing schedule with Information Officer. • Define environmental sensitivities in the area with EEST. • Share current Planning Section organization with Command, and post a consolidated IMT Organization Chart.

Logistics	• Establish the ICP (e.g., venue, equipment and communications required). • Ensure there is a plan in place to feed and house all response personnel (ICP and the field). • Support all sections with their resource requirements (e.g., movement of equipment and people to scene, air surveillance etc.). • Establish Security and First Aid teams for ICP and the field. • Maintain a record of all equipment and personnel involved in the incident (location, time activated/ETA, etc.). • Share current organization information with the Planning Section and Command.
Finance/ Administration	• Establish an accounting system to record all costs incurred and projected. • Ensure you have a signed agreement with RO and an initial work order for the day. • Ensure funding is available and appropriate financial controls are in place to record expenditure. • Establish and communicate expenditure authority to Logistics. • Ensure there is a paper flow into the Finance/Administration Section, from the Logistics Section to record all resources and equipment deployed for the incident. • Establish financial counterpart with RO/RP (phone/fax numbers). • Share current organization in place with Planning Section and Command.

8.3 Proactive Response Phase Responsibilities

Command	• Assumes overall responsibility for the incident. • Overall incident Safety. • Effectiveness of response operations. • Business continuity. • Ensures Planning Meetings are scheduled as required. • Approves and authorizes equipment orders/releases. • Authorizes the release of information to the media. • Share current organization with the Planning Section. • Assign person(s) to interface with the other Section and manage the flow of information, if required.
Operations	• Continue to develop clear and concise response assignments. • Work with Planning to develop a Divisions Map. • Work with Planning to ensure the identified sensitivities have been addressed in the Initial Response Phase. • Conduct overflights (ensure that government agencies participate). • Execute the tactical plans that address the initial objectives and priorities developed by the integrated agency personnel, RP and WCMRC. • Coordinate and direct operational activities related to the response. • Ensure communications have been established between field operations and the ICP. • Develop tactical assignments to protect identified sensitivities. • Ensure storage and waste disposal capacity is adequate. • Decontamination and demobilization planning for personnel, equipment and vessels. • Share current organization with the Planning Section. • Assign person(s) to interface with the other Section and manage the flow of information, if required.

Planning	• Work with government and environmental groups to identify the environmental sensitivities for the area and determine possible countermeasures with Operations. • Provide an initial and ongoing assessment of the spill status - volumes, fate and effects and trajectories. • Obtain overflight information from Operations to incorporate in spill assessment. • Maintain Incident Situation Display and distribute information as required. • Develop the IAP. • Issue an environmental message to field teams (e.g. sensitivities), if required. • Identify and initiate a process for approval of waste disposal. • Collect and secure all incident response documentation prepared as part of the spill response process. • Collate the IMT current organization. • Assign person(s) to interface with the other Sections and manage the flow of information, if required.
Logistics	• Meet logistical needs of all Sections. • Develop and execute plans to supply the necessary support for both a short and long-term response. • Develop and maintain communications, site security and medical plans. • Share current organization with the Planning Section. • Assign person(s) to interface with the other Section and manage the flow of information, if required.
Finance/ Administration	• Document using an established system, the daily expenditures of the response organization. • Demonstrate that there is accountability for both monies and the required approvals for financial commitments. • Provide Command with up to date cost summaries and projections. • Establish financial counterpart with RO/RP (phone/fax numbers), if not already done so. • Share current organization with the Planning Section. • Assign person(s) to interface with the other Sections and manage the information flow, if required.

8.4 Demobilization Phase Responsibilities

Command	• Manages the demobilization of the incident when appropriate. • Overall incident safety. • Effectiveness of response operations. • Ensures planning meetings are scheduled as required. • Approves and authorizes equipment orders/releases.
Operations	• Review Demobilization Plan to determine operational impacts and work steps required to implement • Approve list of resources to be released from the incident. • Prepare a Shift Change Briefing document for incoming Section Chief. • Review and approve WCMRC worksheets for all WCMRC personnel employed in the Operations Section and forward to the Documentation Unit.

Planning	• Monitor implementation and assist in coordinating the Demobilization Plan. • Work with all General Staff to ensure that demobilized staff complete all reports, time sheets and exit surveys in coordination with the personnel unit prior to leaving the ICP. • Provide status reports to appropriate requesters. • Maintain a functioning Demobilization Unit until all resources have been demobilized and all Unit documentation has been turned in to the Documentation Unit and secured.
Logistics	• Work with the Demobilization Unit Leader and Branch Directors on a Logistics Demobilization Plan early in the incident so that a plan with the right priorities is in place before it is needed and submit to Planning. • Monitor daily and coordinate overall release of resources. • Update staff on plans for day and unit responsibilities. • Execute plan and demobilize all facilities, including ICP when applicable. • Ensure all applicable documentation has been forwarded to Finance for accounting purposes.
Finance/ Administration	• Ensure all outstanding issues have been addressed. • Ensure all documentation is packed and addressed appropriately for shipment. • Ensure process in place for continuing financial/administrative activities.

9 SAFETY

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
WCMRC Health and Safety Loss Control Manual	Internal WCMRC document	Follow this link to access an electronic copy
WCMRC Tailgate Safety Form	N/A	See Form in Section 16.4

USE OF THIS SECTION

Information of site safety and safety assessment can be found within this section. It should be used to guide the SOFR through steps to be taken to manage safety, and site procedures to be followed. All WCMRC operations should be conducted in line with the Health, Safety and Loss Control (HS&LC) Manual.

9.1 Initial Safety Incident Assessment

Safety is a critical part of response and will be considered by WCMRC response personnel for all types and sizes of response. This is reflected in the consideration of safety through all stages of the Incident Management Planning Cycle.

The initial information gathered about the spill will determine on a preliminary basis if it is safe to commence the response. Factors to consider, include but are not limited to:

- The type of product
- Availability of SDS for the product
- The operating environment
- Weather conditions
- Marine conditions

The DO, together with the Health and Safety Manager if available and any on site personnel, will consider these factors, together with information gathered by first responders on site to assess the feasibility of operations. Other factors which should be considered are:

- Fire/explosion risk
- Presence of Hydrogen sulphide or other harmful gases
- Toxicity
- Slips trips and falls
- Manual handling of equipment

- Weather
- Natural environment – access, egress, tidal patterns, currents

This safety assessment must be conducted before an oil spill responder enters the spill site and an initial spill site safety assessment (Tailgate Safety Form, see Section 16.4) must be conducted to determine potential hazards. Permission to enter the spill site without conducting an initial spill site safety assessment may be granted **ONLY** by the DO/SRM.

If an initial site assessment has been conducted by the RP or a third party contracted by the RP or a government agency, these results can be used in lieu of spill responders conducting their own assessment, if approved by the DO/SRM.

If the initial spill site safety assessment indicates a high risk of exposure the on-call DO must approve and enforce stricter atmosphere testing and appropriate PPE use.

9.2 Site-Specific Health and Safety Plan

As the response moves into a proactive phase a Safety Officer will be appointed as part of the IMT. The Safety Officer will then develop more detailed Site-Specific Health and Safety Plans (SSHP) for each operated site. In addition, each new site will now require a full SSHP prior to operations. A SSHP will include:

- Incident information
- Site information
- Meteorological and marine conditions
- Status of response personnel resources
- Hazards evaluation
- Personal protection equipment requirements
- Decontamination sites
- Health and Safety logistical support
- First Aid/Medical Aid stations/contact numbers
- Site control

The SSHP is a development of the Tailgate Safety Form (see Section 16.4) which is used to make the initial safety assessment.

9.2.1 Site Control

Access control to the spill site will be established as soon as possible to limit the risks of inadvertently entering an area that is dangerous to responders. Immediate assessment of personnel hazards, injuries or emergencies to health is the first step in response.

The SOFR and counterparts will establish a zone of safety around the spill, and only persons authorized for clean-up work will be permitted in this zone. The perimeter of this zone will be well beyond vapour, fire or explosion danger. Factors that influence safe distances are: type of petroleum spilled (i.e., vapour density/pressure, specific gravity), quantity and rate of release, wind speed and direction and temperature. This area will be referred to as the "spill zone" and will be clearly defined in the Site-Specific Health and Safety Plan.

9.2.2 Safety Orientation of the Site Assessment Team

The Site Supervisor will hold a pre-job safety meeting to review the safe work procedure with all personnel onsite. This will reflect the Tailgate Safety Assessment Initially, and then the full SSHP as this is developed.

PART B – PREPAREDNESS

10 TRAINING

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Training Matrices for WCMRC personnel and vessels	N/A	See Section 15.3 WCMRC Training Matrix
Internal Training Requirements	TRN-CE-Internal Training	Follow this link to access an electronic copy
Current WCMRC Training Record	Internal WCMRC document	Follow this link to access an electronic copy
Contractor Training Record (matrices)	Internal WCMRC document	Follow this link to access an electronic copy
External Training Organizations Contact Details	Internal WCMRC document	Follow this link to access an electronic copy and CRMS

USE OF THIS SECTION

This section describes the training requirements of WCMRC's personnel and key support contractors. This information may be used by the DO or SRM, to determine the skilled personnel available to support a response.

10.1 Overview

Training and Development is overseen by the WCMRC Training and Development Manager, with support from the Training Coordinators, Manager of Health and Safety, and Senior Operations Personnel. Additional employee experience is also gained through attendance at third-party sponsored training, participation in oil spill incidents and/or oil spill exercises (see Section 11) and other on the job activities.

Training is typically a blend of classroom and hands-on practical workshops designed specifically to build the knowledge, competence and levels of confidence required to operate safely, effectively.

10.2 Training Categories

The WCMRC training plan is designed to meet the needs of both WCMRC full time and part time employees, with contractor support.

WCMRC Employees

WCMRC employees perform daily duties and complete an extensive program of ongoing professional development to ensure that the organization is continually in full response readiness mode. Employee training plans are based on the needs of roles within the company and, the particular responsibilities of the responders. WCMRC's competency based training program involves learners in classroom based theory sessions, self-guided and instructor led skill development workshops, and practical, hands-on field operations. See Section 10.3.1 for details on the various training courses. See Section 15.3 for WCMRC Training Matrices.

Coastal Response Program Partners

In an incident WCMRC may call upon the support of external contractors. This decision will be made by the SRM.

Contractors may include:

- Coastal Response Program Partners
  - Vessels of Opportunity, including Fishing Vessels
  - Mutual Aid Partners
  - Field Contractors (i.e. skippers, deckhands or supervisors)
  - General Labourers
  - Subject Matter Experts
  - Administrative support
  - Dedicated wildlife response services

These contractors require specific training. Courses are offered several times a year, see Section 10.3 for details.

10.3 Training Requirements

Training paths have now been identified for personnel that are specific to the bases, vessels/assets, and their roles and responsibilities.

WCMRC's training and development program will be reviewed and adjusted annually to ensure that the training provided meets or exceeds operational and regulatory requirements. Listed below are the key steps addressed to ensure completeness within the program.

- Identify the unique roles required at all bases
- Identify knowledge and competencies required in these key roles

- Develop specific, clear and measureable learning objectives
- Develop detailed lesson plans
- Develop measurement tools
- Develop critiques and debriefs
- Identify relevant content to support learning objectives
- Develop support materials
- Develop qualification standards
- Develop and administer evaluation processes (tools and documentation) at Kirkpatrick's level 1, 2 and 3.

10.3.1 Internal Training

This section details the key internal training courses undertaken by WCMRC employees and certain associated contractors.

A) Responder Training Program

This course provides operator level personnel with the knowledge and skills to safely respond to spills through both classroom and field training.

Theory Session - Topics covered:

- Introduction: WCMRC; Membership
- Potential causes of marine spills
- Oil and water characteristics
- Initial spill site safety assessment
- Responder health and safety
- Product recovery
- Product storage
- Decontamination
- Oil spill impact
- Responsibility
- HAZWOPER[1] – 8-hour refresher

On-water Hands-on Practice Session Topics covered:

- Tailgate Safety Meeting
- Response Equipment Demonstration, Deployment and
- Temporary storage of recovered product
- Skimmer deployment
- Boom deployment
- Debrief

[1] HAZWOPER Training: All WCMRC employees and contractors potentially required to participate in a cross-border spill within the U.S. undergo HAZWOPER training to meet U.S. requirements.

- Demobilization: clean-up; refuelling; storage

Equipment Operations Training

WCMRC operations personnel (internal and associates) must complete extensive equipment operations training, including but not limited to:

- Radio operations
- Respirator use
- Air monitoring
- Shoreline flushing
- Booming
- Floating bladders and other
- Communication Skills
- Vessel safety and marine emergency duties
- Vessel operation
- Skimmers, including vessels
- Confined space
- Fall protection
- Staging area setup
- Respectful Workplace
- Leadership skills for all personnel in leading positions
- Various health and safety specific courses

B) Advanced Oil Spill Control Course

The Pacific Northwest Oil Spill Training Seminar, has a focus on the Northwest's specific considerations (e.g. cold water, large tidal fluctuations with resultant swift tidal currents, other local challenges). This course is held annually in Washington State and is sponsored by the U.S. Coast Guard and response organizations from the U.S. and Canada. On average 2-3 WCMRC oil spill technicians attend this 5-day intensive training.

Morning sessions are devoted to classroom instruction and afternoon sessions to hands on field demonstrations and practice. The practical exercises simulate response technologies, products and techniques outlined in local contingency plans.

Topics covered include:

- Properties of oil/movement of oil
- Site assessment/site characteristics
- Air monitoring
- Containment strategy, boom
- Shoreline types
- Sorbent media and techniques
- Mechanical recovery
- In-situ burning, spill treating agents
- Waste management/ disposal
- Open water recovery strategies
- Helicopter safety
- Shoreline clean-ups, environmental trade-offs
- Field monitoring techniques
- MSDS – Hazardous identification
- Confined space
- Site safety planning
- Vessel deployment
- Communications

- HAZWOPER – 24-hour

C) Shoreline Supervisor Course

This course provides field supervisory level personnel with the knowledge and skills to safely respond to and lead a spill response on a shoreline.

Topics covered include:

Health and Safety

- Basic safety rules
- Aircraft safety
- Workplace risk assessment
- Shoreline Clean-up
- Organization
- Span of Control
- Recognition of oil on shorelines
- Appearance/ persistence of oil
- Use of sorbent materials

Strategy

- Mobile oil
- Sandy beaches
- Rocky shores
- Salt marshes
- Muddy coast
- Estuaries
- Small islands and deltas
- Fjords
- Storage
- Termination of clean-up

D) Incident Command System (ICS) - Levels 100/200/300

These courses provide personnel with a practical understanding of the ICS, a standardized system for managing responses to events and emergency incidents. The skills learned during this training are then applied and practiced through WCMRC's table top exercises (see Section 11).

Topics covered include:

- Principles and features of ICS
- The Initial Response Phase
- Command Structures and Span of Control
- Incident Command Post Facilities
- Communication and Information
- Transition to Proactive Planning
- Management by Objectives
- Identifying Goals, Objectives
- ICS Meetings and Agendas
- Preparation for the Tactics and Planning Meetings
- Incident Resource Managements
- Developing incident action plans
- Using ICS forms
- Transfer of Command
- Demobilisation and Incident Close out

E) Workplace Hazardous Materials Information System (WHMIS)

This WHMIS online course covers the elements of the Workplace Hazardous Materials Information System and focuses on working with petroleum products.

Topics covered include:

- Overview of WHMIS
- WHMIS labelling
- Personal protective equipment
- Emergency actions
- Special situations

F) Shoreline Clean-up Assessment Team (SCAT)

This course covers the real-time assessment of affected shorelines.

Topics covered include:

- Four-step SCAT process
- Aerial surveys
- Monitoring programs
- Shoreline segmentation
- SCAT terminology
- Ecological/cultural issues
- SCAT team personnel
- Ground assessment surveys
- Safety plans and precautions
- Shoreline oiling summary form
- Describing shoreline oiling
- Shoreline protection and clean-up

G) Other Internal Training Courses

Other internal training courses that are undertaken by WCMRC response personnel are listed below:

- Aerostat Operator
- Drone Operator
- Aerial Surveillance
- Information Officer Training
- Making the Media Work for You
- Oil Spill Response Logistics Basic and Advanced Support
- Instructional Skills
- Oil Spill Incident Assessment
- Remote First Responder
- Oil Spill Decontamination
- Introduction to Booming Techniques and GRS
- Introduction to Skimming, Recovery and Temporary Storage

- Restricted Operator Course, Marine / Marine Commercial / Aeronautical
- ArcGIS
- OILMAP
- Shipping Industry
- Health and Safety Program
- Forklift Operator Safety
- Science of Oil
- HAZWHOPER (24 hrs. and
- Swiftwater Operations
- Critical Incident Stress Management
- ICS 400
- Indigenous Awareness
- Indigenous Consultation and Engagement Training
- Working Effectively with Indigenous People
- Introduction to Working in the Oil Industry
- Western Response Resource List
- Oil Spill Response Course 1 – 4, for 500T, 150T and 60T Master and
- Oil Spill Response Vessel Deckhand
- Oil Spill Barge Crew
- Small Vessel Machine Operator
- Outboard Engine User Maintenance
- Small Craft Coxswain
- Crane Operator and Practical Rigging
- Pumps, Small Equipment and Trailers
- Oil Spill Communications
- Confined Space Course
- Air Quality Sampling
- Marine Emergency Duties (various)
- Marine Basic and Advanced First Aid
- Occupational First Aid 1 and 2
- Duty Officer
- Introduction to Emergency
- Oiled Wildlife Response Planning
- Medium Vehicle and Trailer Operations
- Large Vehicle and Trailer Operations
- Logistics Coordinator
- Warehouse Operations
- Oil Spill Response Vessel Engineer 1 – 2 (2^{nd} and 3^{rd} class)
- Oil Spill Barge Master
- Boom Vane Training
- Small Vessel Operator Proficiency
- Pressure Washer Training

Response personnel training is based on their specific roles responsibilities and requirements.

10.3.2 External Training

All WCMRC external contractors and partners (i.e. VOO crew, SCAT team members) are required to successfully complete mandatory courses, prior to involvement in an exercise or response. The exact requirements are determined by the job role and responsibility.

The Basic Oil Spill Responder Training Course

For field contractors and VOO crew, WCMRC has developed applicable course material that covers the basic concepts of spill response as well as the duties that contractors could be called upon to perform in a spill situation. The course is a combination of theoretical and practical deployments.

WCMRC has developed applicable course material that covers the basic concepts of spill response as well as the duties that contractors could be called upon to perform in a spill situation. The course is a combination of theoretical and practical deployments.

Courses are offered several times a year, all VOO members should attend at least one session every three years. Many members attend annually. To ensure exposure remote responder training is also offered in many communities throughout Coastal British Columbia.

Additional Training Opportunities

As needs are identified, or upon request, WCMRC can design and present bespoke additional courses for staff, contractors, members and the marine community.

10.3.3 Training Providers

WCMRC engages the following individuals/organizations to provide training, as required.

Supplier	Courses
WCMRC	Shoreline Supervisor Course
EnviroEmerg Consulting (Stafford Reid)	SCAT, ICS all levels
HAZMASTER	Respirator Fit Testing & Training
Canadian Emergency Services	Safety, First Aid, Transportation Endorsement, Marine First Aid
Danatec	WHMIS, (Web based interactive training)
Global Stratagem Consulting	ICS 100, HAZWOPER
Riverspill	River and inland spills, oil spill response, boom vane
Counterspil Research Inc.	Land/River Spills, Countermeasures, Contractor training
St. John Ambulance	Level 1 First Aid
Heads Up Navigation, Sidney (Linda Head)	SVOP, MED A3, Radio Operations
Northwest Power Boating	SVOP, MED A1 and A3
Western Maritime Institute	60-tonne Master Limited
Safety Ocean Systems (SOS)	60-tonne Master Limited, SVOP, MED A1 and A3

Supplier	Courses
Polaris Applied Sciences	SCAT
Justice Institute of BC	ICS
Seapro	Hazwopper
SpillConsult Ltd	ICS, Aerial Surveillance, IMO, SCAT, and exercise development and delivery
BCIT Marine Campus	SVMO

10.4 Training Records and Maintenance

WCMRC uses AVANTI, an electronic database to record internal training records, and CRM to track contractors' training records. The Training and Development Coordinators maintain these records. The databases functionality includes, but is not limited to, sorting and filtering data by individual, by ICS position, by equipment and by course. Records are available for review by regulatory authorities on request.

11 EXERCISES

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
WCMRC Internal Exercise Reports	N/A	Follow this link to access an electronic copy
External Exercise Reports	N/A	Follow this link to access an electronic copy

USE OF THIS SECTION

This section describes the exercise requirements of WCMRC's personnel and key support contractors. This information may be used by the DO or SRM, to determine the skilled personnel available to support a response.

11.1 Overview

The WCMRC oil spill exercise program was developed to evaluate the effectiveness of internal procedures, equipment, personnel and resources; for ship-based, oil handing facilities and/or coordinated incidents with the CCG. Exercises may be conducted with WCMRC personnel alone, in cooperation with a member and/or with government agencies or organisations.

The exercise program ensures members have uninterrupted access to marine spill response services 24 hours a day, 7 days a week. A combination of exercises and drills are used to evaluate and assure WCMRC preparedness. The overall objective of the exercise program is to:

- Demonstrate the operational capability of WCMRC equipment, management and responders
- Further the training of WCMRC personnel, advisors and spill responders – by enhancing and demonstrating skill development
- Identify areas within the ICS, training programs and response protocols that can be improved

The oil spill exercise program is carried out over the three-year period that commences the day that WCMRC's certificate of designation as an RO is issued.

11.2 Exercise Categories

To ensure the above program objectives are met, a number of exercises are conducted over the three-year plan cycle, at varying frequencies. There are 3 main types of exercises:

- Notification
- Equipment deployments
- Table-top

11.3 Exercise Requirements

Each exercise has a different emphasis and set of objectives that are selected to provide guidance in the design. The exercise types, objective, and frequencies are outlined in Table 11.1.

Table 11.1 - Exercise Types, Frequencies and Objectives

Exercise Type	Frequency	Objectives
Notification Tier 1 Exercise	Quarterly	To verify the notification and callout procedure for members of WCMRC's Response Management Team and the spill response contractors in the area. This exercise may be replaced by a spill event that occurs within the Quarter.
Equipment Deployment Tier 1 Exercise in a Designated Port, up to 150 tonnes	Annual	To demonstrate initial response capability, utilizing a defined scenario, of WCMRC equipment in a designated port. This exercise will include the activation of members of the response team, and the deployment of a representative sample of WCMRC equipment. This exercise may be replaced by a spill event that occurs within the calendar year.
Table-top Tier 2 Exercise in a Designated Port or GAR, up to 1,000 tonnes	Annual	To demonstrate the response capability, utilizing a defined scenario that includes notification, spill assignments, and the activation of spill management personnel for a managed response to a spill of up to 1,000 tonnes.
Equipment Deployment Tier 3 Exercise in a Designated Port or GAR, up to 2,500 tonnes	Every 2 Years	To demonstrate the response capability, utilizing a defined scenario that includes notification, spill assignments, the deployment of a representative sample of WCMRC equipment, and may include spill management personnel for a managed response to a spill of up to 2,500 tonnes.

Exercise Type	Frequency	Objectives
Table-top Tier 4 Exercise, up to 10,000 tonnes	Every 3 Years	To demonstrate the response capability, utilizing a defined scenario that includes notification, spill assignments, and the activation of spill management personnel for a managed response to a spill of up to 10,000 tonnes.

11.3.1 Response Functions Exercised

Over the three-year certification period, the program exercises a total of 14 response functions in at least one exercise. As recommended in the CCG National Exercise Program (NEP), not every function is involved in each exercise.

The response functions demonstrated are:

- RO activation
- Contractor notification/activation
- Situation analysis (e.g. trajectory modelling)
- Site safety and health
- Incident Management
- Logistics
- Equipment deployment (e.g. containment and recovery, storage, protection of sensitive areas)
- Communications
- Strategy development
- Shoreline assessment and clean-up
- Alternative countermeasures assessment (e.g. in-situ burning, dispersant)
- Wildlife Hazing
- Financial Management/Documentation
- Decontamination

In addition, although not responsible for, WCMRC may support a RP in the following functional areas:

- Waste Management
- Oiled Wildlife
- Media and Public Relations

To demonstrate that a response function is tested, an exercise has a number of associated objectives to be completed. Table 11.2 outlines these for each exercise.

Table 11.2 - Response Functions Objectives and Frequency of Exercise

Aim	Tier 1 Quarterly Notification	Tier 1 Annual Equipment Deployment	Tier 2 Annual Table-top	Tier 3 Bi-Annual Equipment Deployment	Tier 4 Tri-Annual Table-top
To demonstrate the competency of the 24-hour paging system and response by the on-call WCMRC Duty Officer.	■	■	■	■	■
To demonstrate the availability and capability of WCMRC's spill response resources.	■	■	■	■	■
To demonstrate the notification procedures.	■				
To demonstrate after-hours notification (once in a calendar year). A real spill may be substituted.	■				
To demonstrate the functionality of the telephone and/or paging equipment being used.	■				
To demonstrate the quality of the initial information gathered.	■		■		■
To demonstrate the ability of response staff in the implementation of the initial response strategies and, where applicable, the integration into the RP's organization.		■	■	■	■
To demonstrate that WCMRC's spill response contractors are able to carry out specific field assignments (determined as part of the spill strategy).		■	■	■	■
To demonstrate the ability to develop operational Divisions and Groups to support specific field assignments.		■	■		■
To establish an initial WCMRC Incident Command Post (ICP), where the latest incident status is readily available. This may be part of a members' ICP.		■	■		■
To establish support services for an operational response through a logistics section.		■	■	■	■

Aim	Tier 1 Quarterly Notification	Tier 1 Annual Equipment Deployment	Tier 2 Annual Table-top	Tier 3 Bi-Annual Equipment Deployment	Tier 4 Tri-Annual Table-top
To deploy a representative sample of WCMRC equipment.		■		■	
To establish an incident management team to manage a long-term response. Include Command Staff, Operations, Planning, Logistics and Finance roles.			■		■
To develop a trajectory model for the defined scenario/incident.			■		■
To demonstrate the identification and protection of sensitive areas.			■		■
To establish a security and check-in system for personnel.			■		■
To manage a coordinated response effort that includes integration with Environmental Emergency Science Table (EEST), government agencies, and stakeholders.			■		■
To demonstrate the documentation process.	■	■	■	■	■
To demonstrate the assessment of countermeasures in cooperation with government agencies.			■		■
To demonstrate the ability of WCMRC to staff a second shift and all supporting functional roles.			■		■
To demonstrate the development of an Incident Action Plan (IAP).					■

WCMRC Spill Experience

Response to spill incidents provides the most valuable demonstration of the WCMRC response capability. Consequently, actual response to spill incidents may be substituted for an exercise at the request of the Response Organization Manager, and with the agreement of TC.

In all cases, substituted exercises and/or spill events, will be accompanied by the appropriate documentation for review by TC at their request.

11.3.2 External Exercises

WCMRC endeavours to participate in as many exercises as possible, to gain practical and ICP experience. Staff may be involved in external exercises - with members, CCG, TC and other government or external agencies. Partaking in external exercises enhances relationships and aids in the swift integration of WCMRC into the Responsible Party's organization should a real incident occur. Participation in these exercises may be substituted for some WCMRC internal exercises, at the suggestion of the Response Organization Manage, and with the agreement of TC.

11.4 Exercise Records and Documentation

To demonstrate that the objectives established for each exercise are met, WCMRC documents each exercise. The documentation is filed internally and made available for review by TC, upon request. The documentation required for each type of exercise is detailed in Table 11.3. Additionally, WCMRC complete an exercise documentation form that summarizes the results of each exercise. This form was developed in conjunction with TC.

Table 11.3 - Exercise Documentation Requirement

Exercise documentation	**Tier 1** Quarterly Notification	**Tier 1** Annual Equipment Deployment	**Tier 2** Annual Table-top	**Tier 3** Bi-Annual Equipment Deployment	**Tier 4** Tri-Annual Table-top
Notification exercise and WCMRC Contractor Verification Form	■				
Incident Report	■	■	■		■
Communications Plan		■	■	■	■
ICS forms - depending on the exercise		■	■	■	■
Work Assignments		■	■	■	■
Site Specific Health and Safety Plan (incl. Tailgate Safety Briefing)		■	■	■	■
Divisions and Groups		■	■		■
Work Order			■		■
Objectives for initial operating period			■		■

Exercise documentation	**Tier 1** Quarterly Notification	**Tier 1** Annual Equipment Deployment	**Tier 2** Annual Table-top	**Tier 3** Bi-Annual Equipment Deployment	**Tier 4** Tri-Annual Table-top
Initial and Ongoing Incident Assessment and Prioritization			■		■
Complete status boards and ICS 209 resource summaries			■		■
Financial projections and summaries for the RP			■		■
Security Plan			■		■
Waste Management Plan			■		■
Organizational Chart and Second Shift Plan					■
IAP for the first operating period, including all supporting documentation					■
Debrief Document		■	■	■	■
Exercise evaluation	■	■	■	■	■

12 WCMRC MEMBERSHIP

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Membership List	Internal WCMRC document	Follow this link to access an electronic copy see CRMS for contact details
Ship (Bulk) Oil Membership Agreement	Internal WCMRC document	Follow this link to access an electronic copy
Ship (Non-Bulk Oil) Membership Agreement	Internal WCMRC document	Follow this link to access an electronic copy
Third Party Contract	Internal WCMRC document	Follow this link to access an electronic copy
Contractor Agreement- Equipment and Personnel	Internal WCMRC document	Follow this link to access an electronic copy
General Work Contract	Internal WCMRC document	Follow this link to access an electronic copy
Contract for Support/Advisory Services	Internal WCMRC document	Follow this link to access an electronic copy
ECRC/WCMRC Operational Management Support Agreement	Internal WCMRC document	Follow this link to access an electronic copy
Mutual Aid Agreement – Marine Spill Response Corporation	Internal WCMRC document	Follow this link to access an electronic copy
Mutual Aid Agreement – Southeast Alaska Petroleum Resource Organization	Internal WCMRC document	Follow this link to access an electronic copy
Mutual Aid Agreement – Association of Petroleum Industry Cooperative Managers	Internal WCMRC document	Follow this link to access an electronic copy
Chamber of Shipping of British Columbia-Agency Agreement	Internal WCMRC document	Follow this link to access an electronic copy
Current WCMRC Membership Fees	N/A	http://wcmrc.com/membership-fees/

USE OF THIS SECTION

This section details the role of the WCMRC User Group Committee, types of memberships and explanation on the membership fees.

12.1 Members

Members of WCMRC include oil refining and marketing companies, deep-sea ships, and coastal tug and barge operators. Members may be owners or operators of oil handling facilities, tankers larger than 150 gross tons, or vessels larger than 400 gross tons, that require an agreement with a RO, to meet spill response planning standards under the CSA, 2001 requirements.

WCMRC's resources are primarily intended for the use by the members identified above. However, equipment and personnel are available to respond to oil spills from other sources, under an established fee schedule, or at the request of the CCG. Non-members must sign agreements at the time of a spill to utilize WCMRC's resources. Third parties may include, but are not limited to, the CCG, TC and EC.

The two general categories of membership agreements available with WCMRC which are:

FULL MEMBERSHIP (MANDATORY)	NON-MANDATORY
Ships – Bulk and Non-Bulk Oil Oil Handling Facility	Subscriber Third Party
See Glossary of Terms – Section 17.3.	

Under the terms of the membership agreements, members are entitled to declare that they have an arrangement with the RO.

Members Service

If a member requests WCMRC to respond to a spill of oil on water within the GAR, WCMRC shall use its best efforts to provide a response (the Initial Response). Unless otherwise agreed between the parties, the initial response shall consist of the provision of marine oil spill response services for up to 24-hours. If the member notifies WCMRC within the initial 12-hours that WCMRC is to continue to provide marine oil spill response services, then WCMRC will provide the member with an IAP for the remainder of the initial 7-day period.

This plan and related WCMRC documents and management systems are intended to complement member company plans for vessels or facilities, and the Pacific Region Coast Guard Marine Spills Contingency Plan and is managed in coordination with the CCG and federal, provincial and other bodies responsible for, or involved in, the protection of the environment.

12.2 WCMRC Contracts and Agreements

In addition to the agreement between WCMRC and its members, WCMRC has established contracts or agreements with providers of services, equipment or manpower to support its response capability.

At the time of this submission, WCMRC has identified eight agreements that relate to its RO certification. These are identified in Table 12.1 below.

Table 12.1 - WCMRC Agreements and Contracts in place, with external providers of resources

AGREEMENT	EXPLANATION
Contractor Agreement-Equipment and Personnel	
General Work Contract	
Contract for Support/Advisory Services	
Contract for Coastal Response Program Partners	
Chamber of Shipping of British Columbia-Agency Agreement	
Mutual Aid Agreement – Association of Petroleum Industry Cooperative Managers	
Mutual Aid Agreement – ECRC Operational Management Support Agreement	ECRC and WCMRC will make operational management services available to the other. They will each be provided with the others Response Plans for their GAR. Upon notification of assistance, each will agree the type and period of time of support. The RP shall reimburse the Supporting Party direct. Each will take part in reciprocal training and exercise programs, as requested.
Mutual Aid Agreement – Southeast Alaska Petroleum Resource Organization (SEAPRO)	Each party may (but is not obligated to) agree to make available its marine spill response services to the other (i.e. equipment and personnel), within their respective GAR. Nominated individuals only are authorized to request assistance. All reasonable costs and expenses, will be paid by the RP in timely manner.

Mutual Aid Agreement – Washington State Maritime Cooperative (WSMC)	Reciprocal arrangement agreement for marine oil spill services.

Contracts, arrangements, and Memorandums of Understanding for major support providers are maintained at WCMRC's office.

Table 12.2 below lists WCMRC's mutual aid agreements and the resources they can provide.

Table 12.2 - Industry, Agency and Mutual Aid Resources

ORGANIZATION	TYPES OF RESOURCES
Associate of Petroleum Industry Cooperative Managers (APICOM)	Command Staff, Field Operations personnel.
Chamber of Shipping of British Columbia-Agency	Technical Experts
Global Response Network (GRN) Members - Australian Marine Oil Spill Centre (AMOSC), ECRC, MSRC, Norwegian Clean Seas Association for Operating Companies (NOFO) and Oil Spill Response Ltd (OSRL)	Spill management, ICS roles, subject matter experts, (In-Situ burning, Spill treating agents), response equipment and response personnel
General Work Force	Shoreline Workers and wildlife responders (local, to be trained at time of incident)
Province of BC	Logistical Support, Trajectory Modelling, Sensitivity and General Mapping
SEAPRO	Technical Supervisors, On-water Operations, Command Post support
WSMC	Response vessels, booms, skimmers, qualified IC's and response personnel

12.3 Membership Fees

RO's are funded by industry through preparedness fees charged to its members (see Section 12.1). This ensures WCMRC can maintain a state of preparedness in their geographic area of response.

Fees are comprised of three components:

- Annual registration fees
- Bulk oil cargo fees (BOCF)

- Capital asset/loan fees (CALF)

Annually, the Fee Justification Document and Audited Income Statement is published on the WCMRC website – http://wcmrc.com/membership-fees/

12.3.1 Annual Registration Fee

The registration fees, per vessel or oil handling facility, excluding applicable taxes, are posted on the WCMRC website – http://wcmrc.com/membership-fees/

12.3.2 Bulk Oil Cargo Fee (BOCF)

The BOCF is:

- Determined on the basis of cost per tonne
- A fee applied once to each tonne of oil (either shipping or receiving) transferred within the GAR, serviced by the RO
- Calculated by multiplying a Bulk Oil Cargo Fee Rate (BOCFR), by the applicable quantity of bulk oil loaded or unloaded within WCMRC's GAR, and where applicable, bulk oil cargo transferred between ships within WCMRC's GAR

The formulas below outline how the BOCFR is calculated:

$$BOCFR = \frac{Forecast\ Annual\ Net\ Expense\ of\ WCMRC\ (1)}{Forecast\ Annual\ Volume\ (2)\ within\ the\ GAR\ (3)}$$

$$\begin{aligned} Net\ Expense\ (1) \\ &= Debt\ servicing + operating\ costs\ (inclusive\ of\ depreciation) \\ &+ (return\ on\ equity \\ &- revenue\ from\ forecasted\ registration\ fees\ and\ other\ revenues) \\ &+/- previous\ years\ surplus/deficit \end{aligned}$$

$$\begin{aligned} Annual\ Volume\ (2) \\ = Total\ volume\ of\ bulk\ cargo\ unloaded \\ + total\ volume\ of\ bulk\ cargo\ loaded\ for\ international\ destinations\ and\ north\ of\ 60° \end{aligned}$$

$$GAR\ (3) = Geographic\ Area\ of\ Response\ for\ which\ WCMRC\ is\ certified\ to\ operate$$

The above formula for the BOCFR was endorsed by the participants at the Multi-Stakeholder Consultation Meeting held in Toronto, June 1st – 5th, 1998.

The BOCFR calculated by the above formula is applicable to all products except asphalt. The BOCFR for asphalt is 50% of the rate for all other products.

The current BOCFR rates are posted on the WCMRC website – http://wcmrc.com/membership-fees/

12.3.3 Capital Asset/Loan Fee (CALF)

The capital asset/loan fee (CALF) is a variable fee used by WCMRC for capital purchases and/or asset loans. The CALF is:

- Determined on the basis of cost per tonne
- Calculated by multiplying a Capital Asset/Loan Fee Rate (CALFR) by the applicable quantity of bulk oil loaded or unloaded within WCMRC's GAR, and where applicable, bulk oil cargo transferred between ships within WCMRC's GAR

The formulas below outline how the CALFR is calculated:

$$CALFR = \frac{Forecast\ Annual\ Funds\ Required\ for\ Capital\ Purchases\ (1), plus\ tax\ provision\ (2)}{Forecast\ Annual\ Volume\ (3)\ within\ the\ GAR\ (4)}$$

$$Funds\ Required\ for\ Capital\ Purchases\ (1) = Annual\ Capital\ Budget + (Principle\ Bank\ Loan\ Repayment - Amortization\ of\ Capital\ Assets, excluding\ those\ previously\ purchased\ with\ CALF)$$

$$Tax\ Provison\ (2) = Funds\ Required\ for\ Capital\ purchase - amortization\ of\ assets\ previously\ purchased\ by\ CALF$$

$$Annual\ Volume\ (3) = Total\ volume\ of\ bulk\ cargo\ unloaded + total\ volume\ of\ bulk\ cargo\ loaded\ for\ international\ destinations\ and\ north\ of\ 60°$$

$$GAR\ (4) = Geographic\ Area\ of\ Response\ for\ which\ WCMRC\ is\ certified\ to\ operate$$

The above formula for the CALFR was introduced to WCMRC's Users' Group in March 2007.

The CALFR calculated by the above formula is applicable to all products except asphalt. The CALFR for asphalt is 50% of the rate for all other products.

The current CALF rates are posted on the WCMRC website – http://wcmrc.com/membership-fees/

12.4 User Group Committee

The WCMRC User Group is made up of members and/or a representative body of the members (e.g. Chamber of Shipping, Business Agents, Council of Marine Carriers). Participation is voluntary, and open to any member.

User Group Committee Meeting

The User Group Committee meets semi-annually to review any changes to fees, as well as organizational and government program updates. The key agenda item at each meeting is the review of the process used to calculate the new fees and the acknowledgement that the fee process has been reviewed and signed off by an external accounting firm. WCMRC also utilizes these interface meetings as an opportunity to update members on programs (e.g., exercises, training) and projects that are underway in which members may wish to have input and/or participate in. Following the meeting, copies of the minutes are distributed to all participates and posted for others to review.

WCMRC has established terms of reference for the User Group Committee which is available upon request.

13 BACKGROUND AND SUPPLEMENTARY INFORMATION

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Canada Shipping Act, 2001 (CSA, 2001)	N/A	http://laws-lois.justice.gc.ca/eng/acts/C-10.15/
Response Organizations Standards (Transport Canada, 1995)	N/A	https://www.tc.gc.ca/media/documents/marinesafety/tp12401e.pdf
Related Emergency Response Plans	N/A	See plans listed in Table 13.2

USE OF THIS SECTION

This section details valuable background and supplementary information, including the roles and responsibilities of external parties and the interrelated plans (management system). Both of which may be useful to the IMT within the initial or proactive ongoing phase of a response, depending on the circumstances of the incident.

The section also outlines the current Canada Shipping Act, 2001 (CSA, 2001) regulations, standards and guidance documents as they apply to RO's and references specifically where the requirements are met within the plan.

13.1 External Parties Roles and Responsibilities

Table 13.1 details the potential external organisations involved in a response and their type of involvement.

Table 13.1 – External Parties Roles and Responsibilities

ORGANIZATION	TYPE OF INVOLVEMENT
Government Agencies	
CCG	• Acts as the LA for all ship source mystery spills in Canadian waters. • Respond as LA within port jurisdiction, if the response is beyond the port authority capabilities. • May act as a response agency if required in the case of land spills, spills to water from unidentified sources or harbour water which have their own jurisdiction. • Can advise on federal responsibilities in the event of a spill. • Responsible for ensuring proper measures are implemented to reduce the potential adverse effects of a marine emergency event.

ORGANIZATION	TYPE OF INVOLVEMENT
TC	• The Lead Regulatory Agency for the Regime and is responsible for its governance. Specific activities include: ○ Overseeing an appropriate level of national preparedness ○ Monitoring marine activity levels, conducting risk assessments and making adjustments to the Regime ○ Monitoring and prevention of marine oil spills through the implementation of the National Aerial Surveillance Program ○ Implementation and facilitation of the Regional Advisory Councils ○ Enforcement and implementation of regulations relating to RO's ○ Overall Regime management and oversight ○ Development of regulations and standards ○ Providing leadership for the International Maritime Organization Oil Pollution Preparedness, Response and Cooperation / Hazardous Noxious Substances Technical Group as Canadian head of delegation ○ Providing leadership for the Arctic Council – Emergency, Prevention, Preparedness and Response Working Group by ensuring representation of Canadian Arctic interests at the international level ○ Providing post-mortem reporting for oil spill response exercises and incidents, national and internationally. This ensures that recommendations and/or lessons learned are considered and implemented to enhance the Regime • TC has a National Preparedness Plan that lays out the framework for preparedness for combating oil pollution in Canadian waters.
Local government / authorities	• Provide controls such as traffic re-routing, beach closure, restricting access etc. • Local agencies may become involved with spills when explosion hazards are present. • Participates in the planning, coordination and notification activities associated with pollution incidents and other emergencies.

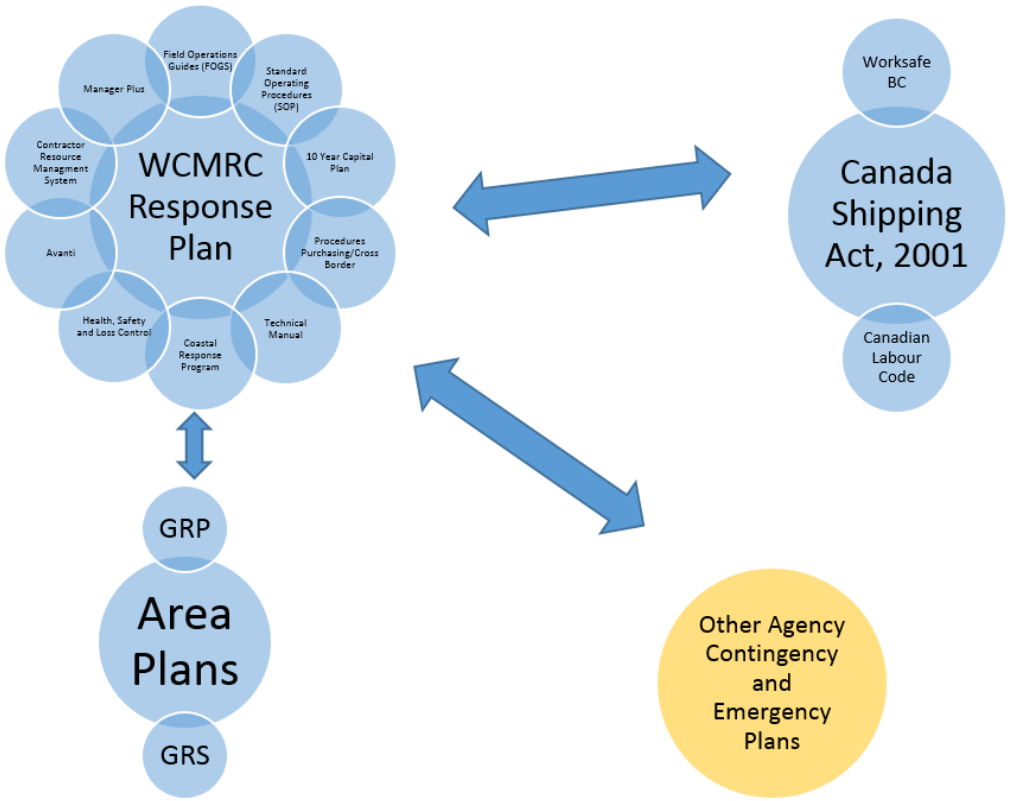
ORGANIZATION	TYPE OF INVOLVEMENT
Port Authorities	• Ports will initially respond to incidents within their boundaries of jurisdiction. • Designated Ports, handling over 500,000 tonnes of oil a year are required to provide infrastructure and support to RO's • These designated Ports have dedicated equipment that cannot be moved without TC authorization.
ECCC EEST	• Will work as part of a team with partners during an incident including: other ECCC groups, CCG, TC, Public Safety Canada, Fisheries and Oceans Canada, Port Authorities, Parks Canada and First Nation groups. • Fill the Scientific Support Coordinator Role • Provides advice to the LA. • Responsibilities of ECCC during emergencies are detailed in various federal legislation e.g. Canadian Environmental Protection Act, 1999.
First Nations	• Generally, have contingency plans with which this plan must dovetail. • Part of Unified Command in a response. • Level of involvement (i.e. resource provisions) to be determined in consultation with the provincial government at the time of an incident.
Local Fire and Police Departments	• Traditional field response capabilities of police and fire departments are often useful during a response. • Can support security, evacuation, crowd control, and communications and equipment support.
BC Ministry of Environment	• Responsible for provincial preparedness and response management for spills. • Lead ministry in the initiation of provincial response to a marine spill.
States/ BC Task force	• Responsible for mutual aid assistance between BC and the states of Washington, Oregon, Alaska, California and Hawaii. • Acts according to The Canada-US Joint Marine Pollution Contingency Plan (JCP), during spills in the neighbouring waters of Canada and the US. Detailed in CANUSPAC and CANUSDIX appendices maintained by CCG.

ORGANIZATION	TYPE OF INVOLVEMENT
USCG	• The USCG would be the lead US agency in a spill that has the potential to cause damage to the environment along the Canada USA shared maritime boundary. • The USCG are designated in accordance with the United States National Contingency Plan to coordinate and direct the United States response. • The Director, Preparedness and Response, CCG and the Chief, Office of Marine Environmental Response Policy, USCG are: ○ The co-chairs of the National Joint Contingency Plan Committee ○ Intended to be responsible for providing oversight and support to the Regional Joint Response Teams preparedness and response activities
Non-Government Organizations	
Oil handling facilities	• Maintain arrangements with certified RO's. • Often maintain their own site-specific spill response equipment and Oil Spill Contingency Plan.
Programs, Initiatives and Contractors	
Coastal Response Program	• This program works with local communities to protect BC's waters from an oil spill. This includes VOOs, community services and supply, coastal response packages and coastal mapping. It is coordinated by WCMRC.
VOO	• Provide on water operations support including boom deployment, recovery, surveillance and assessment. See Table 15.10.
Oiled Wildlife Society of BC (OWSBC)	• Supports the West Coast Protocol in Oiled Bird Rehabilitation. • WCMRC assists by being caretaker for two oiled bird response trailers which can be rented during an oil spill incident.
Spill Response Contractors	• WCMRC maintains a list of Spill Response Contractors that can provide resources, Vessels of Opportunity and personnel in the field or within an ICP. See **Error! Reference source not found.**.
SCAT Contractors	• WCMRC maintain records of SCAT trained personnel from the last 10 years. • SCAT contractors include Polaris, S3, EnviroEmerg, EML, Strategic and SpillConsult. See **Error! Reference source not found.**.

13.2 Related Emergency Plans and the Management System

This OSRP falls within a framework of federal, provincial, and local emergency response plans. This plan is designed for use and implementation in coordination with other appropriate plans at the time of a spill. It also endeavours to takes into account any contingency plan for its geographical area that is issued by the CCG. Figure 13.1 illustrates the relationship of this plan to the wider management systems. Figure 13.2 illustrates the relationship of the response plan to other contingency plans in its geographic area.

Figure 13.1 – Relationship of this OSRP to the related Management Systems



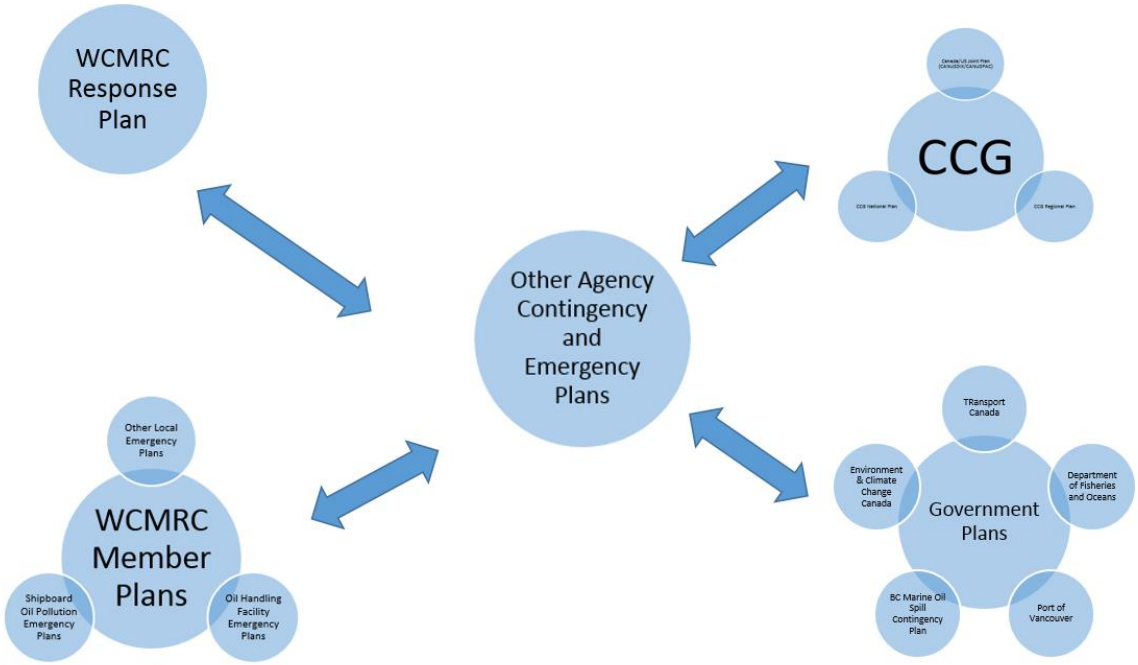


Figure 13.2 – Relationship of this OSRP to other relevant Contingency Plans

The following table (Table 13.2), provides a description of the related emergency response plans. This may be a useful reference in an incident, when the IMT, particularly Liaison and the Planning team may need to consult inter-related plans, prior too or when communicating with different organisations and agencies).

Table 13.2 – Related Emergency Response Plans

ORGANIZATION AND PLAN	DESCRIPTION
CCG Environmental Response – Marine Spills Contingency Plan – National Chapter	Federal law under the CSA, 2001 requires a National Contingency Plan to provide for efficient, coordinated and effective action to minimize damage from oil and hazardous substance discharge. The Marine Spills Contingency Plan provides the details regarding the scope within which the CCG will operate to ensure an appropriate response to a marine pollution incident. It outlines the operational precepts under which the CCG monitors or provides a coordinated

ORGANIZATION AND PLAN	DESCRIPTION
	and integrated response to a marine pollution incident at the national, regional and local levels Currently WCMRC participates only in CANUSPAC and CANUSDIX exercises as part of recognizing the CCG Regional Plan.

CCG Pacific Region Marine Spills Contingency Plan	The CCG has been charged with the responsibility to ensure that proper measures are implemented to reduce the potential adverse effects of a marine emergency event. As such, the CCG has prepared regional marine emergency plans, of which the Pacific plan is used in conjunction with other emergency plans in British Columbia waters. The plan outlines responsibilities of the CCG and identifies available resources which may be mobilized for spill response. The plan specifies the role of the CCG as a Lead Response Agency or Resource Agency as follows:
	• It is the responsibility of the polluter to carry out a clean-up operation, with the relevant government department ensuring that it is carried out in a satisfactory manner.
	• Where the polluter either cannot or will not carry out a satisfactory clean-up, then the relevant government department will take control of the operation.
	• Generally, the CCG will respond to a marine emergency as follows:
	  ○ CCG is the Lead Agency for all ship source and mystery spills in Canadian waters.
	  ○ Port authorities will initially respond to incidents within the boundaries of their jurisdictions. In the event the required response is beyond their capabilities, the CCG will, upon agreement, respond as the Lead Agency.
	  ○ CCG can act as a resource agency if required, in the case of a land-based spill, spills into water from unidentified sources, or within harbour waters which have their own jurisdiction.

Canada-United States Joint	The Canada-U.S. Joint Marine Pollution Contingency Plan addresses coordination of joint spill response for marine spills in the adjoining

ORGANIZATION AND PLAN	DESCRIPTION
Marine Pollution Contingency Plan (Pacific): CANUSPAC	waters of Canada and the United States. This agreement for the Pacific region is detailed in the Pacific (CANUSPAC) Operation Appendix of the Canada-U.S. Joint Marine Pollution Contingency Plan. The CANUSPAC Appendix is maintained and implemented by the CCG Pacific Region and the 13th U.S. Coast Guard (USCG) District.
Canada-United States Joint Marine Pollution Contingency Plan States (Alaska/British Columbia): CANUSDIX	Similar to CANUSPAC, this joint plan provides for coordination of spill response in the marine waters of the Alaska/British Columbia border. This plan, applicable primarily to Dixon Entrance, is maintained and implemented by the CCG Pacific Region and the 17th USCG District.
States-British Colombia Task Force	In addition to the CCG-USCG plan, an Oil Spill Memorandum of Cooperation, between the Province of British Columbia and the States of Washington, Oregon, Alaska, California and Hawaii, provides the basis for development of coordinated programs for oil pollution prevention, preparedness and response at the state/provincial level. This cooperation is accomplished through the structure of the States-B.C. Oil Spill Task Force. Programs developed under the auspices of this organization include recognition of a common Incident Command Organization and a detailed program of mutual aid assistance. Plans for the U.S. Task Force members include Federal Pacific Northwest Area Contingency Plan (USCG, EPA and Washington State joint plan) and the following geographic response plans (GRP's): • Strait of Juan de Fuca • San Juan Islands/St. George • Alaska United Plan • South-eastern Alaska Area Contingency Plan
British Columbia Marine Oil Spill Response Plan	The Province of B.C. maintains jurisdiction over all land between the high and low water marks, the seabed of the Strait of Georgia, Juan de Fuca and Queen Charlotte Sound-Johnstone Strait, in addition to the

ORGANIZATION AND PLAN	DESCRIPTION
	coastal seabed between major headlands, unless responsibility has been transferred specifically to a federal jurisdiction, or is in private ownership. In a spill event, the Ministry of Environment will be the lead ministry in the initiation of a provincial response to a marine oil spill. The operating principles for this response are described in the B.C. Marine Oil Spill Response Plan. This plan defines the scope and structure of the provincial government's involvement when responding to a major marine oil spill. The B.C. Ministry of Water, Land and Air Protection is responsible for provincial preparedness and response management for spills. This responsibility is designated under the Emergency Program Act and its Emergency Program Management Regulation (Schedule 1), and Section 2 of the Environment Management Act. The plan also reflects the ministry's goal for a "Healthy and Safe Land, Water and Air." Provincial involvement may be jointly shared with federal agencies, local government, First Nations and industry. Alternatively, it may be solely a provincial government endeavour. This plan is intended to operate concurrently and in cooperation with the plans of other responding jurisdictions and companies. The focus of this plan is at the ICP level.
Environment and Climate Change Canada (ECCC)	Responsibilities of ECCC in environmental emergencies are identified in various federal legislation, policies and emergency plans (Canadian Environmental Protection Act, 1999; Fisheries Act, Emergency Management Act, 2007; Migratory Birds Convention Act, 1994; EC's National Environmental Emergencies Contingency Plan (NEECP), 2012; Federal Policy on Emergency Management, 2009; and Federal Emergency Response Plan, 2011).ECCC's Environmental Emergency Science Table (EEST) work as a team with partners during an incident including: other ECCC groups; CCG, TC, Public Safety Canada, Fisheries and Oceans Canada, Port Authorities, Parks Canada, First Nations, Provincial/Territorial Ministries of Environment.

ORGANIZATION AND PLAN	DESCRIPTION
Department of Fisheries and Oceans (DFO)	DFO do not maintain a contingency or emergency plan, but does respond in cooperation with other agencies.
Transport Canada (TC)	TC is the lead regulatory agency for Canada's marine oil spill preparedness and response regime. TC leads Canada's national oil spill preparedness and response system, bringing together components of industry, the provinces and other federal agencies to protect Canada's marine environment. The TC Environmental Prevention and Response National Preparedness Plan details the roles and responsibilities of key federal agencies, potential marine polluters and Response Organizations in a pollution incident. The National Places of Refuge Contingency Plan (PORCP)and Pacific Regional Annex establishes a national framework and approach which, with associated regional measures, provides for an effective and efficient response to requests from ships in need of assistance seeking a place of refuge. The PORCP provides a decision-making risk assessment tool for ensuring that a thorough and balanced assessment of the risks are made and the best risk control strategy can be decided on and implemented in a timely and safe manner.
Port of Vancouver — Emergency Plan	Port of Vancouver is a federally mandated body operating under the Canada Marine Act to manage the waters within the Vancouver Harbour boundaries and to administer the Port of Vancouver. Its mandate is inseparable from responsibilities of environmental stewardship and as such, shares in authority for ensuring that spills in marine waters within its jurisdiction receive adequate response. Port of Vancouver has developed its own Emergency Response and Business Resumption Plan to respond to emergencies (including oil spills), and to restore conditions to normal as rapidly and efficiently as possible. The Plan provides a basis for interfacing with other

ORGANIZATION AND PLAN	DESCRIPTION
	organizations or levels of government impacted by, or having the resources necessary to meet the requirements of the emergency. Port Metro Vancouver maintains a 24/7 harbour patrol coverage and on-call Duty Harbour Master who can be contacted through the CCG's Marine Communications and Traffic Services in Vancouver.
Oil Handling Facility Emergency Plans	Oil handling facilities (OHF's) are required by the CSA, 2001 to have an arrangement with a certified RO, as well as to have on site their own site specific marine oil pollution emergency plan. WCMRC has plans on file for many OHFs along the B.C. Coast.
Shipboard Oil Pollution Emergency Plans (SOPEP's)	Tankers over 150 tons and ships over 400 tons are required by the CSA, to have an arrangement with a RO to which a certificate of designation has been issued in respect of a specified quantity of oil that is at least equal to the total amount of oil that the ship carries (cargo and fuel), to a maximum of ten thousand tonnes. Each ship must also comply with CSA regulations respecting the procedures (plans), equipment and resources that the ship must have on board for use in respect of an oil pollution incident from the ship.
Other Local Emergency Plans	Fire and police departments, municipalities, cities, ports, First Nations, and companies handling oils or hazardous materials generally have emergency response or contingency plans with which this plan dovetails. It is important to acknowledge that responding agencies will all have different goals and responsibilities. Local agencies may become involved with spill incidents when an explosion hazard is present, or to provide controls such as traffic re-routing, restricting access, closure of beaches, etc. Each city and municipality has its own response structure and capability, and participates in the planning, coordination and notification activities associated with pollution incidents and other emergencies. Traditional field response capabilities of police and fire departments are often useful during a response. They include security and evacuation assistance, crowd control, and communications and

ORGANIZATION AND PLAN	DESCRIPTION
	equipment support. Local input may be solicited for major spill responses and local officials should be kept informed of relevant issues.

13.3 Regulations, Standards and Guidance Documents for Response Organizations

The CSA, 2001 outlines the parameters within which RO's must respond. Specifically, the required procedures, equipment and resources of response organizations and oil handling facilities (OHF's) for use in respect of an oil pollution incident.

An important component of this, is an appropriate level of response infrastructure. The establishment of private sector RO's, providing a response capability to a maximum of 10,000 tonnes was introduced for the first time in legislation through Chapter 36. The standards for RO's were developed following extensive consultations with interested parties representing the spill response sector, petroleum and shipping industries, environmental groups, provincial governments, Canadian Coast Guard (CCG) and Environment Canada (EC). The forum for considering the complex issues involved in spill response was the 'work group' which held five meetings to achieve the consensus contained in these standards.

Under the CSA, 2001, the Governor in Council, on the advice of the Minister may issue regulations for RO's in developing their response plans, to enable them to comply with the requirements. Each response plan should be unique, taking into account the geographic features specific to that region. Since the response to an incident will be influenced by environmental and other factors, the standards should not be used as a yardstick against which to measure the appropriateness of the response. Rather, they seek to ensure that a suitable response infrastructure is in place and ready to be deployed in the event of any spill, regardless of size and conditions.

The following sections details the applicable regulations and standards, along with the specific reference where the requirements are met within the plan.

13.3.1 Canada Shipping Act, 2001 – Regulations and Plan Reference

CANADA SHIPPING ACT, 2001 – RESPONSE ORGANIZATION AND OIL HANDLING FACILITIES REGULATION (SOR/95-405)	
Requirement	**WCMRC Plan Reference**
3. (1) A response organization shall demonstrate in its response plan that the response organization has the capability to comply with the requirements relating to the procedures, equipment and resources prescribed in section 4 in respect of its geographical area.	Section 4 Section 5 Section 6 Section 15.4
3.(2) A response organization's response plan shall include the following information:	
(*a*) the name and address of the response organization and its geographical area;	Declaration & Submission Section 1.1 Section 15.7
(*b*) the total quantity of oil in respect of which the response organization is to be certified in accordance with the tiered response capabilities set out in section 2 of the *Response Organizations Standards*;	Section 3.2
(c) the name of each person included in the personnel who is available for a response to an oil spill;	Section 15.2
(*d*) the name of each person to be notified in the event of an oil spill;	Section 2
(*e*) the name of each person included in the personnel who has received basic oil spill response training or any other training in relation to an oil spill;	Section 10.4
(*f*) a description of the training that the response organization provides to its personnel in preparation for the responsibilities that they might be requested to undertake in response to an oil spill;	Section 10.3 Section 15.3
(*g*) a description of the training that the response organization provides to its employees and to other workers whom it might use to respond at short notice to an oil spill;	Section 10.2 Section 10.3
(*h*) a description of the oil spill exercise program established to evaluate the effectiveness of all aspects of the procedures, equipment and resources that are identified in the plan, including exercises to be coordinated with ships, oil handling facilities or the Canadian Coast Guard, as the case may be;	Section 11
(*i*) a list of the types and quantity of equipment for use at each designated port in its geographical area in respect of a tier 1 response capability referred to in the *Response Organizations Standards*;	Section 4.1.3 Section 15.4

CANADA SHIPPING ACT, 2001 – RESPONSE ORGANIZATION AND OIL HANDLING FACILITIES REGULATION (SOR/95-405)	
Requirement	**WCMRC Plan Reference**
(*j*) a list of the types and quantity of equipment for use during a simultaneous response in all operating environments;	Section 15.4
(*k*) a list of the equipment for scaring off birds from an oil spill location and of the measures available in support of the wildlife rehabilitation activities of other parties;	Section 6.4.2
(*l*) a description of the measures that the response organization will take, in response to an oil spill, to protect and treat areas of environmental sensitivities within the affected operating environment;	Section 6
(*m*) a description of the treatment and recovery procedures that will be implemented in response to an oil spill;	Section 6
(*n*) a description of the procedures that will be implemented for notifying the persons referred to in paragraph (*d*) in the event of an oil spill;	Section 2
(*o*) a description of the measures that the response organization will take, in conformity with federal and provincial regulations relating to health and safety, to protect the health and safety of its personnel, of volunteers and of other individuals who are involved, at the request of the response organization, in a response to an oil spill; and	Section 9
(*p*) a description of procedures for the updating of the response plan.	Section 14
(3) A response organization's response plan must take into account any contingency plan for its geographical area that is issued by the Canadian Coast Guard.	Section 13.2
4. (1) The procedures to be implemented with respect to a spill of a specified quantity of oil in a geographical area include the following:	
(*a*) the response to the oil spill is within the time set out in section 3 of the *Response Organizations Standards*;	Section 4.1.3
(*b*) the number of metres of shoreline that are treated in a day is at least that set out in section 4 of the *Response Organizations Standards*;	Section 6.3.5
(c) the maximum number of days required to complete the on-water recovery operations is that set out in section 5 of the *Response Organizations Standards*;	Section 6.3.2

CANADA SHIPPING ACT, 2001 – RESPONSE ORGANIZATION AND OIL HANDLING FACILITIES REGULATION (SOR/95-405)	
Requirement	**WCMRC Plan Reference**
(*d*) the response operation is managed in coordination with the Canadian Coast Guard and federal, provincial and other bodies responsible for, or involved in, the protection of the environment;	Section 5.2
(*e*) strategies appropriate for a simultaneous response are employed in all affected operating environments;	Section 6 Section 15.7
(*f*) in the case of an on-water recovery operation in unsheltered waters present in its geographical area, the equipment can be operated in Beaufort Force 4 conditions	Section 6.3.2
(*g*) the response capability in each applicable operating environment in primary areas of response and enhanced response areas is to be apportioned in accordance with the percentage of tiered response capability that is set out in Schedule II to the *Response Organizations Standards*; and	Section 1.1
(*h*) the equipment and resources are provided to the persons managing the response operation.	Section 5 Section 6
(2) The equipment and resources for use with respect to a spill of a specified quantity of oil in a geographical area include the following:	
(a) equipment that is appropriate for responding to the oil spill; and	Section 6 Section 15.4
(b) the primary and secondary temporary storage capacities that are referred to in section 6 of the *Response Organizations Standards*.	Section 15.4
OIL SPILL EXERCISE PROGRAM	
5. The oil spill exercise programme referred to in paragraph 3(2)(*h*) shall be carried out over a three-year period that begins on the day on which the certificate of designation is issued.	Section 11 Declaration & Submission
EQUIPMENT AT DESIGNATED PORT	
6. The equipment that is for a tier 1 response capability described in section 2 of the *Response Organizations Standards* and is to be deployed on the shoreline and in sheltered waters at a designated port may not be removed unless the Minister permits the removal for the purpose of protecting the environment.	Section 1.1

CANADA SHIPPING ACT, 2001 – RESPONSE ORGANIZATION AND OIL HANDLING FACILITIES REGULATION (SOR/95-405)	
Requirement	**WCMRC Plan Reference**
SUBMISSION	
7. A response organization shall submit to the Minister four copies of its response plan.	Declaration & Submission
REVIEW	
8. The Minister shall review a response plan within 90 days after the day on which it is submitted.	Declaration & Submission
PLAN UPDATE	
9. A response organization to which a certificate of designation has been issued pursuant to subsection 169. (1) of the Act shall notify the Minister of all substantive changes to its response plan immediately after they are made and shall, at least annually, update its response plan.	Declaration & Submission Section 14
DECLARATION	
10. A declaration submitted by a person or body for the purpose of subsection 169.(3)(a) of Act shall be in the form set out in Part I of the schedule.	Declaration & Submission
CERTIFICATE OF DESIGNATION	
11. (1) A certificate of designation issued pursuant to subsection 660.4(1) of the Act to a response organization expires three years after the day on which it is issued or the day that the response organization a) becomes insolvent; b) commits and act of bankruptcy; c) is dissolved; or d) abandons or transfers it business.	Declaration & Submission
(2) Where a response organization applies to the Minister for a certificate of designation that is in respect of a period that begins on the day after the current certificate of designation expires, it shall make the application at least 90 days before that day.	Declaration & Submission

13.3.2 Transport Canada Response Organization Standards and Plan Reference

<table>
<tr><th colspan="2">TRANSPORT CANADA – RESPONSE ORGANIZATION STANDARDS – TP 12401 E</th></tr>
<tr><th>Requirement</th><th>WCMRC Plan Reference</th></tr>
<tr><td colspan="2">TIERED RESPONSE CAPABILITIES</td></tr>
<tr><td>2. For the purposes of section 3, response organizations are categorized according to their capability to respond to oil spills of a maximum specified quantity as follows:
<table>
<tr><th>Tier</th><th>Maximum Quantity of Oil Spilled</th></tr>
<tr><td>Tier 1</td><td>150 tonnes</td></tr>
<tr><td>Tier 2</td><td>1000 tonnes</td></tr>
<tr><td>Tier 3</td><td>2500 tonnes</td></tr>
<tr><td>Tier 4</td><td>10000 tonnes</td></tr>
</table>
</td><td>Section 3</td></tr>
<tr><td colspan="2">RESPONSE TIMES</td></tr>
<tr><td>3. (1) The equipment and resources relating to a tier 1 response capability are deployed, in respect of an oil spill at a designated port, in the affected operating environments within 6 hours after notification of the spill.</td><td>Section 4.1.3</td></tr>
<tr><td>(2) The equipment and resources relating to a tier 2 response capability are deployed, in respect of an oil spill at a designated port, in the affected operating environments within 12 hours after notification of the spill.</td><td>Section 4.1.3</td></tr>
<tr><td>(3) The equipment and resources relating to a tier 3 response capability are delivered to the affected operating environments within 18 hours after notification of an oil spill in a primary area of response or an enhanced response area.</td><td>Section 4.1.3</td></tr>
<tr><td>(4) The equipment and resources relating to a tier 4 response capability are delivered to the affected operating environments within 72 hours after notification of an oil spill in a primary area of response or an enhanced response area.</td><td>Section 4.1.3</td></tr>
<tr><td>(5) In respect of an oil spill occurring in any other marine region within the geographical area of response of the response organization, the equipment and resources relating to a tier 3 and tier 4 response capability are delivered to the affected operating environments within the response time set out in subsection (3) or (4) added to the time necessary to travel at an average travel</td><td>Section 4.1.3</td></tr>
</table>

TRANSPORT CANADA – RESPONSE ORGANIZATION STANDARDS – TP 12401 E	
Requirement	**WCMRC Plan Reference**
speed to the oil spill from the nearest primary area of response or enhanced response area.	
NUMBER OF METRES OF SHORELINE	
4. A minimum of 500 m of shoreline is to be treated each day.	Section 6.3.5
ON – WATER RECOVERY OPERATIONS	
5. On-water recovery operations for oil spills in sheltered waters and unsheltered waters are to be completed within 10 operational days after the day on which the equipment is first deployed in the affected operating environments.	Section 6.3.2
EQUIPMENT	
6. The equipment for use with respect to an oil spill in a geographical area includes oil recovery units' necessary for the operational requirements in that geographical area in addition to:	
(a) a sufficient primary temporary storage capacity to maintain recovery operations of oil or oily-water waste continuously during a 24-hour period and a sufficient secondary temporary storage capacity to store at least twice the total quantity of oil or oily-water waste collected by the response organization's oil recovery units that are used in a 24-hour period; or	Section 6.4.1
(b) a primary temporary storage capacity and a secondary temporary storage capacity that are less than those referred to in paragraph (a), where the efficiency of the oil recovery devices or the capability to decant water reduces the volume of storage required, or alternative temporary storage or disposal locations are available within the geographical area.	Section 6.4.1
SCHEDULE I – DESIGNATED PORTS, ENHANCED RESPONSE AREAS AND PRIMARY AREAS OF RESPONSE	
DESIGNATED PORTS	
1. The following port is a designated port for the purpose of these Standards and is in the operating area of WCMRC: **VANCOUVER, BRITISH COLUMBIA** All the Canadian waters of Boundary Bay; the waters bounded by a line drawn from a point on shore originating at the Canada-United States border on Point Roberts due west along the international border to a point 123°19.3'W, then north to a point 49°14'N, 123°19.3'W, then to a point 49°15.5'N, 123°17'W;	Section 1.1

TRANSPORT CANADA – RESPONSE ORGANIZATION STANDARDS – TP 12401 E	
Requirement	**WCMRC Plan Reference**
the waters of Burrard Inlet east of a line drawn between Point Atkinson Light and Point Grey.	
ENHANCED RESPONSE AREAS	
2. The following marine region that has no designated ports as reference points are enhanced response areas for the purpose of these Standards and WCMRC: **JUAN DE FUCA STRAIT** All the Canadian waters between the western boundary of a line drawn from Carmanah Point on Vancouver Island to Cape Flattery, Washington State, and the eastern boundary consisting of a line running along the 48°25'N parallel from Victoria, eastward, to the Canada-United States border.	Section 1.1
PRIMARY AREAS OF RESPONSE	
The following marine region is a primary area of response for the purpose of these Standards and the operating area of WCMRC: **VANCOUVER, BRITISH COLUMBIA** All the Canadian waters between the northern boundary of a line drawn from the point 49°46.5'N, 124°20.5'W on the mainland, through Texada Island, to the point 49°22.5'N, 124°32.4'W on the shore of Vancouver Island and the southern boundary consisting of a line running along the 48°25'N parallel from Victoria, eastward, to the Canada-United States border.	Section 1.1
Schedule II – Percentage of Tiered Response Capability	
	Section 1.1 Section 15.4

	On Shore (%)	Sheltered (%)	Unsheltered (%)
Primary Area of Response (Vancouver)	40	40	20
Enhanced Response Area (Juna De Fuca Strait)	40	20	40

14 PLAN MAINTENANCE

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Canada Shipping Act, 2001 (CSA, 2001)	N/A	http://laws-lois.justice.gc.ca/eng/acts/C-10.15/
Response Organizations Standards (Transport Canada, 1995)	N/A	https://www.tc.gc.ca/media/documents/marinesafety/tp12401e.pdf

USE OF THIS SECTION

This section describes the procedures for the updating of this response plan.

14.1 Plan Update

This document has an approved lifespan of 3 years from the initial submission date.

This plan shall be reviewed and updated annually by the copyholder (WCMRC), to take into account of any of the following:

- Changes in the law or regulations
- Changes to environmental factors
- Changes in the characteristics of WCMRC members facilities
- Oil spill exercises and/or incidents

A response organization to which a certificate of designation has been issued pursuant to subsection 169. (1) of the Act shall notify the Minister of all substantive changes to its response plan immediately after they are made.

The Minister may refuse to issue or renew a certificate, and may suspend or cancel a certificate if circumstances warrant.

PART C – DATA

15 QUICK REFERENCE

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Membership List	Internal WCMRC document	Follow this link to access an electronic copy and CRMS for contact details
Non-members Contract	Internal WCMRC document	Follow this link to access an electronic copy
Current WCMRC On-Call Roster	Internal WCMRC document	Follow this link to access an electronic copy
Current WCMRC Training Matrix	TRN-CE-Internal Training	Follow this link to access an electronic copy
Current WCMRC Equipment List	Internal WCMRC document	Follow this link to access an electronic copy
VOO List	Internal WCMRC document	Follow this link to access an electronic copy
VOO Training Matrix	Internal WCMRC document	Follow this link to access an electronic copy
Spill Response Contractors List	Internal WCMRC document	Follow this link to access an electronic copy
Contractor Training Matrix	Internal WCMRC document	Follow this link to access an electronic copy
Internal WCMRC Contact Details	Internal WCMRC document	Follow this link to access an electronic copy and CRM for contact details
External/Contractor Contact Details	Internal WCMRC document	Follow this link to access an electronic copy and CRM for contact details
GRS Standards and Procedures Manual	N/A	

USE OF THIS SECTION

The information in the following tables and obtained by following the hyperlinks act as a quick reference guide for personnel during an incident. All current information is held in the company data bases, CRMS and GIS systems as appropriate.

15.1 Membership List

As members continually vary, the DO/SRM should consult the up to date membership list by following the hyperlink below.

WCMRC maintains an update to list of members on the Bridge where all WCMRC personnel can access. Follow this link for the current list of members.

If the RP is not a member of WCMRC, they can access WCMRC RO services by signing a third-party contract, this is available by following the hyperlink below.

Follow this link to the Bridge for non-members contracts.

15.2 WCMRC Duty Roster

WCMRC staff are on call 24/7, the current list of available personnel is kept up to date in the duty roster, which is available to the DO/SRM at all times.

Follow this link for the WCMRC on-call personnel roster.

The following tables provide summary information of WCMRC on-call personnel.

Table 15.1 details the different WCMRC management roles and what positions they may take up in a response and Table 15.2 lists the names of personnel who are available for different positions in an oil spill incident.

Table 15.1 – Management Personnel Available for Response

POSITION	SPILL RESPONSE ROLE
President	Command Staff/SRM
General Manager	Command Staff/SRM
Director Response Readiness	Command Staff/SRM
Director Operations	Command Staff/Operations Section Chief
Finance Director	Finance Section
Health and Safety Manager	Command Staff/Safety Officer
Health and Safety Coordinators	Safety Officer or support
Indigenous Relations Advisor	Command Staff/Liaison Officer
Communications Manager	Command Section/Public Information Officer
Regional Operations Manager	Operations/Planning Section
Area Manager	Operations Section
Base Managers	Operations Section
Area Supervisors	Operations Section
Manager, Training & Development	Logistics Section or Command Staff/Liaison Officer
Logistics Coordinator -SC	Logistics Section
Logistics Coordinator -NC	Logistics Section
Logistics Coordinator-VI	Logistics Section
Contractor Supervisor	Logistics Section
Procurement Specialist	Logistics Section
IT Manager	Logistics Section
Systems Support Coordinator	Logistics/Planning Section
Logistics Manager	Logistics Section
Response Readiness Manager	Planning Section
Response Readiness Supervisor	Planning Section
Response Readiness Coordinator -VI	Planning Section
Response Readiness Coordinator -SC	Planning Section
HR Coordinator	Planning Section
Administrative Assistant –NC	Operations/Planning Section
Administrative Assistant –SC	Operations/Planning Section
Administrative Assistant –VI	Operations/Planning Section
Senior Accountant	Finance Section
Intermediate Accountant	Finance Section
Payroll Administrator	Finance Section

Table 15.2 – Incident Command Personnel

WCMRC maintains a roster in CRM and Avanti of both internal and external personnel who are trained to support WCMRC Incident Management Team in a Command Post.

15.3 WCMRC Training Matrices

The following tables (Table 15.3 and Table 15.4) provide details on the training requirements for personnel and vessels in preparation for the responsibilities they may be required to undertake in an oil spill incident.

Follow this link for the current WCMRC individual and specific vessel training records.

Table 15.3 - Training Matrix - Response Operations

	Command-SRM	Command Staff	Safety Officer	Section Chief-Operations	Section Chief-Logistics	Section Chief-Planning	Section Chief-Finance	Staging Manager	Operations Branch Director	Operations Group Supervisor	Vessel Captain-150t	Vessel Capatin-60t	Vessel Captain-5t	Unit Leaders –O/P/L	Unit Person -O/P/L	Unit Leaders-Finance	Unit Person-Finance
Core																	
Health, Safety & Loss Control	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Tailgate Safety Process	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Basic Oil Spill Response	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Shoreline Supervisor Course	■	■	■	■	■	■		■	■	■	■	■	■	■			
Shoreline Clean Up Worker	■		■	■		■				■							
ICS 100, 200, 300	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
ICS 400	■	■	■	■	■	■	■	■	■	■							
HAZWOPER – 8, 24 hour	■		■	■	■	■		■	■	■	■	■	■	■			
Regulated - Provincial																	
Occupational 1st Aid Level 1									■	■							
Occupational 1st Aid-Level 2			■														
WHMIS	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Forklift Operator			■					■		■							
Regulated – TC																	
Master -150 tonnes - Domestic											■						
Master Limited – less 60 tonnes												■					
Small Vessel Operator Prof. (SVOP)													■				
Marine Emergency Duties A-1											■	■					
Marine Emergency Duties A-3													■				
Marine Basic First Aid- 2 Days												■					
Marine Advanced First Aid- 5 Days											■						
ROC – Radio Operator Certificate											■	■	■				

Table 15.4 - Qualification Summary - WCMRC Vessels

	Length - Meters	Gross Tonnage	Master -150 tonnes - Domestic	Master -60 tonnes - Domestic	Small Vessel Operators Proficiency - SVOP	Marine Emergency Duties MED A-1	Marine Emergency Duties MED A-3	Restricted Operator Certificate Marine Commercial	Restricted Operator Certificate Marine	Basic Marine First Aid	HAZWOPER – 8 hours
Masters											
Eagle Bay		31		■		■		■		■	■
M.J.Green		31		■		■		■		■	■
Seymour Sentinel		20		■		■		■		■	■
False Creek Sentinel				■			■	■		■	■
Sentinel No.1		5		■			■	■		■	■
Discovery Sentinel		8		■			■	■		■	■
Siwash Sentinel		7		■			■	■		■	■
Harbour Sentinel		20		■		■		■		■	■
Salish Sentinel		105	■	■		■		■		■	■
Island Sentinel		20				■		■		■	■
Sentinel 302				■		■		■		■	■
Workboats	NA	<5			■				■	■	■
Crew											
Vessels	NA	>15				■					■
Vessels	NA	<15					■				■

15.4 Equipment and Resources

Follow this link for current WCMRC equipment and resource status.

Follow this link for dedicated equipment lists for the Port of Vancouver.

15.4.1 Equipment Mobilization

The following table (Table 15.5) details equipment mobilization times.

Table 15.5 – Equipment Mobilization Times

Unit	Location	Speed (knts)	Mobilization (hours)		Vancouver		Fraser River		Haro Strait		Juan de Fuca		Prince Rupert	
			Port/PAR	ERA	Distance (nm)	Response time (hours)	Distance (nm)	Response time (hours)	Distance (nm)	Response time (hours)	Distance (nm)	Response time (hours)	Distance (nm)	Response time (hours)
Siwash Sentinel ①	Van	18	2	6	0	2								
Seymour Sentinel①	Van	6	2	6	0	2								
False Creek Sentinel	Van	10	2	6	0	2	NA	NA	NA	NA	NA	NA	NA	NA
Sentinel No.1	Van	18	2	6	0	2	22	3	60	9	105	12	470	32
Sentinel 200	Van	6	4	6	0	4	50	12	60	14	105	14	470	22
BC No. 17	Van	6	4	6	0	4	22	8	60	14	105	14	470	84
Sentinel 302	Van	6	4	6	0	4	22	8	60	14	105	14	470	84
GM Penman	Van	18	2	6	0	2	22	3	60	5	105	12	470	32
Island Sentinel	Van	18	2	6	0	2	22	3	60	5	105	12	470	32
MJ Green	Van	18	2	6	0	2	22	3	60	5	105	12	470	32
Cortes Sentinel	Duncan	18	2	6	39	4	28	4	60	5	65	5	470	32
Discovery Sentinel	Nanaimo	18	2	6	39	4	28	4	60	5	65	5	470	10
BC No. 16	Port	6	4	6	185	37	160	31	125	25	125	25	480	86
Salish Sentinel	Victoria	10	4	6	75	12	50	9	15	6	15	6	550	61
BC No. 10	Victoria	6	4	6	75	17	50	12	15	7	15	7	550	98
Island Sentinel	Victoria	18	2	6	75	8	22	5	60	7	60	7	550	33
Eagle Bay	Prince Rupert	18	N/A	N/A	470	32	492	33	530	35	530	35	0	2
Trailers														
Burnaby, Delta Port		65	2	2	6	2	35	3	69	3	169	5	1502	25
Fraser River		65	2	2	6	2	0	2	69	3	169	5	1502	25
Sechelt		65	2	2	50	3	85	3	129	4	229	6	1557	26
Duncan, Hatch Point, Nanaimo		65	2	2	69	3	104	4	112	4	100	4	1578	26
Port Alberni		65	2	2	121	4	156	4	194	5	294	7	1589	26
Campbell River		65	2	2	171	5	206	5	284	6	384	8	1198	20
Port Hardy		65	2	2	462	9	462	9	531	10	631	12	1969	32
Prince Rupert		65	2	2	1507	25	1542	26	1526	25	1676	28	0	2
Kitimat		65	2	2	1304	22	1339	23	1323	22	1473	25	203	3
QC City		65	2	2	NA	NA	NA	NA	1639	27	1739	29	151	10
Other														
CCG ②	Ucluelet	65	6	6	1802	34	199	9	282	10	392	12	1802	34
Com-Cen 101	Burnaby	65	2	2	1502	25	6	2	69	3	169	5	1502	25

① To remain in the Port of Vancouver unless approved for release by Transport Canada

① To remain in the Port of Vancouver unless approved for release by Transport Canada

② Cache of equipment

15.4.2 Dedicated Equipment

Table 15.6 – Dedicated Equipment: Port of Vancouver

EQUIPMENT	DESCRIPTION		QUANTITY
Skimmers	Seymour Sentinel - Derated Capacity: 16.2- Marco 50 Belt		1
	RBS-05 (Twin) Derated Capacity: 2.0 x 2 (on-board Trailer 219)		1
	Manta Ray head (vacuum truck use) (Burnaby Warehouse)		1
	RBS Triton 10 (on-board Trailer 188)		1
Boom Protection, Shoreline and Containment	The boom designated can be used interchangeably in protection, shoreline or containment. Boom is stored c/w fittings, anchors, etc. (including Burnaby warehouse, boom on-board Texada Sentinel, and dedicated boom Trailer 134)		1997
Vessels	Boom boat (Texada Sentinel)		1
	Workboat (Sentinel 15)		1
Storage (Total 55.8T)	9.5 T floating bladders (Burnaby warehouse, Trailer 219) 5.7 T floating Collar (Trailer 219) 15.0 T on board Seymour Sentinel; 3.8 T port-a-tank (shoreline) (Burnaby Warehouse) 3.8 T floating Collar (Trailer 188) 4.7 T floating bladder (Trailer 188)		2 1 1 **2** 1 1
Response Trailers	**Trailer No. 188** - skimmer (RBS Triton 10) - floating bladder - floating collar - sorbents and bags - generator and lights - workshop - fire pump - PPE and First Aid kit - consumables for shoreline workers - decontamination equipment	**Trailer No. 219** - skimmer (RBS-05) - floating bladder - floating collar - sorbents and bags - generator and lights - workshop - fire pump - PPE and First Aid kit - consumables for shoreline workers - decontamination equipment	2 Trailers

Note: All 150 tonne dedicated equipment components are labelled and identified as such within the WCMRC warehouse.

The following equipment will be used to supplement the above-listed dedicated equipment:

- vacuum trucks for direct offloading of equipment, as well as direct suction of recovered or accumulated oil
- additional storage barges to support onshore and sheltered water recovery
- flat and special purpose barges to carry vacuum trucks to areas where road access in the port is restricted
- immediate initial storage and processing of recovered waste
- purchase or lease of skimmers and oil spill equipment, if required

Vancouver, as a major metropolitan city, and hub for environmental activities on the Canadian west coast, is home to some of the foremost suppliers of oil spill countermeasures equipment in North America.

WCMRC's resource management lists numerous equipment and service suppliers who may be called upon to provide immediate support and assistance for local on-water and shoreline operations within the port.

In the event of a significant spill, which could deplete WCMRC's overall inventory to the final 150 tonne capability, significant additional resources could be purchased or leased on short notice. Appropriate arrangements would be made prior to the WCMRC inventory being depleted to this point.

15.4.3 Comparison of Actual versus Required Equipment

The CSA 2001, requires certain levels of dedicated response equipment. The following tables (see Table 15.7, Table 15.8 and Table 15.9) outline WCMRC's capability in the Port of Vancouver, Vancouver PAR and Juan de Fuca PAR respectively.

Table 15.7 - Comparison of WCMRC Actual Equipment versus Equipment Required - Vancouver Port

	Required			Actual		
Tier 1 - 150 tonne	**Tier 1**	< 6 hours	**Port**	**Tier 1**	< 6 hours	**Port**
	Shoreline	**Sheltered**	**Total**	**Shoreline**	**Sheltered**	**Total**
Planning Volumes (tonnes)[1]	75	75	150	75	75	150
Skimmers						
Derated capacity (tonnes/hr)[2]	0.006	0.31	0.316	4.2	27.9	32.1
Storage						
Guidance Doc.3 Primary	1	38	39	3.8	36.8	40.6
Guidance Doc.3 Secondary	1	75	76	3.8	75.2	79.0
Boom (m)						
Sweep [3]						
Containment		281	281		305	305
Protection		500	500		610	610
Shoreline Cleanup	1000		1000	1082		1082
Total	**1000**	**781**	**1781**	**1082**	**915**	**1997**

	Required			Actual		
Tier 2 - 1000 tonne	**Tier 2**	<12 hours	**Port**	**Tier 2**	<12 hours	**Port**
	Shoreline	**Sheltered**	**Total**	**Shoreline**	**Sheltered**	**Total**
Planning Volumes (tonnes)[1]	500	500	1000	500	500	1000
Skimmers						
Derated capacity (tonnes/hr)[2]	0.04	2.08	2.12	4.2	115.8	120
Storage						
Guidance Doc.3 Primary	5	250	255	5.7	716.0	721.7
Guidance Doc.3 Secondary	10	500	510	11.4	500.0	511.4
Boom (m)						
Sweep						
Containment		938	938		915	915
Protection		1000	1000		1371	1371
Shoreline Cleanup	1000		1000	1082		1082
Total	**1000**	**1938**	**2938**	**1082**	**2286**	**3368**

[1] Planning volume = spill volume X % Environment

[2] Sweep - used in the unsheltered environment - Tier 3 and 4

[3] Follows CCG Guidance Appendix B. Volume x 1.875

[4] Cap for protection boom expected in 24 hours

[5] Can be used in sheltered, shoreline, and unsheltered environments - will be used in part to cover shoreline

[6] Derated recovery capacity planning volume/10 days/24 hours for each operating environment

[7] Tier 2,3,4 primary storage, per CCG Guidance Doc 3, will be from WCMRC equipment, secondary storage will be from non-dedicated WCMRC equipment or contracted.

[8] Burrard Cleaner No.17 serves as both primary and secondary storage.

Table 15.8 - Comparison of WCMRC Actual Equipment versus Equipment Required - Vancouver PAR

Tier 3 - 2500 tonne	Required				Actual			
	Tier 3 <18 hours			PAR	Tier 3 <18 hours			PAR
	Shoreline	Sheltered	Unsheltered	Total	Shoreline	Sheltered	Unsheltered	Total
Planning Volumes (tonnes)	1000	1000	500	2500	1000	1000	500	2500
Skimmers								
Derated capacity (tonnes/hr)	0.008	4.17	2.08	6.26	4.2	83.0	32.8	120.0
Storage								
Guidance Doc.3 Primary	10	500	250	760	11.4	771.3	1023.8	1806.5
Guidance Doc.3 Secondary	20	1000	500	1520	23.5	4000.0	2138.0	6161.5
Boom (m)								
Sweep			400	400			2471	2471
Containment		1875		1875		1982		1982
Protection		5000		5000		5227		5227
Shoreline Cleanup	1000			1000	1263			1263
Total	**1000**	**6875**	**400**	**8275**	**1263**	**7209**	**2471**	**10943**

Tier 4 - 10000 tonne	Required				Actual			
	Tier 4 <72 hours			PAR	Tier 4 <72 hours			PAR
	Shoreline	Sheltered	Unsheltered	Total	Shoreline	Sheltered	Unsheltered	Total
Planning Volumes (tonnes)[1]	4000	4000	2000	10000	4000	4000	2000	10000
Skimmers								
Derated capacity (tonnes/hr)[2]	0.35	16.7	8.3	25.35	4.2	83.0	32.8	120.0
Storage								
Guidance Doc.3 Primary	40	2000	1000	3040	40.0	2012.4	1000.0	3052.4
Guidance Doc.3 Secondary	80	4000	2000	6080	80.0	4000.0	2000.0	6080.0
Boom (m)								
Sweep [3]			800	800			2928	2928
Containment		7500		7500		7758		7758
Protection		5000		5000		5227		5227
Shoreline Cleanup	1000			1000	1263			1263
Total	**1000**	**12500**	**800**	**14300**	**1263**	**12985**	**2928**	**17176**

[1] Planning volume = spill volume X % Environment

[2] Sweep - used in the unsheltered environment - Tier 3 and 4

[3] Follows CCG Guidance Appendix B. Volume x 1.875

[4] Cap for protection boom expected in 24 hours

[5] Can be used in sheltered, shoreline, and unsheltered environments - will be used in part to cover shoreline

[6] Derated recovery capacity planning volume/10 days/24 hours for each operating environment

[7] Tier 2,3,4 primary storage, per CCG Guidance Doc 3, will be from WCMRC equipment, secondary storage will be from non-dedicated WCMRC equipment or contracted.

[8] Burrard Cleaner No.17 serves as both primary and secondary storage.

Table 15.9 - Comparison of WCMRC Actual Equipment versus Equipment Required – Juan de Fuca PAR

Tier 3	Required				Actual			
	Tier 3	< 18 hours		ERA	Tier 3	< 18 hours		ERA
	Shoreline	Sheltered	Unsheltered	Total	Shoreline	Sheltered	Unsheltered	Total
Planning Volumes (tonnes)	1000	500	1000	2500	1000	1000	500	2500
Skimmers								
Derated capacity (tonnes/hr)	0.08	2.08	4.17	6.33	7.8	64.2	8.0	80.0
Storage								
Guidance Doc.3 Primary	10	250	500	760	10	30	1024	1065
Guidance Doc.3 Secondary	20	500	1000	1520	21	30	1500	1551
Boom (m)								
Sweep			400	400			2471	2471
Containment		938		938		1982		1982
Protection		5000		5000		5227		5227
Shoreline Cleanup	1000			1000	1263			1263
Total	**1000**	**5938**	**400**	**7338**	**1263**	**7209**	**2471**	**10943**

Tier 4	Required				Actual			
	Tier 4	< 72 hours		ERA	Tier 4	< 72 hours		ERA
	Shoreline	Sheltered	Unsheltered	Total	Shoreline	Sheltered	Unsheltered	Total
Planning Volumes (tonnes)	4000	2000	4000	10000	4000	2000	4000	10000
Skimmers								
Derated capacity (tonnes/hr)	1.67	8.3	16.7	26.7	7.8	64.2	8.0	80.0
Storage								
Guidance Doc.3 Primary	40	1000	2000	3040	40	3233		3273
Guidance Doc.3 Secondary	80	2000	4000	6080	82	4000	2000	6082
Boom (m)								
Sweep			800	800			2928	2928
Containment		3750		3750		7758		7758
Protection		5000		5000		5227		5227
Shoreline Cleanup	1000			1000	1263			1263
Total	**1000**	**8750**	**800**	**10550**	**1263**	**12985**	**2928**	**17176**

- Planning volume = spill volume X % Environment
- Sweep - used in the unsheltered environment - Tier 3 and 4
- Follows CCG Guidance Appendix B. Volume x 1.875
- Cap for protection boom expected in 24 hours
- Can be used in sheltered, shoreline, and unsheltered environments - will be used in part to cover shoreline
- Derated recovery capacity planning volume/10 days/24 hours for each operating environment
- Tier 2,3,4 primary storage, per CCG Guidance Doc 3, will be from WCMRC equipment, secondary storage will be from non-dedicated WCMRC equipment or contracted.
- Burrard Cleaner No.17 serves as both primary and secondary storage.

15.5 External Contractors

15.5.1 Vessels of Opportunity (VOO)

Follow this link for VOO lists, classifications, categories and availability.

Follow this link for VOO training matrix.

Table 15.10 – VOO Summary Table, including FOSET

WCMRC AREA's	VOO MEMBERS
North Coast (NC)	
South Coast (SC)	
Vancouver Island (VI)	
Total	

15.5.2 Coastal Response Program

Follow this link for Coastal Response Program member lists, classifications, categories and availability.

Follow this link for Coastal Response Program training matrix.

Table 15.11 – Coastal Response Program Summary Table

WCMRC AREA's	COASTAL RESPONSE PROGRAM
North Coast (NC)	
South Coast (SC)	
Vancouver Island (VI)	
Total	

15.5.3 Spill Response Contractors

Follow this link for lists, classifications, categories and availability

Follow this link for contractors training matrix

Error! Reference source not found., provides a summary of currently available contractors at each location. DO/SRM should check the current training matrices and list for up to date information; and the CRMS for contact details.

15.6Contact Details

15.6.1 Internal WCMRC Contact List

All internal WCMRC personnel contact details are found on the Bridge and will not be shared outside of the organization.

15.6.2 External Agencies Contact List

Follow this link for the external agencies (i.e. CCG, TC, ECCC, mutual aid partners etc.) contact details.

15.6.3 Coastal Response Program Contact List

Follow this link for the coastal response program partners (including VOO) contact details.

15.6.4 Contractor Contact List

Follow this link for contractor contact details.

15.7 Geographic Response Strategies (GRS)

Geographic Response Strategies (GRS's) are two page operational documents (Geographic Response Plans, GRP) that identify the location of sensitive shoreline features and describe how to protect them (see overview map in Figure 15.2). They are intended to be used either when there is the threat of a spill occurring (i.e. grounding) and/or in the emergency phase of a response (0-24 hours following an incident), to protect sensitive resources and/or prevent oil from hitting the shoreline. Within the document the following information is included:

- Equipment requirements - such as boom, anchors, vessels and personnel
- Personnel requirements
- Sailing and driving directions
- Logistical information, including site access, restrictions and staging area
- Safety concerns
- Mandatory notifications
- A map of the area (and latitude and longitude)
- An aerial image of the boom on the water
- Resources at Risk
- Response strategy objective (i.e. exclusion, deflection) and implementation

Figure 15.1 demonstrates how GRS's fit into responses of different tiers, who uses the information and at what time it is the most useful. The information provided by GRS's are relevant to on-site responders and should be deployed if there is an imminent risk of a spill in the area or reaching an area, or within the first 24 hours of a spill. They provide localized, large-scale information, typically in the 1:10000 – 1:25000 scale.

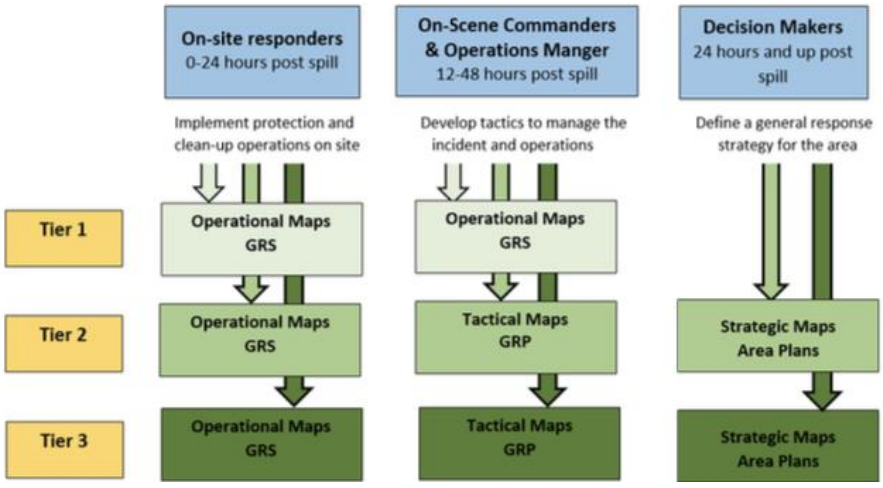


Figure 15.1 - GRS use, with response tiers and times

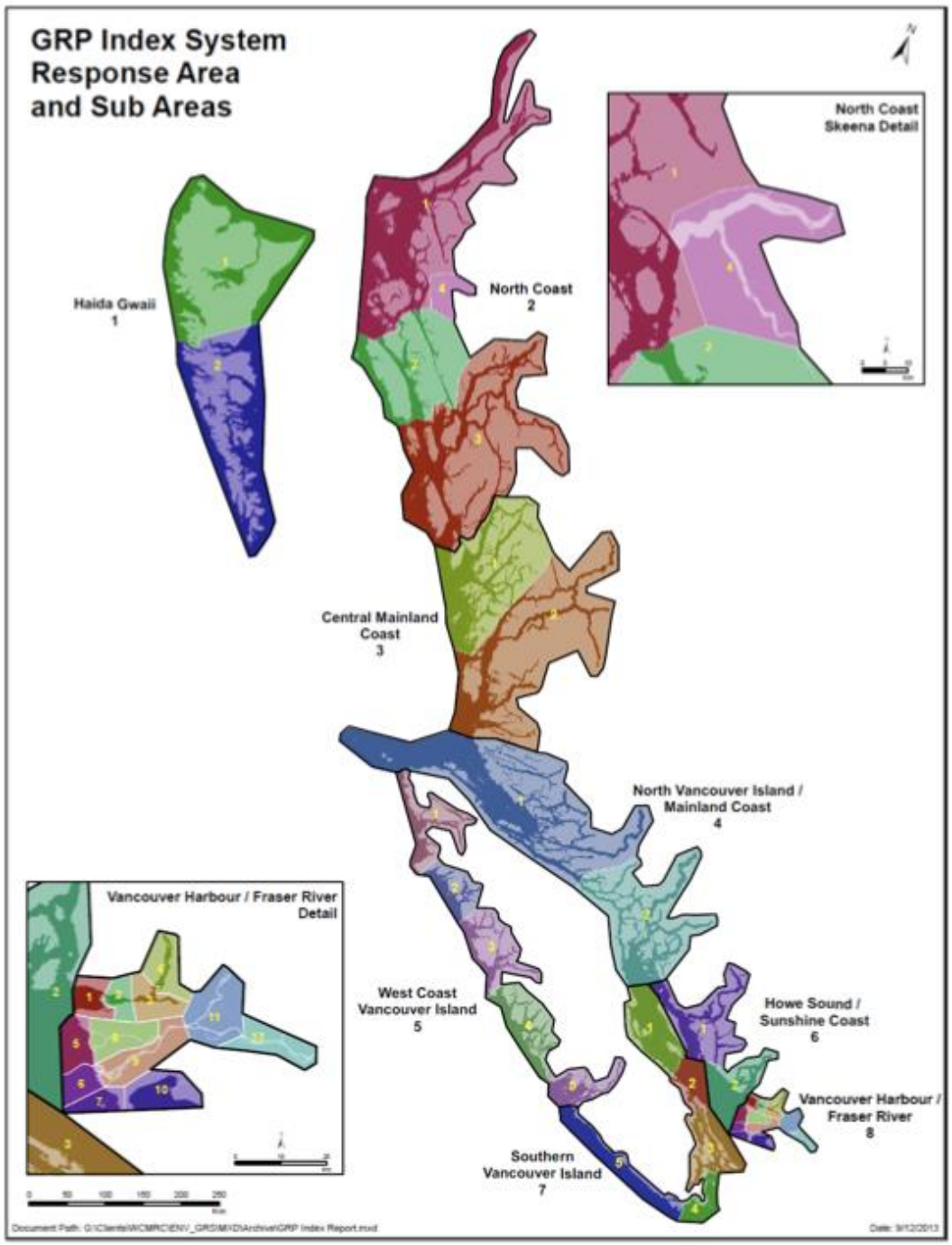


Figure 15.2 – GRP (Geographic Response Plan) Index System Response Areas and Sub Areas

16 FORMS

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Duty Officer Checklist	N/A	See Section 2.1. Table 2.1 - Duty Officer Notification Check List
Initial incident Spill Assessment Checklist	N/A	See Section 3.1, Table 3.2 - Spill Assessment Checklist
WCMRC Forms Master List	W1 – Forms Index	Follow this link to access forms
ICS Forms Master List	ICS Incident Management Handbook (IMH)	Follow this link to access an electronic copy
WCMRC Health and Safety Manual		Follow this link to access an electronic copy

USE OF THIS SECTION

This section contains details of the forms and checklists that could be used by WCMRC personnel throughout an incident.

16.1 OSRP Checklists

The relevant checklist detailed within the OSRP should be used wherever possible, use the document location hyperlinks in the data reference box above to navigate to the relevant forms.

16.2 WCMRC Forms

The WCMRC forms that could be potentially relevant to a response are listed below, these should be used where required, and personnel should be trained prior to the forms use in a response. A copy of the Spill Incident Report Checklist is included here for ease of use, if required.

Table 16.1 – WCMRC List of Response Forms

FORM No.	FORM TITLE	PREPARED/USED BY IN A RESPONSE
W101	Initial Incident Information and Initial Briefing Report (the ICS 201, see Section 16.3.1)	Duty Officer/SRM
W102	ICS Shift Change Transfer of Command	Spill Response Manager
W105	Work Order	Operations Section Chief/Duty Officer
W106	Purchase Order	Finance Section
W107	General Plan Cover Sheet	Planning Section
W108	General Work Contract	Logistics Section
W109	IAP Cover Sheet	Planning Section
W114	Daily Observation Sheet	All
W116	Vessel Supply Requirements Worksheet	Logistics Section
W117	Vessel Waste Removal Worksheet	Logistics Section
W118	Receiving and Distribution	Logistics Section
W119	Daily Fuel Estimates Worksheet	Logistics Section
W120	Facility Meals Form	Logistics Section
W120a	Facility Meals Checklist	Logistics Section
W121	Housing Summary	Logistics Section
W122	Food and Beverage Inventory Worksheet	Logistics Section
W127	Sign-in Sheet	All
W129	Travel Request	All
W130	Routing Slip	All
W132	Journal Entry	All
W133	Internal Memo	All
W134	Emergency Contact	All
W136	Fax Cover Sheet	All

FORM No.	FORM TITLE	PREPARED/USED BY IN A RESPONSE
W137	Time Sheet	All
W138	Mileage Report	All
W147	Report of Motor Vehicle Accident	All
W159	Vessel Operating Log	Operations Section
W160	Trailer Operating Log	Operations Section
W161	Packing Slip	Logistic Section
W162	7 Day Cost Estimate	Finance Section
W166	Financial Update Cost Type	Finance Section
W169	Confidentiality Agreement	Command/Finance
W171	Summary of Purchase Orders	Finance Section
W172	Summary of Standing Purchase Orders	Finance Section
W173	Summary of Personnel by Category	Logistics Section
W174	Security Check-in List at ICP	Security
W176	Responsible Party General Information	Command/Planning
W182	Claims Centre Report	Finance Section
W183	Short Term Cost Estimate	Finance Section
W185	Stakeholders Input Sheet	Command/Planning
W195	Operations Spill Debrief	Operations Section
W196	Daily Resource Budget	Finance Section
W197	Support & Advisory Contractors Information Update Request	Logistics Section
W198	Contractors Information Update Request	Logistics Section
W200	Spill Incident Report Checklist (see Section 16.2.1)	Duty Officer/SRM
W300	Vessel Information Survey	Logistics Section

FORM No.	FORM TITLE	PREPARED/USED BY IN A RESPONSE
W301	Logistical Services and Support	Logistics Section
W302	Daily Equipment and Consumables Worksheet	Logistics Section
W302a	Daily Worksheet	Operations Section
W302b	Field Contractor Daily Worksheet	Contractors/Logistics
W303	Vehicle Operating Log	All

16.2.1 WCMRC Spill Incident Report Checklist (W200)

WESTERN CANADA MARINE RESPONSE CORPORATION

SPILL INCIDENT REPORT CHECKLIST

Report Date: _____ Spill #: _____

Responsible Party: _____ _____

Contact Name: _____ Tel #:_____ Fax: _____

Billing Address: _____

_____

- ☐ completed "WCMRC Incident Report & ICS Initial Incident Information" (Form: W101)
- ☐ signed agreement, work order or other as appropriate (If other, indicate) _____
- ☐ Estimates 24/48 hour? (Requirement of agreement - formalized?) _____
- ☐ completed H&S plan
- ☐ completed ICS 201
- ☐ signed General Work Contract, as applicable
- ☐ completed/signed Daily Worksheets
- ☐ copies of vessel log sheets
- ☐ photos of spill scene
- ☐ completed Operations debrief form

Notes:

- ☐ Spill Response Manager (originals - the handwritten notes s/b typed and attached)
- ☐ Others, as appropriate _____

Sub contractors (identify):

_____ P.O. # _____ (attach copy)

_____ P.O. # _____ (attach copy)

_____ P.O. # _____ (attach copy)

_____ P.O. # _____ (attach copy)

- ☐ Copies of all disbursements attached (i.e. meals, taxi) _____

Completed by Spill Response Manager/Supervisor (1)_____ (2)_____

Reviewed by Manager, Operations/Maintenance _____ Date: _____

Complete file submitted to Manager, Finance/Administration _____ Date: _____

Invoice no. issued _____ Invoice date: _____

W200 - Spill Incident Report Checklist

16.3 ICS Forms

ICS forms available are detailed in Table 16.2, personnel should be trained in ICS prior to utilizing in a response. WCMRC have adapted the ICS 201 for their specific use and GAR, this has been included for ease of access in Section

Table 16.2 - ICS Form List

ICS FORM No.	FORM TITLE	PREPARED BY
ICS 201	Incident Briefing (WCMRC Form W101, see Section 16.3.1)	Duty Officer or Initial Spill Response Manager
ICS 202	Incident Objectives	Planning Section Chief
ICS 202b	Critical Information Requirements	Planning Section Chief
ICS 203	Organization Assignment List	Resources Unit Leader
ICS 204	Assignment List	Resources Unit Leader and Operations Section Chiefs
ICS 204a	Assignment List Attachment	Operations and Planning Section Chiefs
ICS 205	Incident Radio Communications Plan	Communication Unit Leader
ICS 205a	Communications List	Communication Unit Leader
ICS 206	Medical Plan	Medical Unit Leader
ICS 207	Incident Organization Chart	Resources Unit Leader
ICS 208	Site Safety Plan	Safety Officer
ICS 209	Incident Status Summary	Situation Unit Leader
ICS 210	Status Change Card	On-Scene Incident Dispatcher
ICS 211e	Check-in List – Equipment	Resources Unit/Check-in Recorder
ICS 211p	Check-in List – Personnel	Resources Unit/Check-in Recorder
ICS 213	General Message	Any message originator
ICS 213RR	Resource Request	All Sections and Units
ICS 214	Unit Log	All Sections and Units

ICS FORM No.	FORM TITLE	PREPARED BY
ICS 214a	Individual Log	All personnel
ICS 215	Operational Planning Worksheet	Operations and Planning Section Chiefs
ICS 215a	Hazard/Risk Analysis Worksheet	Safety Officer
ICS 218	Support Vehicle/Vessel Inventory	Ground/Vessel Support Unit Leaders
ICS 219	Resource Status Card	Resources Unit Leader
ICS 220	Air Operations Summary	Operations Section Chief or Air Branch Director
ICS 221	Demobilization Checkout	Demobilization Unit Leader
ICS 230	Daily Meeting Schedule	Situation Unit Leader
ICS 231	Meeting Summary	Those designated by the Meeting Facilitator
ICS 232	Resources at Risk Summary	Environmental Unit Leader
ICS 233	Open Action Tracker	Documentation Unit Leader
ICS 234	Work Analysis Matrix	Operations and Planning Section Chiefs
ICS 235	Facilities Needs Assessment	Facilities Unit Leader

16.3.1 ICS 201 Incident Briefing (WCMRC Form W101)

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Initial Spill Details

Date of call:	Time of call:	Call Received by:
Caller reporting Spill:	Authorized Company Rep:	
Has caller notified CCG/other authorities? 604-666-6011 ☐ Yes ☐ No		
Callers' contact info: (land, cell, fax, email):		
My contact numbers are: (land, cell, fax):		
Company or ship reporting spill:	WCMRC Answering Service: 604-643-8031	
☐ Member ☐ Non-Member		
For Non-Members a 3rd Party Agreement is required (explain):		
Location of Spill:		
Product Spilled:		
Source Controlled?: ☐ Yes ☐ No	Estimate quantity spilled:	
Risk of further spill? ☐ Yes ☐ No	If yes, quantity?	

Preliminary Health and Safety Assessment (response will only be initiated after health and safety issues are resolved)	Yes	No
Product		
Is the spilled material on the MARPOL 73/78, Annex 1 (see reference section on the last page of this document)	☐	☐
Is the Material Safety Data Sheet (MSDS) available for inspection? If not, obtain one. If yes, how will it be circulated?	☐	☐
Does the MSDS require gas testing? If so, it must be in place before personnel respond	☐	☐
Does the MSDS require PPE? If so, PPE must be available before personnel respond	☐	☐
Operating Environment		
☐ On Water, Sheltered ☐ On water, unsheltered ☐ On shore Is it safe to respond?	☐	☐
Are there any site specific safety considerations/rules? Please list:	☐	☐
Are there any public areas (including land and waterways) that need to be closed? Please list:	☐	☐
Weather Conditions		
What are the current weather conditions (temperature, wind, rain, snow, etc) Safe to respond?	☐	☐
Marine Conditions		
What are the prevailing marine conditions: wave height tides Safe to respond?	☐	☐

Problem (any response initiated)

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Notifications

Names or Responders/Organizations called in: may include WCMRC, FOSET, Advisors, Contracts, Agencies (Coast Guard, Transport Canada, Environment Canada, BC MELP, PEP, Harbour Master, Municipality)

Name	Organization	Contact Numbers

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Map/Sketch

(include maps drawn here or attached, showing the total area of operations, the incident site/area, overflight results, trajectories, Impacted shorelines, or other graphics depicting situational and response status)

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Initial Incident Objectives

Summary of Current Actions

Time	Action/Note
1300	Received notification from RP

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Initial Incident Objectives

Summary of Current Actions

Time	Action/Note
1400	

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Initial Incident Objectives

Summary of Current Actions

Time	Action/Note

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Initial Incident Objectives

Summary of Current Actions

Time	Action/Note

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Current Organization	
Command	
Canadian Coast Guard Federal Monitoring Officer	
Responsible Party Incident Commander	
Response Organization – Spill Response Manager	

	Responsible Party	Response Organization
Safety		
Legal		
Liaison		
Information		

Stakeholder Committee	
Environment Canada	
Province of British Columbia	
Transport Canada	
Fisheries and Oceans	
Port	
Local	
Other	
Planning Section	
Logistics Section	
Finance/Administration Section	
Operations Section	
Div./Group	

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Resources Summary

Resources Needed	Time Ordered	Resources Identifier	ETA	On Scene?		Location/Assignment/ Status
				Yes ☐	No ☐	
				☐	☐	
				☐ ☐	☐ ☐	
				☐	☐	
				☐ ☐	☐ ☐	
				☐	☐	
				☐ ☐ ☐	☐ ☐ ☐	
				☐ ☐ ☐	☐ ☐ ☐	
				☐	☐	
				☐ ☐	☐ ☐	

Incident Name	Prepared by	INCIDENT BRIEFING ICS 201

Reference

Petroleum Products – from Marpol 73/78 Annex 1			
Oils			
Clarified	Fuel oil no.4	Road oil	Aromatic oil (exc.vegetable oil)
Crude oil	Fuel oil no.5	Transformer oil	Lubricating oils & blending stock
Mixtures containing crude oil	Fuel oil no.6	Mineral oil	Penetrating oil
Diesel	Residual fuel oil	Motor oil	Spindle oil, Turbine oil
Gas Oil			
Cracked	Alkylates - fuel	Reformates	Polymer - fuel
Gasoline Blending Stocks			
Gasolines			
Casinghead (natural)	Aviation	Fuel oil no. 1 (kerosene)	Fuel oil no. 2
Automotive	Straight run	Fuel oil no. 1-D	Fuel oil no. 2-D
Jet Fuels			
JP - 1 (kerosene)	JP - 4	Turbo fuel	Mineral oil
JP - 3	JP - 5 (kerosene, heavy)	Kerosene	
Naptha			
Solvent	Petroleum	Heartcut distillate oil	
Distillates			
Straight run	Flash feed stocks		
Conversions			
Volume			
1 barrel = 164 litres = 31.5 gallons = 0.16 cubic meters (m^3) = 0.16 tonnes 1 cubic meter (m^3) = 1000 litres = 6 barrels = 1 tonne 1 imperial gallon = 4.55 litres 1 U.S. gallon = 3.79 litres 1 litre = 0.22 imperial gallons 1 litre = 0.26 U.S. gallons 1 tonne = 1000 litres (nominal as it depends on density) 1000 tonnes = 6000 barrels = 1,000,000 litres (equivalent to the volume of 3 Olympic pools) 10000 tonnes = 60000 barrels = 10,000,000 litres 1 imperial gallon = 4.55 litres 1 U.S. gallon = 3.79 litres 1 litre = 0.22 imperial gallons			
Distance 1 kilometer (km) = 0.54 nautical miles 1 nautical mile = 1.15 statute mile 1 sq.km = 0.39 sq.mile **Area** 1 hectare = 100 sq. meters 1 acre = 0.41 hectares			

16.4 Health and Safety

WCMC's primary form to be used for healthy and safety is the W0008 Safety Tailgate Safety Record (see following), which covers the Risk Assessment and Tailgate Safety Meeting Briefing.

Date:_____ **Customer:**_____ **Incident #:** _____

Step 1 –Risk Assessment

Complete this risk assessment before the start of each shift (spill response) or when using the vessels (steady state). **Risks shall be reassessed any time conditions change.** Action plans to mitigate the hazards identified in the "Yes" column **MUST** be reviewed with all workers during the Tailgate Safety Meeting. Reference Health Safety & Loss C Manual for "Critical Procedures".

Hazard	Yes	No	Suggested Control Measures
Hazardous materials			**Control measures are developed based on the Material Safety Data Sheet (MSDS)**
Inhalation: vapours, mists, fumes			Perform air monitoring and if required: mechanical ventilation, exclusion zones, respirators,
Eye contact			Wear eye protection: safety face shield, safety goggles, safety glasses, eye wash stations.
Skin contact:			Use chemically resistant: coveralls, gloves, special barrier cream. Clean exposed areas immediately.
Ingestion			Seek immediate medical attention.

Critical tasks

Is a Critical Procedure(s) to be reviewed prior to starting this job?
☐ Hot Work ☐ Confined Space Entry* ☐ Energy Lockout ☐ Crane Operations ☐ Working from heights
Procedures from HS&LC Manual must be followed

*** Confined space hazards: includes but not limited to barge/vessel tanks or holds, shoreline caves, under wharves or docks or logs, deep trenches.**

Weather hazards			
Tides, currents			Check tide charts and area currents, keep vessel crew and shoreline worker aware of changes.
Fog, ice, rain, snow, winds/waves			Maintain safe working distances, clear ice and snow from area of travel, wear appropriate PPE and/or clothing.
Darkness			Use portable lighting.
Hot or Cold weather			Stay hydrated (drink fluids), take rest breaks, warm-up breaks, use sunscreen, wear appropriate clothing.

Wind speed:	knots	Wind direction:		Wave height:	meters	Precipitation: ☐ Rain ☐ Snow
Air temperature:	C	Current:	knots	High tide at:		Low tide at:

General hazards			
Trips, slips and falls			Keep equipment, supplies, cords and/or air-lines out of the path of travel or secured; clean-up all oils, standing water, ice/snow or post warning sign; use handrails; secure ladders; maintain three-point contact when climbing or when on a vessel; take small, deliberate steps when walking in congested areas and along rugged shorelines.
Employee working alone			Communications **MUST** be done at four (4) hour intervals between worker and supervisor, and documented.
Working on or near water			PFDs **MUST** be worn at all times when working within 1m (3 feet) of the water unless protected by other means.
Person overboard			Be familiar with "overboard" procedures, location of life rings.
Abandon vessel			Be familiar with "abandon vessel" procedures, location and operation of survival suits and life rafts.
Repetitive motion injuries			Use different muscle groups and take rest breaks during repetitive tasks, vary tasks if possible.
Injuries from sharp material, needles, glass, etc.			Wear appropriate gloves, safety footwear. Make any cuts with blade facing away from the body. Store blades safely when not in use.
Pinch injuries			Watch mooring lines, don't get caught in the bight, avoid hand traps.
Lifting injuries			Use safe lifting techniques, **bend your knees, ask for help**; use mechanical lifting equipment when possible.
Fatigue			Work reasonably length shift, take breaks periodically.
Hearing damage			If you have to raise your voice to be heard, you need hearing protection.
Eye injuries			Wear eye protection; safety glasses or goggles/safety glasses and face shield.
Burns injuries			Maintain a safe working distance; wear gloves.
Miscellaneous injuries			Keep exit routes clear at all times; stack equipment and supplies in a place and manner where it will not cause injury; keep clear of tow-lines; beware of snap back from failed lines.

ATMOSPHERE TEST RESULTS MUST BE RECORDED ON LAST PAGE

Step 1 –Risk Assessment cont'd

Hazard	Yes	No	Suggested Control Measures
Vehicle hazards			
Trucks, heavy equipment, forklifts			Wear appropriate PPE; activate back up alarm; use a back up spotter; inspect equipment before use, use only trained operators.
Traffic congestion			Ensure site traffic and parking plans are in place.
Vacuum truck noise, hose failure or explosion			Wear appropriate PPE; operator(s) trained and experienced in petroleum handling; inspect equipment before use.
Other task specific hazards			
Aircraft hazards			
Working around helicopter landing areas			**Never** approach the helicopter unless signaled to do so by the pilot. **Always** maintain eye contact with the pilot as you approach. **Never** approach from the uphill side. **Never** wear loose clothing around a helicopter.
In flight hazards			**Never** speak to the pilot during takeoff or landing (unless it is an emergency). **Always** wear your seat belt. Wear warm clothing. Take extra food and drink along.
Working around fixed wing aircraft			**Never** approach the aircraft while engines are running. **Never** touch anything on the fuselage, wings or propellers – they may be hot and/or brittle. Stay behind the wings at all times.
Other task specific hazards			
Wildlife			
Injury; disease, potential of attack			Be aware of the dangers from bears, cougars, wolves, dogs, raccoons, moose, deer, otters, wild fowl, rats, snakes and insects. Keep bear spray and insect repellent on hand. Use a safety watch. Only trained personnel to handle wildlife. Safety watch in bear/cougar/wolf country may need to be armed and/or have the use of a purpose trained dog.

Personal Protective Equipment

- ☐ Hard Hat
- ☐ Safety Glasses
- ☐ Safety Goggles
- ☐ Hearing Protection
- ☐ Tyvec Coveralls
- ☐ Fire Resistant (NOMEX) Coveralls
- ☐ Rain Gear
- ☐ Fall Protection (harness)
- ☐ Personal Floatation Device
- ☐ Respiratory Protection (specify cartridge type)
- ☐ Hand Protection (specify type of gloves)
- ☐ Safety footwear

Safety Equipment Required

- ☐ Atmosphere Tester
- ☐ Fire Extinguisher
- ☐ Life Raft
- ☐ Life Ring
- ☐ First Aid Kit
- ☐ Eye wash

SDS / PPE complied with - Yes / No –please circle

Notes:

Risk assessment by: (print) _____ **Signature:** _____

Company name: _____ **Date:** ____

ATMOSPHERE TEST RESULTS MUST BE RECORDED ON LAST PAGE

Step 2 – Tailgate Safety Meeting - Agenda

- **Unsafe work**
  Every worker has the authority and the responsibility to shut down unsafe work. Be watchful of changing, particularly deteriorating, conditions. Advise your supervisor of any unsafe work.
- **Site Health and Safety rules**
  When working on someone else's site, please take note of and review any local health and safety rules that need to be followed (i.e. exits, assembling procedure, safety vests, etc.). Attach a copy.
- **Safety Officer/contact method:** _____
- **First Aider/contact method:** _____
- **First aid kit location:** _____
- **Eye wash/emergency shower:** _____
- **Decontamination process/location:** _____
- **Fire/explosion:** emergency signal will sound, assemble at _____
- **Incident reporting**: report incidents (including near misses) to your supervisor
- **Material Safety Data Sheets (MSDS):** reviewed with workers
- **WorkSafeBC Regulations**
  WorkSafeBC Regulations and related materials including policies, guidelines and standards apply to all WCMRC work sites and are available at the "WorkSafeBC" website. Any worker wishing computer system access and help with the process should contact their supervisor.

Specific Safety Plans (control measures to deal with the hazards identified in the preceding risk assessment)

ATMOSPHERE TEST RESULTS MUST BE RECORDED ON LAST PAGE

Step 3 – Tailgate Safety Meeting - Record of Attendance

Signature on this record of attendance is confirmation that the Tailgate Safety Meeting has taken place, the risks and control measures identified on the risk assessment and any specific safety procedures have been reviewed, are understood and will be complied with.

For time record purposes use Daily Worksheet.

Please print first name, initial and last name clearly

First Name	Init.	Last Name	Company/Vessel	Signature	Time

Meeting location: _____

Meeting conducted by: (print) _____ Signature: _____

Meeting Date: _____

ATMOSPHERE TEST RESULTS MUST BE RECORDED ON LAST PAGE

Air Quality Monitoring Guidelines & Data

	Safe Working Levels	Alert levels - contact supervisor
Oxygen	Between 19.5 to 23.5	Under 19.5 and above 23.5
LEL	Less than 10%	Greater than 10%
H_2S	Less than 10 PPM	Greater than 10 PPM
CO	Maximum 25 PPM over 8 hours	Greater than 100 PPM
VOC	Less than 5.0 PPM	Greater than 5.1 PPM
Benzene	Less than 0.5 PPM	Greater than 0.6 PPM

At any time when Alert levels are recorded, contact your supervisor immediately. You may be required to withdraw from the hot zone and reassesses air quality.

Use GPS coordinates for location where possible

Name of person recording data: _____

Time	
Location	
Oxygen	
LEL	
H_2S	
CO	
VOC	
Benzene	

Time	
Location	
Oxygen	
LEL	
H_2S	
CO	
VOC	
Benzene	

Time	
Location	
Oxygen	
LEL	
H_2S	
CO	
VOC	
Benzene	

Time	
Oxygen	
LEL	
H_2S	
CO	
VOC	
Benzene	

Time	
Oxygen	
LEL	
H_2S	
CO	
VOC	
Benzene	

Time	
Oxygen	
LEL	
H_2S	
CO	
VOC	
Benzene	

17 USEFUL DATA AND INFORMATION

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Technical References	N/A	Following this link for the responder technical library
Bonn Agreement Code	N/A	https://www.bonnagreement.org/publications

USE OF THIS SECTION

17.1 Technical References

Table 17.1 is a list of strategic and tactical guides and manuals for oil spill preparedness and response, these are intended as a reference to support response activities. These should also be looked at in combination with Section 13.2 Related Emergency Plans and the Management System.

Table 17.1 – Technical References for oil spill preparedness and response

COMPANY/ ORGANIZATION	TITLE	WEB LINK
CEDRE - Centre of Documentation, Research and Experimentation on Accidental Water Pollution.	• Spill Response Booms • Spill Response Skimmers • Using Dispersant to Treat Oil Slicks at Sea • Supporting Local Authorities • Sea Professionals • Managing Volunteers • Sorbent Materials • Aerial Observation of Oil Pollution • Pollution in Ports • Waste Management • Ecological Monitoring of Water Pollution	www.cedre.fr

COMPANY/ ORGANIZATION	TITLE	WEB LINK
IMO - International Maritime Organisation	• MARPOL (Consolidated Edition, 2011) • POLLUTION PREVENTION EQUIPMENT UNDER MARPOL (2006 Edition) • INTERNATIONAL CONVENTION FOR THE PREVENTION OF POLLUTION OF THE SEA BY OIL, 1954 (OILPOL) (1981 Edition) • International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990 (OPRC) (1991 Edition) • OPRC-HNS PROTOCOL 2000 (2002 Edition) • MANUAL ON OIL POLLUTION Section I – Prevention (2011 Edition) • MANUAL ON OIL POLLUTION Section II – Contingency Planning (1995 Edition) • MANUAL ON OIL POLLUTION Section IV – Combating Oil Spills (2005 Edition) • MANUAL ON OIL POLLUTION Section V – Administrative Aspects of Oil Pollution Response (2009 Edition) • MANUAL ON OIL POLLUTION Section VI – IMO Guidelines for Sampling and Identification of Oil Spills (1998 Edition) • IMO/UNEP Guidelines on oil spill dispersant application including environmental considerations (1995 Edition) • MANUAL ON OIL SPILL RISK EVALUATION AND ASSESSMENT OF RESPONSE PREPAREDNESS (2010 Edition) • IMO/UNEP Guidance manual on the assessment & restoration of environmental damage following marine oil spills (2009 Edition) • Bioremediation in marine oil spills (2004 edition) • Guidelines for the development of shipboard marine pollution emergency plans (2010 edition) • IMO/FAO Guidance on managing seafood safety during and after oil spills (2003 Edition) • MANUAL ON CHEMICAL POLLUTION Section 1 – Problem Assessment and Response Arrangements (1999 Edition) • MANUAL ON CHEMICAL POLLUTION Section 2 – Search and Recovery of Packaged Goods Lost at Sea (2007 Edition)	www.imo.org
IOGP - International Association of Oil and Gas Producers.	• Aerial Observation of Oil Spill at Sea • A Guide to Oil Shoreline Assessment Survey • Dispersant Application • Oil Spill Exercises • Oil Spill Training • Oil Spill In Land Response • Oil Spill Response Health and Safety • Oil Spill Waste Minimisation and Management • Oiled Wildlife Preparedness and Response	www.iopg.org

COMPANY/ ORGANIZATION	TITLE	WEB LINK
IOPCF - The International Oil Pollution Compensation Funds	• Claims Manual • Fisheries Guidelines • Tourism Guidelines • Clean-up Guidelines • Example Claims Form	www.iopcfunds.org
IPIECA - International Petroleum Industry Environmental Conservation Association.	• IPIECA Report Series Volume 1: Guidelines on Biological Impacts of Oil Pollution • IPIECA Report Series Volume 2: Guide to Oil Spill Exercise Planning • IPIECA Report Series Volume 3: Biological Impacts of Oil Pollution Coral Reefs • IPIECA Report Series Volume 4: Biological Impacts of Oil Pollution Mangroves • IPIECA Report Series Volume 6: Biological Impacts of Oil Pollution Saltmarshes • IPIECA Report Series Volume 7: Biological Impacts of Oil Pollution: Rocky Shores • IPIECA Report Series Volume 8 Biological Impacts of Oil Pollution: Fisheries • IPIECA Report Series Volume 9 Biological Impact of Oil Pollution: Sedimentary Shores • IPIECA Report Series Volume 12 Guidelines to Oil Spill Waste Minimisation and Management • IPIECA Report Series Volume 13 A Guide to Oiled Wildlife Response Planning • IPIECA Report Series Volume 14 Guide to Tiered Preparedness and Response • IPIECA Report Series Volume 15 Dispersants and their Role in Oil Spill Response • IPIECA/IOGP: Oil spill responder health and safety (February 2013) • IPIECA/IOGP: Sensitivity mapping for oil spill response (April 2012) • IPIECA/IOGP Good Practice Guide: A guide to oiled shoreline assessment (SCAT) surveys (January 2014) • IPIECA/IOGP Good Practice Guide: Aerial observation of oil spills at sea (February 2015) • IPIECA/IOGP Good Practice Guide: At-sea monitoring of surface dispersant effectiveness (December 2014) • IPIECA/IOGP Good Practice Guide: Contingency planning for oil spills on water (April 2015) • IPIECA/IOGP Good Practice Guide: Dispersants: Subsea Application (June 2015) • IPIECA/IOGP Good Practice Guide: Dispersant: Surface application (April 2015)	www.ipieca.org

COMPANY/ ORGANIZATION	TITLE	WEB LINK
	• IPIECA/IOGP Good Practice Guide: Incident management system (IMS) (August 2014) • IPIECA/IOGP Good Practice Guide: Oil spill exercises (July 2014) • IPIECA/IOGP Good Practice Guide: Oil spill response training (February 2014) • IPIECA/IOGP Good Practice Guide: Oil spill waste minimisation and management (April 2014) • IPIECA/IOGP Good Practice Guide: Oiled wildlife preparedness and response (October 2014) • IPIECA/IOGP Good Practice Guide: Response strategy development using net environmental benefit analysis (NEBA). (June 2015) • IPIECA/IOGP Good Practice Guide: Tiered preparedness and response (January 2015) • IPIECA/ITOPF Oil Spill Compensation: A guide to the International Conventions on Liability & Compensation for Oil Pollution Damage	
ITOPF - International Tankers Owners Pollution Federation	• ITOPF TIP 1 Aerial Observation of Oil Spills • ITOPF TIP 2 Fate of Marine Oil Spills • ITOPF TIP 3 Use of Booms in Oil Pollution Response • ITOPF TIP 4 Use of Dispersants to Treat Oil Spills • ITOPF TIP 5 Use of Skimmers in Oil Pollution Response • ITOPF TIP 6 Recognition of Oil on Shorelines • ITOPF TIP 7 Clean-up of Oil from Shorelines • ITOPF TIP 8 Use of Sorbent Materials in Oil Spill Response • ITOFP TIP 9 Disposal of Oil and Debris • ITOPF TIP 10 Leadership Command and Management of Marine Oil Spills • ITOPF TIP 11 Effects of Oil Pollution on Fisheries and Mariculture • ITOPF TIP 12 Effects of Oil Pollution on Social and Economic Activities • ITOPF TIP 13 Effects of Oil Pollution on the Marine Environment • ITOPF TIP 14 Sampling and Monitoring of Marine Oil Spills • ITOPF TIP 15 Preparation and Submission of Claims from Oil Pollution • ITOPF TIP 16 Contingency Planning for Marine Oil Spills • ITOPF TIP 17 Response to Marine Chemical Incidents	www.itopf.com
Joint Industry Projects (JIP) – Good Practice Guidance	• Aerial Observation of Oil Spills at Sea • A Guide to Oiled Shoreline Assessment (SCAT) Surveys • A Guide to Shoreline Clean-up Techniques • At-Sea Containment and Recovery • Contingency Planning for Oil Spills on Water • Dispersants: Surface Application	http://www.oilspillresponseproject.org

COMPANY/ ORGANIZATION	TITLE	WEB LINK
	• Economic Assessment of Compensation for Marine Oil Spills • Impact of Oils Spills on Marine Ecology • Impacts of Oil Spills on Shorelines • In-Situ Burning of Oil Spills • In-water Surveillance of Oil Spill at Sea • Oil Spill Exercises • Oil Spill Responder Health & Safety • Oil Spill Training • Oil Spill Waste Minimization and Management • OSPR: An Introduction to Oil Spill Response • Response Strategy Development using NEBA • Sensitivity Mapping for Oil Spill Response • Surface Surveillance Capabilities for Oil Spill Response using Remote Sensing • Tiered Preparedness and Response • Wildlife Response Preparedness	
NOAA - National Oceanographic and Atmospheric Administration	• Trajectory Analysis Handbook • Open Water Oil Identification Job Aid for Aerial Observation • Dispersant Application Job Aid • Shoreline Assessment Job Aid • Characteristic Coastal Habitats – Choosing Spill Response Alternatives • Characteristics of Response Strategies – A Guide for Spill Response Planning in Marine Environment	http://response.restoration.noaa.gov/oil-and-chemical-spills/oil-spills/resources/job-aids-spill-response.html
OSRL - Oil Spill Response Limited	• Aerial Surveillance Field Guide • Containment and Recovery Field Guide • Dispersant Application Field Guide • Dispersant Application Monitoring (Tier 1) • Dispersant Application Monitoring (Tier 2 & Tier 3) • Incident Management Handbook • Inland Operations Field Guide • Offshore In-situ Burning Operations Field Guide • Oil Spill Response Field Guide • SCAT Field Guide • Shoreline Operations Field Guide • Vessel Dispersant Application Field Guide • Waste Management Field Guide	www.osrl.com
POSOW -Preparedness for Oil-polluted Shoreline clean-up and Oiled Wildlife interventions	• Oiled Shoreline Assessment Manual • Oiled Shoreline Clean-up Manual • Oil Spill Volunteer Management Manual • Oiled Wildlife Response Manual • Oil Spill Waste Management Manual • Fisherman's Support in Oil Spill Response	www.posow.org/documentation/manual

17.2 Data and Conversion Tables

This section contains potentially useful data and conversion tables, for use in a response.

Table 17.2 - Beaufort Scale

WIND SPEED (knots)	BEAUFORT SCALE	MAX. WAVE HEIGHT (m)	SEA STATE	APPEARANCE
1 - 3	1	0.1	0	Calm – small ripples, without foam crests
4 - 6	2	0.3	1	Small wavelets, do not break
7 - 10	3	1.0	2	Large wavelets, beginning to break
11 – 16	4	1.5	3	Small waves, frequent foam crests
17 - 21	5	2.5	4	Large waves, many foam crests
22 - 27	6	4.0	5	Large waves, some spray, foam crests everywhere

Table 17.3 - Bonn Agreement Code

CODE	APPEARANCE	APPROXIMATE THICKNESS		LITRES PER KM^2
		MINIMUM (µm)	MAXIMUM (µm)	
1	Silver Sheen	**0.04**	**0.3**	40-300
2	Rainbow Sheen	**0.3**	**5.0**	300-5000
3	Metallic	**5.0**	**50**	5000 – 50,000
4	Discontinuous true colour	**50**	**200**	50,000 – 200,000
5	Continuous true colour	**200**	**>200**	200,000 - > 200,000

Table 17.4 - Conversion Table

VOLUME		
1 Barrel (US)	= 42 Gallons (US)	= 159 Litres
1 Barrel (Imp)	= 45.1 Gallons (Imp)	= 205 Litres
1 Gallon	= 1.2 Gallons (US)	= 4.546 Litres
1 Cubic Metre	= 1000 Litres	= 6.29 Barrels
1 Litre	= 0.22 Gallons (Imp)	= 0.03531 Cubic Feet
1 Cubic Yard	= 0.765 Cubic Metres	
1 Cubic foot	= 0.0283 Cubic Metres	
1 Cubic Decimetre	= 0.001 Cubic Metres	= 1 Litre
1 Tonne (Metric)	= approx. 7.5 Barrels (US)	= 262Gallons (Imp)
AREA		
1 Acre	= 0.405 Hectares	= 4050 Square Metres
1 Hectare	= 10000 Square Metres	= 2.471 Acres
1 Square Kilometre	= 100 Hectares	= 247 Acres
1 Square Metre	= 1.196 Square Yards	
1 Square Yard	= 0.836 Square Metres	= 9 Square Feet
1 Square Foot	= 0.093 Square Metres	
1 Square Mile	= 2.59 Square Kilometres	= 640 Acres
LENGTH/DISTANCE		
1 Kilometre	= 0.54 Nautical Miles	= 0.622 Miles
1 Nautical Mile	= 1.852 Kilometres	= 1.151 Miles
1 Mile	= 1.609 Kilometres	= 1760 Yards
1 Metre	= 1.094 Yards	= 3.282 Feet
1 Yard	= 0.914 Metres	
1 Foot	= 0.305 Metres	
1 Inch	= 25.4 Millimetres	
SPEED		
1 Knot	= 1.85 km/Hour	= 0.51 Metres/Second
1 Metre/Second	= 3.6 km/Hour	= 1.94 Knots
MASS		
1 Tonne (Metric)	= 1000 Kilogrammes	= 0.984 Tons
1 ton (Imp)	= 20 Hundredweight	= 1016.05 Tonnes
1 Hundredweight	= 50.8 Kilogrammes	= 112 lbs
1 Kilogramme	= 2.205 lbs	= (1 Litre of water)
1 Gramme	= 0.035 Ounces	
FLOW (Note: Gallons are Imperial)		
1 Cubic Metre/Hour	= 16.7 Litres/Minute	= 3.671 Gallons/Minute
1 Litre/Second	= 2.119 Cubic Feet/Minute	= 13.21 Gallons/Minute
1 Cubic Foot/Minute	= 0.1039 Gallons/ Second	= 0.472 Litres/Second
1 Gallon/Minute	= 0.0631 Litres/Second	
1 Barrel/Hour	= 2.65 Litres/Minute	= 0.5825 Gallons/Minute
1 Gallon (US)/Acre	= 11.224 Litres/Hectares	
PRESSURE		
1 Psi	= 0.069 Bar	6901 Pascal
1 Bar	= 100000 Pascal	14.49 Psi
1 Bar	= 3 Feet of Water	
ENGINE POWER		
1 Horsepower	= 0.7457 Kilowatts	
TEMPURATURE		
°F to °C deduct 32, multiply by 5, divide by 9. °C to °F multiply by 9, divide by 5, add 32.		

Celsius	0	10	20	30	40	50	60	70	80	90	100
Fahrenheit	32	50	68	86	104	122	140	158	176	194	212

17.3 Glossary of Terms

American Petroleum Institute (API) – The American Petroleum Institute is the main U.S. trade association for the oil and natural gas industry, representing about 400 corporations. One of the chief functions is establishment and certification of industry standards (referred to API Standards).

AREA Command – Area Command is an organization established to oversee the management of multiple incidents that are each being handled by an Incident Command System organization; or to oversee the management of a very large incident that has multiple Incident Management Teams assigned to it. Area command has the responsibility to set overall strategy and priorities, allocate critical resources based on priorities, ensure that incidents are properly managed, and ensure that objectives are met and strategies followed.

Area Plans - Area plans are oil spill response plans for a particular area within the geographic area of response. WCMRC's geographic area of response is broken down into eight areas.

Assignments – Assignments are tasks given to resources to perform within a given operational period, based upon tactical objectives in the Incident Action Plan.

Beaufort Force – The Beaufort scale is a measure that relates wind speed to observed conditions at sea or on land. The scale runs from 0 to 12 whereby 0 means "calm" and 12 means "hurricane".

British Columbia Emergency Response Management System (BCERMS) - The management system that co-ordinates and organizes provincial response and recovery to any and all emergency incidents.

Canadian Hydrographic Service (CHS) – The Canadian Hydrographic Service is Canada's hydrographic office, with responsibility for performing hydrographic surveys and publishing paper and electronic nautical charts.

Centistokes (cSt) – A unit of measure of viscosity.

Contiguous – Contiguous is the political or geographical land divisions that, as a group, are not interrupted by other land or water is *contiguous.* In the United States, for example, the "48 contiguous states" excludes Hawaii and Alaska, which do not share borders with other U.S. states.

Countermeasures - A countermeasure is a measure or action taken to counter or offset another one. In oil spill response, a countermeasure is a tactical solution to prevent environmental damage, e.g. pre-booming an environmentally sensitive area.

Delegation of Authority – Delegation of Authority means the delegation of certain responsibilities and authority to a subordinate(s).

Discharge - Discharge means a discharge of a pollutant from a vessel, or a discharge of oil from an oil handling facility engaged in loading to or unloading from a vessel, which directly or indirectly results in the pollutant entering the water, and includes spilling, leaking, pumping, pouring, emitting, emptying, throwing and dumping.

Dispersants – Dispersants are chemicals used to dissipate oil slicks. Dispersants are a type of spill treating agent.

Emergency Incident - In British Columbia, a situation as defined by *Emergency Program Act*, *Environment Management Act* and other provincial acts and regulations which requires saving lives, reducing suffering, protecting property and the environment and mitigating economic and social losses.

Emergency Operations Centre (EOC) - A pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency response.

Enhanced Response Area (ERA) - An enhanced response area is a marine region designated by the Minister of Transport which does not have a Designated Port as a reference point, but which holds the same significance a Primary Area of response. Juan de Fuca Strait is the only ERA on the Pacific Coast.

Environmental Emergency Science Table (EEST) – The Environmental Emergency Science Table (EEST) is Environment Canada's means of providing leadership and expertise during environmental emergencies. This organization and process, located in Montreal and available on request for national and international incidents, replaces the Regional Environmental Emergency Team (REET).

Federal Monitoring Officer (FMO) – The Canadian Coast Guard used to act as The Federal Monitoring Officer who has overall responsibility for monitoring a polluter-managed response to a pollution incident. The CCG will now act as an Incident Commander in Unified Command.

Field Operations Guide (FOG) - A field operations guide is a manual of instructions on the application of the Incident Command System.

First Nations – Within Canada, "First Nations" (most often used in the plural) has come into general use – replacing the deprecated term "Indians" – for indigenous peoples.

Fishermen's Oil Spill Emergency Team (FOSET) - The fishermen's oil spill emergency team is a team of specially trained fishermen who provide logistical and operational support to WCMRC along the B.C. coast.

Full WCMRC Membership – Offered to clients that, under the CSA 2001, are required to have an arrangement with a certified RO. These members will receive the full benefits of WCMRC's response services including equipment and supplied, throughout the duration of a spill. Full members are entitled to discounts on certain WCMRC rates. Full membership is required by:

- Vessels – Bulk and non-bulk oil ship membership agreements are available from the Chamber of Shipping of BC or the Shipping Federation of Canada
- Oil Handling Facilities – Members that receive or ship product across their dock are also required to pay a CSA legislated bulk oil cargo fee. This is used as the base cash flow to keep WCMRC operations in a ready state.

Geographic Response Plans (GRP) – Geographic response plans are geographic-specific response plans for oils spills to water. They include response strategies tailored to a specific beach, shore, or waterway and are meant to minimize impact on sensitive resources threatened by the spill. Each GRP has two main priorities: to identify sensitive natural, cultural or significant economic resources; to describe and prioritize response strategies in an effort to minimize injury to sensitive natural, cultural, and certain economic resources at risk from oil spills.

Geographic Area of Response (GAR) - The geographic area of response is the area identified by a response organization within which it intends to offer its services.

Geographic Information System (GIS) - A geographic information system is an electronic information system that provides a geo-referenced database to support management decision-making.

Government Stakeholders Group (GSG) – The government stakeholders group is a sub-committee of the Regional Environmental Emergencies Team (REET) composed of senior representatives of the government agencies having jurisdiction over the particular spill. The role of the GSG during a spill is to 1.) review and endorse the objectives, priorities and strategies developed by the Incident Command during the Objective and Strategies Meeting, and throughout the Planning process, and 2.) ensure that all stakeholder concerns are considered and where applicable, prioritized within the objectives and strategies.

HAZWOPER - Hazardous Waste Operations and Emergency Response refers to many types of hazardous waste operations and emergency response conducted in the United States under Occupational Safety and Health Administration (OSHA). The standard contains the safety requirements (particularly training) employers and their sub-contractors or public-sector responders must meet in order to conduct clean-ups or emergency response operations.

HazMat – Hazmat refers to a team(s) specially trained to handle dangerous goods.

Hectare – A hectare is a metric unit of area defined as 10,000 square meters.'

Incident - An occurrence either human caused or by natural phenomena, that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources.

Incident Action Plan (IAP) - The Incident Action Plan contains general objectives reflecting the overall incident strategy, and specific action plans for the next operational period.

In-Situ Burning (ISB) – In situ burning involves the controlled burning of oil at the spill site.

Incident Command Post (ICP) - The incident command post is the location at which the primary command functions are executed.

Incident Command System (ICS) – The ICS system is a standardized on-scene emergency management system specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. It was developed by the U.S. Military.

Incident Commander (IC) - The IC is the individual responsible for the management of all incident operations at the incident site. Designations such as "provincial", "federal" and "responsible party" identify the incident commander's jurisdiction. "Coordinator" is often used in the United States.

Incident Objectives – Incident objectives are statements of guidance and direction necessary for the selection of appropriate strategies, and the tactical direction of resources. Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives must be achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

Initial Response – Initial response is the phase where resources are initially committed to an incident.

Initial Response Phase - The Initial Response Phase is the time between the initial notification to WCMRC that a spill has occurred, and the beginning of the ICS Planning and Operational Cycles. This phase covers the responder's first critical hours at an operational clean-up site, aboard a response vessel, at a staging area, or in the Incident Command Post. This phase may be as short in duration as a few hours, or as long as 72 hours depending on the location and nature of the spill. The goal of the Incident Command is to shorten the initial response phase and enter the Planning / Operational Cycle as soon as possible.

Jurisdiction - A range or sphere of authority. At an incident, public agencies have jurisdiction related to their legal responsibilities and authority for incident mitigation. Jurisdictional authority at an incident can be political/geographical (e.g., city, county, state, or Federal

boundary lines), or functional (e.g., police department, health department, etc.). (See Multi-Jurisdiction).

Lead Agency (LA) – The lead agency, In Canada, is the agency designated by law or mandate to have overall responsibility for emergency preparedness and response for their respective government. Also referred to as "key" agency under the *B.C. Emergency Program Act.* The Canadian Coast Guard is the lead agency for ship source spills.

Leader – Leader is the ICS title for an individual responsible for a Task Force/Strike Team or functional Unit.

Manager Plus – Manager Plus is an asset management program used to track inventory and schedule equipment maintenance through work orders.

Marine Communications and Traffic Services (MCTS) – The Canadian Coast Guard managed communications system that provides safety communications and manages the movement of traffic.

Marpol 73/78 – Marpol 73/78 is the International Convention for the Prevention of Pollution from Ships (MARPOL) and is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

Material Safety Data Sheet (MSDS)-. A Material Safety Data Sheet is a written document that outlines information and procedures for handling and working with chemicals. It is an element of the Workplace Hazardous Materials Information System (WHMIS).

Med A-1 – Med A-1 is a basic safety course designed to provide seafarers with the minimum knowledge of emergency response required to safely work aboard a vessel.

Multi-jurisdiction incident – Multi-jurisdiction incident is an incident requiring action from multiple agencies that have statutory responsibility for incident mitigation. In ICS, these incidents will normally be managed using a Unified Command.

Mutual Aid Agreement – Mutual Aid Agreement is a written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.

Notice to Shipping (NOTSHIP) - Notices to Shipping are issued by the Canadian Coast Guard to alert mariners about hazards to navigation or other important information which may affect navigation.

Occupational Health and Safety Administration (OSHA) – OSHA is an agency of the United States Department of Labour.

Oil Pollution Incident - Oil pollution incident means an occurrence, or a series of occurrences having the same origin, that results or is likely to result in a discharge of oil.

Oiled Wildlife Society of British Columbia (OWSBC) – The Oiled Wildlife Society of British Columbia is a not-for-profit organization dedicated to maintaining preparedness for oiled wildlife response in British Columbia. In the event of an oil spill in the Lower Mainland of British Columbia the Oiled Wildlife Society will serve as a resource for emergency equipment and training. This includes, maintaining a centralized stockpile of equipment, establishing contingency plans, and, providing training to key personnel.

Oil Spill Resource Information Service (OSRIS) – OSRIS is a database of coastal atlases used for oil spill response planning.

On Scene - On scene means on site at an oil handling facility and at any other location where the oil handling facility deploys the equipment and resources identified in its oil pollution emergency plan in response to an oil pollution incident.

On Scene Commander– On Scene Commander is an individual responsible for the management of a response to a pollution incident.

Operational Environment - Operating environment means sheltered waters, unsheltered waters or a shoreline.

Operational Period – Operational Period is the period of time scheduled for execution of a given set of operational actions specified in the Incident Action Plan. Operational periods can be various lengths, usually not over 24 hours.

P&I Club – Protection and indemnification clubs are co-operatives of ship owners and ship operators who provide marine insurance for their members.

Pollutant – Pollutant means:

- a substance that, if added to any waters, would degrade or alter or form part of a process of degradation or alteration of the quality of the waters to an extent that is detrimental to their use by humans or by an animal or a plant that is useful to humans
- any water that contains a substance in such a quantity or concentration, or that has been so treated, processed or changed, by heat or other means, from a natural state, that it would, if added to any waters, degrade or alter or form part of a process of degradation or alteration of the quality of the waters to an extent that is detrimental to their use by humans or by an animal or a plant that is useful to humans.

It includes oil and any substance or class of substances that is prescribed for the purpose of CSA, 2001 Part 8 to be a pollutant.

Pollution Damage - pollution damage, in relation to a vessel or an oil handling facility, means loss or damage outside the vessel or oil handling facility caused by contamination resulting from a discharge from the vessel or facility.

Prescribed Oil Handling Facility (OHF) – Prescribed OHF refers to a class of OHF required to have an arrangement with a Transport Canada certified Response Organization for the provision of a response in the event of a pollution incident.

Primary Area of Response (PAR) – PAR is the marine region, extending to a distance of 50 nautical miles in all directions, from the boundaries of a designated port used as a reference point.

Provincial Emergency Co-ordination Centre – Provincial Emergency Co-ordination Centre is an emergency operations centre established and operated at the provincial central co-ordination level to direct and co-ordinate the provincial government's overall emergency or disaster response and recovery efforts whenever a provincial-level of the *B.C. Emergency Response Management System* is invoked (support levels 1003 and above). The centre is located at the Provincial Emergency Program (PEP) headquarters in Victoria.

Provincial Regional Emergency Operations Centre – Provincial Regional Emergency Operations Centre is an emergency operations centre established and operated at the regional level by provincial agencies to co-ordinate provincial emergency response efforts with a region.

Responsible Party (RP) – The RP is an agency or company taking responsibility for impact mitigation (e.g. clean-up, response management) - generally referred to as the "spiller" or "polluter". Term not used to infer "fault" for the incident.

Response Organization - Response organization means any person or body in Canada in respect of which a certificate of designation is issued by the Minister of Transport pursuant to subsection 169(1) of the Canada Shipping Act, 2001.

Response Time Standards – Response time standards are specific timelines for deployment of resources to respond to an oil spill.

SEAPRO - Southeast Alaska Petroleum Resource Organization is a USCG approved OSRO in Southeast Alaska.

Shoreline Clean-up Assessment Technique (SCAT) – SCAT is a simple and comprehensive way to perform a survey of an oil spill affected shoreline. This systematic approach collects and uses data on shoreline oiling conditions to support decision-making for shoreline clean-up.

Sinking Oil – Oil which has a specific gravity at, or higher than that of water.

Site Specific Health and Safety Plan –Site specific health and safety plan is a plan developed to assess and mitigate the risks to oils spill response workers.

Spill Treating Agents – Spill treating agents are chemicals used for oil spill control and may include dispersants, surface washing agents, bioremediation agents and miscellaneous other oils spill control agents.

Stakeholders – A stakeholder is any person, group, or organization affected by, and having a vested interest in, the incident and/or the response operation.

Subscriber Membership – Offered to environmentally-conscious companies that, although not required under the CSA 2001, want to be proactive in their management of potential oil spill. Subscribers can utilize WCMRC professional training, contingency plan testing and associated services, with the added advantage of knowing that WCMRC will assist them in the event of a spill.

Tactics – Tactics are processes for deploying and directing resources during an incident to accomplish the desired objective.

Task Force- Task force is a combination of single resources assembled for a particular tactical need, with common communications and a leader.

Tailgate Safety Meeting – Tailgate safety meeting is a job site communications forum for discussing health and safety risks and the mitigation plan for minimizing the risks. Tailgate safety meetings should be held daily before the work shift commences or at any time should conditions change during the shift.

Team –Team is a combination of the same kind and type of resources, with common communications and a leader (See also Single Resource).

Technical Specialists – Technical specialists are personnel with special skills who can be used anywhere within the ICS organization.

Third Party Agreement – Offered at the time of a spill when the polluter requires both equipment and personnel to assist in the clean-up. Any company can request assistance, but if they are not already a member they must sign a third-party agreement and accept the financial responsibility to cover the cost of the response. Fees for manpower, equipment rental and administration are billed at standard rates.

Tier - A tier is a step process or series of successively increasing resource activations until all the resources are deployed.

Transportation of Dangerous Goods (TDG) –TDG are safety standards and regulations managed by Transport Canada.

Treat - Treat means to carry out an activity, in a manner that has the least detrimental impact possible on the environment, for the purpose of restoring an operating environment in which an oil pollution incident has occurred to its condition before the incident.

Unified Command – Unified command, in ICS, is a unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility, or accountability. The responsible party is also part of unified command.

Vessel of Opportunity (VOO) – Vessels of Opportunity are vessels used to augment company vessels. Vessels may be FOSET members, marine contractors or others with capable vessels.

Vessel of Opportunity Skimming System (VOSS) – VOSS is a package(s) or kit(s) containing an oil spill response skimmer and allied equipment designed to be deployed on available vessels, to augment company vessels.

Volunteer- Volunteer is any individual accepted to perform services by an agency that has the authority to accept volunteer services. A volunteer is subject to the provisions of the authorizing statute or regulations.

17.4 Abbreviations

AMOSC	Australian Marine Oil Spill Centre
API	American Petroleum Institute
APICOM	Associate of Petroleum Industry Cooperative Managers
BC	British Columbia
BCERMS	B.C. Emergency Response Management System (Canada)
BCMOE	B.C. Ministry of Environment
BOCF	Bulk Oil Cargo Fees
BOCFR	Bulk Oil Cargo Fee Rate
CALF	Capital Asset/Loan Free
CALFR	Capital Asset/Loan Fee Rate
CANUSD	Canada United States Dixon Entrance (Contingency Plan)
CANUSDIX	Dixon geographic annex of the JCP
CANUSPAC	Pacific coast geographic annex of the JCP
CCG	Canadian Coast Guard
CEDRE	Centre of Documentation, Research and Experimentation on Accidental Water
CHS	Canadian Hydrographic Service
CO	Carbon Monoxide
CRMS	Customer Relationship Management Software
CSA, 2001	Canada Shipping Act, 2001
cSt	Centistokes
CWS	Canadian Wildlife Service
DFO	Department of Fisheries and Oceans
DO	Duty Officer
ECCC	Environment and Climate Change Canada
EEP	Environmental Emergencies Program, at ECCC
EEST	Environmental Emergency Science Table
ECRC	Eastern Canada Response Corporation
EOC	Emergency Operations Centre
EPA	Environmental Protection Agency, U.S.
ERA	Enhanced Response Area

ETA	Estimated Time of Arrival
FEMA	Federal Emergency Management Agency, U.S.
FMO	Federal Monitoring Officer (Canada Coast Guard)
FOG	Field Operations Guide
FOSC	Federal On-Scene Commander (United States/Canada – federal agency)
FSC	Finance Section Chief
GAR	Geographic Area of Response
GIS	Geographic Information System
GPS	Geographic Positioning System
GRN	Global Response Network
GRP	Geographic Response Plan
GRS	Geographic Response Strategies
GSG	Government Stakeholder Group
HAZWOPER	Hazardous Waste Operations and Emergency Response (OSHA –US)
HS&LC	Health, Safety and Loss Control
HR	Human Resources
IAP	Incident Action Plan
IC	Incident Commander
ICP	Incident Command Post
ICS	Incident Command System
IMH	Incident Management Handbook
IMO	International Maritime Organization
IMT	Incident Management Team
IOGP	International Association of Oil and Gas Producers
IOPCF	International Oil Pollution Compensation Fund (international)
IPIECA	International Petroleum Industry Environmental Conservation Association
IR	Infra-red
ISB	In-Situ Burning
JCP	The Canada-US Joint Marine Pollution Contingency Plan
JIP	Joint Industry Projects
LA	Lead Agency
LEL	Lower Explosive Level
LNO	Liaison Officer

LSC	Logistics Section Chief
MARPOL	International Convention for the Prevention of Pollution from Ships (international)
MCTS	Marine Communications and Traffic Services
MSDS	Material Safety Data Sheet
MSRC	Marine Spill Response Corporation
NC	North Coast
NEBA	Net Environmental Benefit Analysis
NEEC	National Environmental Emergencies Centre
NEECP	Environment Canada's National Environmental Emergencies Contingency Plan
NEP	National Exercise Program
NFPA	National Firefighting and Protection Association
NOAA	National Oceanographic and Atmospheric Administration
NOFO	Norwegian Clean Seas Association for Operating Companies
NOTSHIP	Notice to Shipping
NOP	Next Operational Period
NWSCP	Northwest Spill Contingency Plan
OHF	Oil Handling Facility
OSC	Operations Section Chief
OSHA	Occupational Safety and Health Administration (United States)
OSRIS	Oil Spill Response Information System
OSRL	Oil Spill Response Limited
OSRP	Oil Spill Response Plan
OSRO	Oil Spill Response Organization
OWSBC	Oiled Wildlife Society of British Columbia
P&I Clubs	Protection and Indemnification Club
PAR	Primary Area of Response
PEP	Provincial Emergency Program (Canada - British Columbia)
PFD	Personal Flotation Device
PIO	Public Information Officer
PO	Purchase Order
PORCP	National Places of Refuge Contingency Plan
POSOW	Preparedness for Oil-polluted Shoreline clean-up and Oiled Wildlife interventions

PPE	Personal Protective Equipment
PPM	Parts Per Million
PSC	Planning Section Chief
RO	Response Organization
RP	Responsible Party
SC	South Coast
SCAT	Shoreline Clean up Assessment Technique
SDS	Safety Data Sheet
SEAPRO	Southeast Alaska Petroleum Resource Organization
SIMA	Spill Impact Mitigation Analysis
SLAR	Side Looking Airborne Radar
SSHP	Site-Specific Health and Safety Plans
SOFR	Safety Officer
SOPEP	Shipboard Oil Pollution Emergency Plans
SOS	Safety Ocean Systems
SRM	Spill Response Manager
SVOP	Small Vessel Operator Proficiency
SVMO	Small Vessel Machine Operator
TC	Transport Canada
TDG	Transportation of Dangerous Goods
UC	Unified Command
USA	United States of America
USCG	United States Coast Guard
UTC	Coordinated Universal Time
UV	Ultra Violet
VI	Vancouver Island
VOO	Vessel of Opportunity
VOC	Volatile Organic Compounds
VOSS	Vessel of Opportunity Skimming System
VTS	Vessel Traffic Services (United States)
WCB	WorkSafeBC (Workers' Compensation Board)
WCMRC	West Canada Marine Response Corporation
WHMIS	Workplace Hazardous Material Information System
WorkSafeBC	Workers' Compensation Board
WSMC	Washington State Maritime Cooperative

PART D – APPENDICES

DATA REFERENCES

SOURCE/REFERENCE	DOCUMENT NUMBER	DOCUMENT LOCATION
Vancouver Harbour GRP		Follow this link to access an electronic copy
Greater Vancouver Integrated Response Plan (GVIRP)		Follow this link to access an electronic copy
Nanaimo GRP		Follow this link to access an electronic copy
Prince Rupert GRP		Follow this link to access an electronic copy
SDS Search		Follow this link to access an electronic copy
All ICS Forms		Follow this link to access an electronic copy
All WCMRC Forms		Follow this link to access an electronic copy