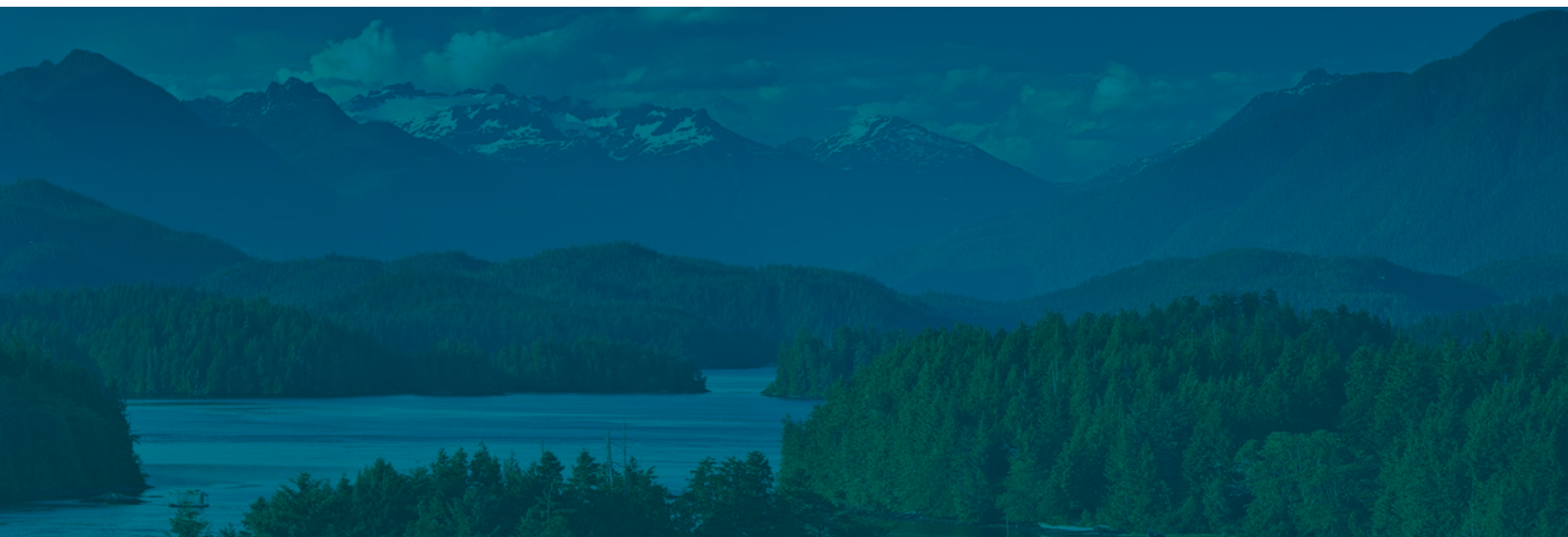




Spill Preparedness and Response in BC

Proposed Amendments to the
Environmental Management Act
and Proposed Regulations



SECTION 1: OVERVIEW

Spill Preparedness and Response in B.C. Legislative and Regulatory Intentions Paper 3

The Province's third intentions paper on spill preparedness, response and recovery entitled *Spill Preparedness and Response in BC: Proposed Amendments to the Environmental Management Act and Proposed Regulations* (IP3) describes the Province's proposed amendments to the *Environmental Management Act* (EMA) in the context of proposed future regulations, existing regulatory actions by other agencies and practices in other jurisdictions.

The aim of IP3 is to collect feedback from First Nations, industry, other government agencies and the public on the specific considerations required in developing future regulations and policies to implement the regime. IP3 lays out the ministry's intent for legislative, regulatory and policy changes across key components of the regime.

Spill Reporting: The ministry intends to standardize the information required in a spill report and require additional reports during the different stages of a spill incident.

Response Times: The ministry intends to establish prescribed response times which will require specific technical feedback from experts in the field as numerous considerations must be addressed before the times can be set.

Sampling and Monitoring: The ministry intends to require responsible parties to perform sampling and monitoring actions following a spill to ensure there is information about the impacts of a spill and success of the response efforts. The ministry is evaluating options to prescribe sampling and monitoring actions.

Regulated Persons: The proposed legislation established a definition of a regulated person who would have to meet specific preparedness and response requirements. It is intended that the regulations would set thresholds of substances and quantities to determine which industries, trades or businesses would be included in that definition. The ministry's first proposal of these thresholds for prescribed

SECTION 1: OVERVIEW

substances is 10,000L transported by rail or truck, 50,000L at a fixed facility, and any prescribe substance transported by pipeline of a kilometre or more.

Spill Contingency Plans: One of the requirements of regulated persons proposed by the ministry would be to have spill contingency plans created, reviewed and updated according to a frequency set in regulation.

Geographic Response Plans: Legislation would allow the Minister to order a Geographic Response Plan (GRP) to be prepared collectively by any regulated persons operating within the designated area, as well as make other requirements around GRPs. The ministry's intent is to propose regulations around content, publication, engagement and accessibility of GRPs.

Area Response Plans: Legislation would require a Preparedness and Response Organization (PRO) to complete an Area Response Plan to receive full certification. The ministry's intent is to propose regulations around content, publication, engagement and accessibility of ARPs.

Testing Spill Contingency Plans: Through the proposed legislation and regulations the ministry intends to set requirements for the testing of contingency plans, through planned tabletop and deployment drills and exercises, as well as unannounced drills and exercises.

Preparedness Record Keeping: Proposed legislation and regulations would require regulated persons to determine the risk posed by their business or operation and maintain records about planning and preparedness activities.

Preparedness and Response Organization: The mechanisms for certifying and regulating a Preparedness and Response Organization (PRO) are enabled in the proposed legislation. Future regulations could set out more details of a PRO; though would not weigh into the specific day-to-day operations or structure of a PRO. A PRO could function as an integrator ensuring preparedness and response activities meet the requirements in law through arrangements with contractors, industry, local governments, First Nations, and other regulators. A PRO would not aim to replace or duplicate functions that exist today in the field, but augment, coordinate and fill gaps in existing resources.

SECTION 1: OVERVIEW

Recovery: The proposed legislation would enable the ministry to require protection and restoration of the environment following a spill. Various recovery planning, assessment and action requirements are being contemplated in future regulations. Should restoration of the damage caused by a spill not be possible, the legislation allows for other forms of compensation to take place.

Fines and Penalties: The proposed legislation extends penalty provisions that exist today into new aspects of the regime.

Report to the Legislative Assembly: The proposed legislation would require the Minister to report to the legislature on the effectiveness of the regime.

Responder Training: The ministry intends to require that responders have appropriate skills and expertise that would be set out in a future regulation.

Advisory Committees: Proposed legislation introduces the concept of three advisory committees that would include opportunities for involvement of First Nations, community members or others with knowledge that could assist in spill planning.

To support IP3 and ensure appropriate feedback and comment is received, the ministry will be proceeding with an engagement process that includes:

- Public comment on the content of the intentions paper;
- A plenary session for industry, local governments, First Nations, and other stakeholders;
- Regional meetings with First Nations;
- Technical working groups; and
- A final summary paper

Following this engagement process, the ministry will begin work on new regulations and operational policies to implement the Provincial Spill Response Regime.

SECTION 1: OVERVIEW

Contents

SECTION 1: OVERVIEW

Introduction.....	6
Contents Overview.....	7
Proposed Changes and Regime Overview.....	8
Timeline and Next Steps.....	9
The Current Regulatory Landscape.....	10

SECTION 2: PROPOSED LEGISLATION AND REGULATION

RESPONSE	14
Spill reporting.....	15
Response times.....	18
Sampling and monitoring.....	20
PREPAREDNESS	22
The regulated person.....	23
PLANNING OVERVIEW	25
Spill contingency plans.....	26
Geographic response plans.....	28
Area response plans.....	30
Testing spill contingency plans	34
Preparedness record keeping.....	36
Preparedness & response organization.....	38
Recovery.....	42

FINES AND PENALTIES	44
Report to the legislative assembly.....	45
FUTURE ELEMENTS	46
Responder training.....	47

SECTION 3

Advisory Committees.....	48
Funding	49
Discussion and Engagement.....	50
Conclusion	51

APPENDICES

A: Spill Reporting: Comparison of Report A and Report B Requirements.....	53
B: Examples of Spill Response Milestones.....	54
C: Regulated Persons Proposed Substance List	55
D: Spill Contingency Plans: Proposed Content.....	64
E: Geographic Response Plans: Proposed Content.....	66
F: Proposed Testing Recordkeeping Topics.....	67
G: Glossary.....	68
H: Engagement Questions	73

Introduction

The Minister of Environment has introduced a bill in the Legislative Assembly to amend the sections of the *Environmental Management Act* (EMA) pertaining to spills. These amendments would apply to the spill of any substance that may have an adverse effect on the environment, human health or infrastructure. The proposed amendments in the bill would replace existing spill response provisions in EMA with new requirements for preparing for, responding to and recovering from environmental emergencies.

The proposed legislative amendments set out a framework for two crucial components of an expanded spill preparedness and response regime: new requirements for preparedness, response and recovery, and a certified preparedness and response organization

(PRO) that is intended to provide a consistent response to all spills in B.C. These enabling amendments would be supported with regulations to be proposed by the ministry. These regulations would contain the details of requirements referenced in the proposed legislation. Future regulations may be supported by guidance documents, policy, certificate conditions or other mechanisms.

To develop the details of the proposed new requirements, the ministry will seek to align as much as possible with other regulators and agencies – both provincial and federal – that have authority in regulating spill prevention, preparedness, response and recovery.

Engagement

Phase 1 (April – May 2016) is centered on this document. The ministry has set up a webpage at engage.gov.bc.ca/spillresponse to provide information and receive feedback.

SECTION 1: OVERVIEW

Contents Overview

This document provides information about the proposed amendments to EMA and is meant to inform upcoming discussions between the ministry and various stakeholders and First Nations.

Section 1

Section 1 provides an overview and context for the proposed new regulatory system.

Section 2

Section 2 contains descriptions of the proposed new requirements, organized into sections for preparedness response, and recovery. Each of the new requirements is explained in a subsection. Each subsection contains a summary of the proposal in italics at the top of the page followed by information on: the proposed regulatory amendments and intended future regulations; links to other aspects of the proposed regime; and, examples of current requirements from other regulators or jurisdictions.

Section 2 also contains information about the provisions for a PRO in legislation and the type of regulations anticipated for a PRO. There is also a description of what a PRO could do and its potential limitations.

Section 2 ends with an outline of proposed requirements that are being considered for development at a later stage.

Section 3

Section 3 contains information on how the ministry will gather feedback. It describes opportunities to learn more about and comment on the proposals as well as details of how the ministry will consider those comments in developing specific regulatory requirements.

Appendices

At the end of this document, appendices provide specific details related to the proposed requirements.

SECTION 1: OVERVIEW

Proposed Changes and Regime Overview

The proposed legislative amendments set out – in a new Division 2.1 of EMA – the framework for the Province to develop and implement new rules for a comprehensive spill preparedness, response and recovery regulatory regime. The amendments would, if passed, provide the ministry with authority to establish and enforce the regime while the proposed future regulations would provide detailed requirements. A suite of new regulations are expected to be developed following engagement to be conducted throughout 2016.

The Province has chosen to outline the details of proposed new requirements in regulations to ensure adequate time to develop the rules in discussion with stakeholders and First Nations. Regulations also provide greater flexibility for future amendments to support continuous improvement.

The ministry has conducted several years of research and discussion leading up to the proposed amendments to EMA. More information on the history of the project is available on the ministry website at www.gov.bc.ca/spillresponse.

Updates on regulatory development will also be posted there.

Preparedness

Those who present a risk beyond a certain threshold (based on substance type and quantity) would be subject to new requirements for preparedness. This includes the need to have detailed spill contingency plans that would be tested through regular drills and exercises. These operations will be known as regulated people.

SECTION 1: OVERVIEW

Timeline and Next Steps

Response

New requirements for spill response would apply to all persons who have a spill with potential impacts to human health and the environment, regardless of substance, location or source, and regardless of whether preparedness measures had been taken. Proposed response requirements include: enhanced spill reporting, response times for trained responders and equipment, and procedures for sampling and monitoring.

Recovery

Following a spill, the ministry proposes to require the responsible person to meet new requirements outlining what actions must be taken to restore impacted resources, and/or provide compensation for damage and loss of use.

Should the proposed amendments pass and receive Royal Assent, the ministry intends to propose regulations, in phases, which will bring the provisions of the legislation into effect and create further regulatory requirements. This would follow discussion with other regulators who play a role in spill preparedness and response to avoid unnecessary duplication. It is expected to take several years to develop and phase in all of the regulatory requirements that form the proposed new regime. This time will be used to resolve outstanding technical and policy issues and to engage on specific details about each regulation with technical experts and those affected by the proposed changes.

The proposed amendments to EMA and any proposed future regulations form one element of a new spill regime for BC. Other components would include: increased collaboration, communication and coordination among industry, First Nations, local government, and provincial and federal regulators; a new information management system for data collection and tracking; and, an improved Environmental Emergencies Program to provide increased oversight. Additionally, future changes to the regime are anticipated to reflect advances in the science related to spills, development of new or improved response techniques, and regulatory innovations in other jurisdictions.

The Current Regulatory Landscape

The Ministry of Environment is one of many provincial and federal agencies with a role in spill preparedness, response and recovery in BC. Each of these regulators has a distinct mandate and/or jurisdiction based on geography, the type of environmental values potentially impacted by a spill, or operational sector (e.g.: railways). In British Columbia, along with the Ministry of Environment, the BC Oil and Gas Commission (Commission) also plays a significant role in regulating spill preparedness and response as it relates to the oil and gas industry.

Federal regulators include: Environment and Climate Change Canada (fixed facilities), Transport Canada (rail, road and marine), the National Energy Board (interprovincial pipelines), the Department of Fisheries and Oceans (including the Canadian Coast Guard) and, Natural Resources Canada. The ministry has designed the proposed changes outlined in this document to provide a consistent regulatory framework across regulators regardless of substance, source or location.

The modernization efforts for emergency management being undertaken by the Province will be extended to the oil and gas sector regulated by the Commission. Regulatory authority for emergency management within the oil and gas sector is currently with the Commission. However, the Commission is working in partnership with MOE in an effort to ensure that the requirements for the provincial oil and gas sector under the *Oil and Gas Activities Act* (OGAA) will be equivalent to any changes proposed for other provincially regulated sectors.

THE CURRENT REGULATORY LANDSCAPE

PROFILE: How the Oil and Gas Commission manages spill preparedness and response

As B.C.'s regulator for oil and gas activities, the BC Oil and Gas Commission (Commission) supports all measures to improve spill preparedness and response. Preventing spills, and responding to them if they do occur is a key component of the Commission's work. There is a sector specific regulatory framework in place for emergency management (including spill prevention) which provides the legal requirements for what needs to be done if a spill does occur. This framework is delivered through oil and gas-specific legislation and regulations, and through the ability to enforce the relevant Ministry of Environment (MOE) legislation and regulations. The Commission maintains a 24/7 emergency contact and callout number dedicated to response to emergency situations and complaints. In addition, the Commission has its own inspectors on the ground to ensure compliance and to provide regulatory oversight during emergencies. The approach to spills in the oil and gas sector is entirely consistent with the design principles of the proposed spill regime framework (polluter pays, avoid unnecessary duplication, fair and transparent process, etc.).

The Commission responds to all spills related to provincially regulated oil and gas operations. Through a Memorandum of Understanding with the National Energy Board (NEB), the Commission may also respond to incidents which occur on pipelines regulated by the NEB. In most cases operations cannot resume until the problem is fixed and a remediation plan is in effect. When required, enforcement actions, such as orders and/or fines, may be issued to an operator. Some specific rules and regulations related to spills, or potential spills, are described in this section

The Commission has a complete and integrated spill response regime, and will leverage existing regulations and expertise to assist the provincial government in developing a broader spill response regime for other industries. The Commission is working closely with MOE on the development and implementation of new regulations and will share its experience in the development of the improved regulatory framework. Where improvements are necessary to the existing regulatory framework for oil and gas activities, the Commission will work with MOE to ensure they are consistent.

THE CURRENT REGULATORY LANDSCAPE

PROFILE:

How the Oil and Gas Commission manages spill preparedness and response

Oil and Gas Activities Act and spills

The *Oil and Gas Activities Act* (OGAA) is the legislation that guides how oil and gas activities are regulated in B.C. Section 37 of OGAA applies to spills from oil and gas activities, stating specifically that a permit holder or person carrying out an oil and gas activity must prevent spillage and promptly report to the Commission any damage or malfunction that could cause spillage. If spillage occurs (or is likely to occur), the permit holder or person must remedy the cause or source, contain and eliminate the spill, remediate any land and report it to the Commission. This is congruent with the Ministry of Environment's regime wherein the Commission has the ability to make orders, the operator is responsible for remediation costs, and the entire process is transparent.

The Commission ensures compliance with the EMA when it comes to restoration of an oil or gas site. Strict requirements under the EMA must be met before the Commission can issue an operator a Certificate of Restoration which certifies that a site has been returned to its previous, pre-activity state.

Case Study: Pipelines

In order to prevent pipeline-related spills, every permit holder designing, constructing, operating, maintaining or abandoning pipeline infrastructure in B.C. must have an Integrity Management Plan (IMP). An IMP is a technical requirement that ensures operators are continuously evaluating the condition of their pipelines and associated infrastructure to prevent leakage and ensure continued safe and environmentally sound operations. Standards for IMPs are defined in the Canadian Standards Association's CSA Z662, and the Commission audits permit holders to ensure compliance.

THE CURRENT REGULATORY LANDSCAPE

PROFILE: How the Oil and Gas Commission manages spill preparedness and response

Emergency management and spill prevention and response

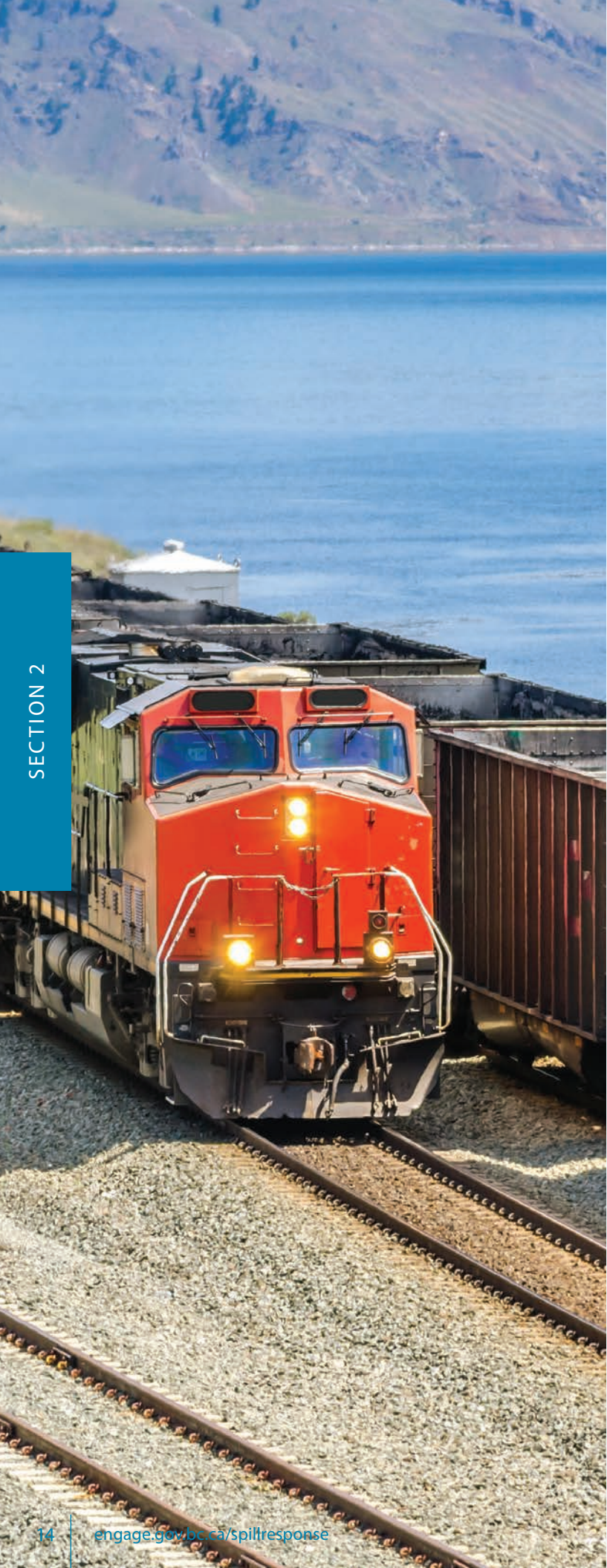
The Commission plays an integral role in emergency management, part of which is ensuring that oil and gas permit holders are adequately prepared to effectively prevent, detect and respond to spills. The Commission ensures compliance with its Emergency Management Regulation, which establishes detailed requirements that oil and gas operators in B.C. must follow to be prepared for, and respond to, emergencies. Spill prevention and response involves the efforts of individuals, private sector, local, provincial and federal governments to identify threats, determine vulnerabilities and ensure required resources are available to respond effectively to an emergency.

The Commission proactively establishes and enforces emergency preparedness requirements, and works with industry on best management practices, including advances in science and technology. A combination of

reviews, assessments and field inspections are used to ensure permit holders comply with the Emergency Management Regulation and *Oil and Gas Activities Act*. As well, an audit and inspection program ensures permit holders have processes and procedures to react to an emergency in a safe and timely manner.

All permit holders must have site specific Response Contingency Plans as part of their overarching Emergency Management Programs and these must be submitted to the Commission annually for review. The Commission ensures that individual response plans meet the requirements and standards established in legislation, regulation and national standards.

Emergency exercises are audited by the Commission to confirm the adequacy of emergency response systems and processes. Based on these audits, evaluations and reviews, recommendations are made for improvement in terms of response capacity, training and procedures.



SECTION 2: PROPOSED LEGISLATION AND REGULATION

Response

Proposed new requirements for spill response would apply to any party who has a spill, regardless of substance, location or source.

Spill reporting

Currently, the Spill Reporting Regulation under the Environmental Management Act requires a single and immediate report from the responsible person once a substance has spilled at or above a stated quantity. The ministry proposes to amend the regulation to require the responsible person to use standardized forms and timelines to report changes in spill conditions and their progress in responding to the spill.

Proposed legislation

Proposed amendments to EMA define a responsible person as a person who has possession charge or control of a substance or thing when a spill of the substance or thing occurs or is at imminent risk of occurring. Proposed amendments to EMA enable regulations respecting a variety of spill response actions including spill reporting.

Proposed regulations

The ministry intends to set out regulatory requirements that would standardize the type of information required in a spill report and set required timelines for reporting. In addition to the initial report currently required, the ministry proposes requiring the responsible person to provide: additional reports in the first 48 hours to confirm the initial information provided; status reports during an ongoing response; and, an end-of-response report that signifies the transition from the clean-up to recovery phase of the overall response. (Reporting during recovery will differ, but will align with the spill reporting requirements to ensure regulatory efficiency and effectiveness.) The responsible person would be required to make the initial report by telephone. All follow up reports could be submitted using a secure web form.

The ministry intends to propose regulations requiring the responsible person to follow five reporting stages after discovering a reportable spill:

1. Initial Spill Report A

(immediately after spill discovery)

The responsible person would be required to contact the emergency call centre to provide initial information about the

Spill reporting *continued...*

incident (See APPENDIX A: Spill Reporting: Comparison of Initial Spill Report A and Report B Requirements for details of content.). The report must be complete to the extent it is practical and safe to obtain the information requested. Any significant new information to complete initial spill report is to be reported as soon as possible.

2. Initial Spill Report B

(within 6 hours of spill discovery)

The responsible person would be required to submit the second report which would update and confirm information contained in the first spill report and contain additional details about the incident. (See APPENDIX A: Spill Reporting: Comparison of Initial Spill Report A and Report B Requirements for details of content.)

3. Confirmation report

(within 48 hours of spill discovery)

The ministry intends to propose regulations requiring that the report submitted in Initial Spill Report B be updated 48 hours after a spill has been discovered, either with new information or with a confirmation that what was provided earlier remains accurate. This would provide a requirement

for the responsible person to update the spill report with more accurate assessments of quantity, impacts, and other details once the scene is under control.

4. Follow-up reports during response

(as requested by the ministry, if conditions change significantly, or every 30-days)

The content for these reports would contain response actions, the quantity of spilled material collected to date, disposal methods, the overall environmental impacts and the success of response efforts. The ministry is exploring whether the format of follow-up reports should mirror the format of the ICS 209 Incident Status Summary form that would be required of a scaled-up incident command structure.

5. End of spill report

(within 30 days of completion of the emergency response phase)

The end of spill report would provide a detailed overview of the incident, including details on the quantity spilled, amount recovered and how it was disposed of, as well as a discussion of the techniques used to respond and tentative next steps (e.g., indicate whether a determination was made regarding the need for restoration).

Discussion

The ministry intends to align its reporting requirements as closely as possible with requirements from other regulators or industry best practices to avoid unnecessary duplication. All written reports would be submitted electronically to a secure ministry web space using a standard template along with photographs. The ministry intends to require that photographs of the spill or incident be submitted as soon as practicable.

Links to other aspects of the regime

This proposed regulatory requirement would supply information that could be used to determine whether a recovery plan is required for the spill and what recovery actions may be necessary. (See pg. 42 for Recovery.)

Other jurisdictions and regulators

Most provinces require spills to be reported and many require updates. As an example, the province of Alberta requires any updates to the Initial Spill Report to be submitted in an electronic format within seven days of spill notification.

Some federal regulators also require reporting. For example, Transport Canada's Transportation of Dangerous Goods Regulations requires immediate spill reporting and a 30-day follow-up report. Transport Canada is considering a new requirement for a final report within one year after the follow-up report. The final report would provide confirmation that the spill has been contained as well as details on the substance recovered from the spill site.

Specific to oil spills, the Pacific States/ British Columbia Oil Spill Task Force (which includes Alaska, California, Hawaii, Oregon, Washington and British Columbia) collects information via an oil spill database.

Response times

Currently, the ministry does not prescribe response times in regulation. Proposed legislative amendments would allow the ministry to develop regulations prescribing response times that a responsible person must meet in the event of a spill. Regulating response times is complex and the ministry must complete additional research before specific response times would be proposed.

Proposed legislation

The proposed amendments to EMA enable the ministry to place requirements on the responsible person to have skilled and experienced personnel respond to the spill, deploy the appropriate equipment, implement an incident command system, and arrive at the spill within a prescribed period of time. The prescribed period of time is the response time.

Proposed regulations

The ministry intends to propose a regulation that would establish the prescribed response times for applicable response milestones.

Discussion

The ministry intends to establish clear direction on response times, but recognizes regulating in this area is challenging and therefore would seek technical feedback from stakeholders before proceeding.

Responder safety will remain the first response priority. Failure to meet the future prescribed response times would be acceptable in instances where responder safety was at risk or the responsible person experienced factors reasonably beyond their control. In these situations, a responsible person may be asked for information confirming that all reasonable efforts were made.

The ministry is considering numerous response milestones which could have corresponding response times. (See APPENDIX B: Examples of Spill Response Milestones for a list.) The ministry does not intend to prescribe response times for each milestone but rather select key milestones to serve as indicators that the response is occurring appropriately.

Links to other aspects of the regime

Response time requirements, if set in regulation, would inform three levels of response planning: spill contingency planning (see pg. 26), geographic response planning (see pg. 28), and area response planning (see pg. 30).

Other jurisdictions and regulators

Guidelines or planning standards for response times are common, however very few regulators have set mandatory response times in regulation.

Transport Canada sets response times for the marine environment that must be met by response organizations following an oil spill.

The State of Washington requires a response time planning standard be used in contingency planning. For example, plans must indicate a strategy for mobilizing dedicated resources to the scene of a spill within 30 minutes and non-dedicated resources within one hour. Potential spillers are required to plan to this standard but are not required to perform to this standard in responding to an actual spill.

Individual companies and industry associations have guidelines for spill response. For example, the Canadian Fuels Association and the Canadian Energy Pipeline Association have response time guidelines for land transportation and pipelines respectively.

Sampling and monitoring

Currently, the ministry can order a responsible person to conduct monitoring and sampling as part of the response to a spill however this is not routinely required. The ministry intends to require sampling and monitoring as part of routine spill response actions.

Proposed legislation

Proposed amendments to EMA would enable the imposition, by regulation, of sampling requirements to determine the extent of the impacts and threats posed by a spill and to monitor the effectiveness of response and recovery actions.

Proposed regulations

The ministry is considering proposing requirements for sampling and monitoring as part of routine spill response measures following certain types of incidents. The responsible person may be required to monitor following a spill to assess risk to and impact on the environment, human health, and infrastructure. Monitoring data may be required as part of follow up spill reports.

In developing regulations, the ministry is considering whether the degree of initial sampling would vary according to the type of substance spilled, quantity of substance spilled and/or location of the spill.

Following a large incident, the ministry is considering requiring a responsible person to contract a qualified professional (e.g. registered biologist, hydrologist, or hydrogeologist) to develop a comprehensive monitoring program to inform longer term spill response actions and decisions about potential recovery requirements.

Discussion

The ministry recognizes that prescribing sampling and monitoring actions is difficult due to the complexity and variety of possible spill scenarios. The ministry is currently evaluating the best mechanism for sampling and monitoring provisions: regulations, guidance documents, or some combination of the two. The responsible person may also be required to make sampling and monitoring data publicly available in a prescribed manner.

Links to other aspects of the regime

As described above, sampling and monitoring results could inform decisions on recovery plans (see pg. 42).

Other jurisdictions and regulators

The State of California's Code of Regulations requires sampling for petroleum hydrocarbon spills to confirm the quantity recovered.

Alberta requires air quality monitoring during a release of sour gas or high pressure vapour product to track concentrations of the substance. The State of Alaska has a similar requirement to determine if response actions would pose a greater threat to human health, safety, or the environment than the spill itself. Alaska further requires a qualified person to conduct sampling, and to review and assess monitoring results.

Preparedness

Proposed amendments to EMA introduce the concept of a regulated person as being those who have possession, charge or control of prescribed quantities of prescribed substances. Generally speaking, this definition will apply to persons that transport, use or store the prescribed substances at the prescribed quantities, but may apply to others. Those who fit the definition of a regulated person would be required to meet new requirements for preparedness. These are: participating in response planning (individual contingency plans, geographic response plans); testing

of plans through drills and exercises; and, regularly recording and reporting types of materials and quantities stored or transported. The proposed EMA amendments set the framework for these requirements with details to be contained in future regulations.

Those who do not meet the threshold would not be obligated to meet these requirements on an ongoing basis. The ministry would encourage those below the threshold to voluntarily meet some or all of these targets as a best practice.

The regulated person

BC currently has no standard requirements for spill preparedness uniformly across all types of operations that handle hazardous materials. Proposed legislative amendments to EMA would enable the ministry to propose regulations that will set a threshold for who will be required to meet the new preparedness requirements proposed in the amendments.

Proposed amendments to EMA would define regulated persons by prescribed quantities of substances identified on a list to be set by the ministry.

Proposed regulations

The ministry intends to propose a regulation that sets out quantity thresholds of prescribed substances to identify which individuals operating industries, trades or businesses would be designated as regulated persons under EMA. Those individuals would be required to meet proposed new preparedness requirements. The proposed list of prescribed substances are generally materials that are liquid, toxic and persistent.

The ministry is considering proposing the following prescribed quantities:

- 10,000 litres or more of a prescribed substance being transported by rail or truck
- Any quantity of a prescribed substance being transported between two facilities by a pipeline a kilometre or more in length
- 50,000 litres of a prescribed substance being stored at a fixed facility (with a specific exemption for retail gas stations with below ground tank storage)

The ministry is considering establishing an initial list of approximately 140 prescribed substances (See Appendix C for the proposed list).

The regulated person *continued...*

Discussion

The ministry is considering three clarifications to the scope of these requirements:

- A person who has control of multiple prescribed substances which are individually contained would only become a regulated person if one of those substances individually exceeded the prescribed quantity.
- A person who has a single prescribed substance in multiple means of containment at one location (e.g.: cars on a train, multiple tanks at a fixed site) would become a regulated person if the total quantity of the single substance meets the quantity threshold.
- For operations handling mixtures of multiple substances, the regulated person threshold would be triggered if a prescribed substance makes up five per cent or more of a mixture, providing the total quantity meets or exceeds the threshold.

The ministry may propose adding substances to the list or adjusting the quantity thresholds in subsequent amendments to the regulation.

Any person who has a spill – whether or not they meet the threshold as a regulated person – is required to respond to the spill. The proposed regulated person regulation would not change that responsibility.

Links to other aspects of the regime

A future regulated person definition would identify those who are required to:

- Complete spill contingency plans (see pg. 26).
- Test spill contingency plans (see pg. 26).
- Potentially participate in the development of geographic response plans (see pg. 28).
- Report information about quantities and handling of prescribed substances (see pg. 36).
- Have an arrangement with a PRO if one is certified in their area of operations (see pg. 38).

Other jurisdictions and regulators

Both Environment Canada and Transport Canada have planning requirements that are triggered by a combination of substances and quantities. Several Canadian provinces have spill preparedness requirements – some are based on operational sector while others are based on prescribed substances and quantities. For example, Ontario requires emergency planning by industrial facilities and Saskatchewan and Nova Scotia each require emergency plans where hazardous materials are stored in large quantities.

Planning overview

The ministry is proposing a requirement for three types of response planning for BC. In addition to the spill contingency plans that would be required of each regulated person, the ministry intends to establish requirements for two types of higher level preparedness plans: geographic response plans (GRPs) and area response plans (ARPs).

Each planning level would have a different purpose, scale and scope. The two higher levels would provide opportunities for engagement with First Nations, local governments and stakeholders.

Spill contingency plans would demonstrate the regulated person's capacity and capability to respond to the locations and spill hazards associated with their operations. It would also include response plans for a variety of possible spill sizes and scenarios.

GRPs, the second level of planning, would be focussed on predetermining response tactics to be used in the first 48 – 72 hours after a spill in the plan area. Plan areas would be determined based on the sensitivity of the area and the number and size of possible spill sources in the area. The ministry intends to propose requiring multiple GRPs be developed around the province. Any regulated persons that operate in an area designated to have a GRP could be required to work collaboratively in its development.

ARPs, the third level of planning, are focussed on large areas of the province. Developing ARPs may rely largely on aggregating existing information such as spill response equipment inventories. ARPs could use a mix of quantitative and qualitative assessments of spill hazards and potential consequences. Development of ARPs is anticipated to be the responsibility of a preparedness and response organization.

Spill contingency plans

Currently spill contingency plans are not consistently required for all operations above a certain risk threshold. The ministry intends to propose regulations that would specify format, content, review and publication of these plans.

Proposed legislation

The proposed amendments to EMA would require regulated persons to develop plans for a worst case spill scenario, with worst case to be defined in a future regulation.

Proposed regulation

The ministry intends to propose a regulation that would require regulated persons to determine what types of spill risks they pose. Regulated persons would be required to develop contingency plans that demonstrate their ability to respond to a worst case scenario spill, as defined by the regulation. The proposed regulation would specify plan contents and format as well as the extent of capability and capacity required. The plan would demonstrate that the regulated person has, or has guaranteed access to, trained personnel, equipment and resources to implement the plan in the event of a spill.

See APPENDIX D: Spill Contingency Plan Proposed Content for more details.

The ministry intends to propose a regulation requiring publication of the plans, likely through a website, though provisions would be made for removal of proprietary or personal information before publication.

Discussion

The regulated person would be expected to plan for reasonably foreseeable complications that may affect their ability to implement the plan, such as winter weather conditions, equipment malfunctions, etc. The ministry recognizes that there are scenarios – such as risks to responder safety – that may cause delays or hinder the implementation of the plan.

The ministry proposes requiring spill contingency plans to be reviewed and updated according to a frequency set in regulation. However, any significant changes to the nature of the regulated person's business operation may necessitate more frequent updates. The ministry is proposing to require updates in the following circumstances:

- Loss of equipment that could affect the regulated person's ability to implement the plan.
- Changes in equipment ownership.

- Transfers of equipment to support a spill response (including distance of equipment from original location and anticipated return date).
- If more than 10 per cent of equipment is moved from its usual location, except for a drill or exercise.
- When site-specific hazards and risks change significantly (e.g., increased transportation, storage or use of prescribed substances).

Links to other aspects of the regime

The ministry is considering proposing a requirement, in regulation, for regulated persons to have an arrangement with the PRO (See pg. 38) to ensure sufficient equipment to respond to a worst case spill (as defined in regulation) of a prescribed substance.

Other jurisdictions and regulators

Other government agencies with jurisdiction in BC currently require varying degrees of contingency planning for certain sectors. To avoid duplication, the ministry intends to work closely with other agencies to align planning requirements so that a single plan may be acceptable to multiple agencies.

Examples of planning requirements that currently apply in BC:

- Transport Canada's Transportation of Dangerous Goods Regulations requires Emergency Response Assistance Plans from people who offer dangerous goods for transport.
- Environment and Climate Change Canada's Environmental Emergency Regulations require Environmental Emergency Plans from prescribed entities.
- The National Energy Board requires an Emergency Management Program under the National Energy Board Onshore Pipeline Regulations and requests an emergency procedures manual be filed with the board.
- The Oil and Gas Commission's Emergency Management Regulation requires response contingency plans from the entities regulated by the commission.
- The Ministry of Environment's Hazardous Waste Regulation requires transporters of hazardous waste as well as facilities to have contingency plans.
- The Ministry of Energy and Mines' Health, Safety and Reclamation Code for Mines requires the creation and evaluation of mine emergency preparedness programs and plans.

Geographic response plans

Currently, Geographic Response Plans (GRPs) are not required or regulated in BC. Proposed amendments to EMA would enable the ministry to order the creation of GRPs, which would contain specific tactics to guide response in the first 48 – 72 hours following a spill.

Proposed legislation

Proposed amendments to EMA would enable the Minister to order the following:

- A GRP to be prepared for a designated area. Areas would be designated if the Minister considers that a GRP would improve spill response efficiency or decrease spill risk.
- Regulated persons, or a group of regulated persons operating within a plan area, to prepare, review, test and update a GRP for that area.
- Terms of reference for GRPs.
- The establishment of an advisory committee to advise on the development, review, or testing of GRPs and the reimbursement of members of the committee for expenses necessarily incurred in carrying out their duties.

- Specific people or organizations whose input must be considered in developing a GRP.
- Designating who must pay for developing, reviewing and/or testing the plan.

Proposed regulations

The ministry intends to propose regulations that would set the content, development process, timelines, publication and updating requirements for GRPs. Standardized tactics and terminology used across GRPs will assist responders from any agency or area in understanding how to implement the tactics described in a GRP. The ministry is considering proposing a five-year cycle for updating plans with testing required in between.

The ministry intends to propose regulatory requirements for the publication process, including standardized engagement requirements and a requirement to make the finalized plan available online to the public within a specific timeframe.

Discussion

Due to the number of GRPs anticipated, the ministry anticipates prioritizing areas for GRP creation based on: spill hazards; environmental sensitivity; cultural importance and critical infrastructure; and, the potential to protect the site using best available spill response tactics. These elements would also form the content of a GRP. See Appendix E for a full description of proposed content.

While the Minister could order a regulated person, or group of regulated persons, to prepare a GRP for a designated area, in practice, the ministry anticipates that regulated persons within an area would pool resources to develop GRPs through a third party such as a PRO (See pg. 38).

Links to other aspects of the regime

Under the proposed amendments to EMA, the ministry has the ability to require a regulated person to develop a GRP through a PRO (See pg. 38).

Other jurisdictions and regulators

The states of Alaska and Washington are widely viewed as leading in terms of the detailed information that has been collected to facilitate geographic response planning. Both states use similar terminology, process, content, governance features and a hierarchical approach to GRPs. In addition, industry is familiar with these plans and many large players operate in all three jurisdictions. BC intends to harmonize content with the GRPs required in Washington and Alaska. However, in BC, the development process will differ as regulated persons will be responsible for the GRPs.

Area response plans

Area Response Plans (ARPs) are not currently required or regulated in BC. The proposed amendments to EMA require a certified preparedness and response organization (PRO) to complete one or more ARPs as a condition of certification.

Proposed legislation

Under the proposed amendments to EMA, a conditional PRO seeking full certification must complete an ARP to achieve full certification. The proposed amendments further require the conditional PRO to establish an advisory committee to incorporate technical, First Nation and community input.

Proposed regulations

The ministry intends to propose regulations establishing: the content, form and development process for ARPs; notification and publication processes; and, requirements for periodic plan review, testing and updating. For example, future regulations may require that:

- ARPs be reviewed and updated after a defined period (eg., every five years).
- Exercises be used to test aspects of a plan.
- Certain elements of a plan be published for clarity of roles and responsibilities and to reduce duplication of effort.

Similar to GRPs, the ministry further intends to propose regulations requiring payment and reimbursement of the advisory committee members. This is to provide First Nations and other specified participants with reimbursement for travel and other expenses incurred while participating in ARP development.

Also similar to GRPs, the ministry intends to propose regulatory requirements for the publication process, including standardized engagement requirements and a requirement to make the finalized plan available online to the public within a specific timeframe.

The following table summarizes proposed content for ARPs in BC, though not all types of content may be required in all ARPs.

AREA RESPONSE PLAN SECTIONS	TOPICS IN EACH SECTION
<i>Response</i>	Emergency response notification (contact information) Emergency response incident command system Response guidelines and procedures
<i>Resources</i>	Community profiles Available equipment Trained personnel Resource information Logistics
<i>Substance</i>	Hazmat response Hazmat action Area hazard assessment Radiological and biological substance issues
<i>Sensitive Areas</i>	Information source Areas of environmental concern Resource sensitivity Biological and human use resources Land management
<i>Background</i>	Support information Response policy and strategies Area spill history and fate
<i>Scenarios</i>	Worst case and other scenarios
<i>Geographic Response Plans</i>	All that are in the related area

Area response plans *continued...*

Discussion

A conditional PRO could create these plans more efficiently by collaborating with other regulated persons. This may also generate efficiencies in the two other levels of planning: contingency plans and GRPs.

The ministry anticipates that the advisory committee in relation to ARPs would be coordinated by the conditional PRO and its membership would include provincial and federal government representatives, First Nations, local governments, and other stakeholders. The advisory committee may provide advice on drafting, reviewing, testing and updating ARPs.

Links to other aspects of the regime

ARPs are a means by which a conditional PRO demonstrates the capability and capacity to respond to any spill within the plan area. Successful completion of an ARP is required in order for the Minister to fully certify a PRO for the plan area.

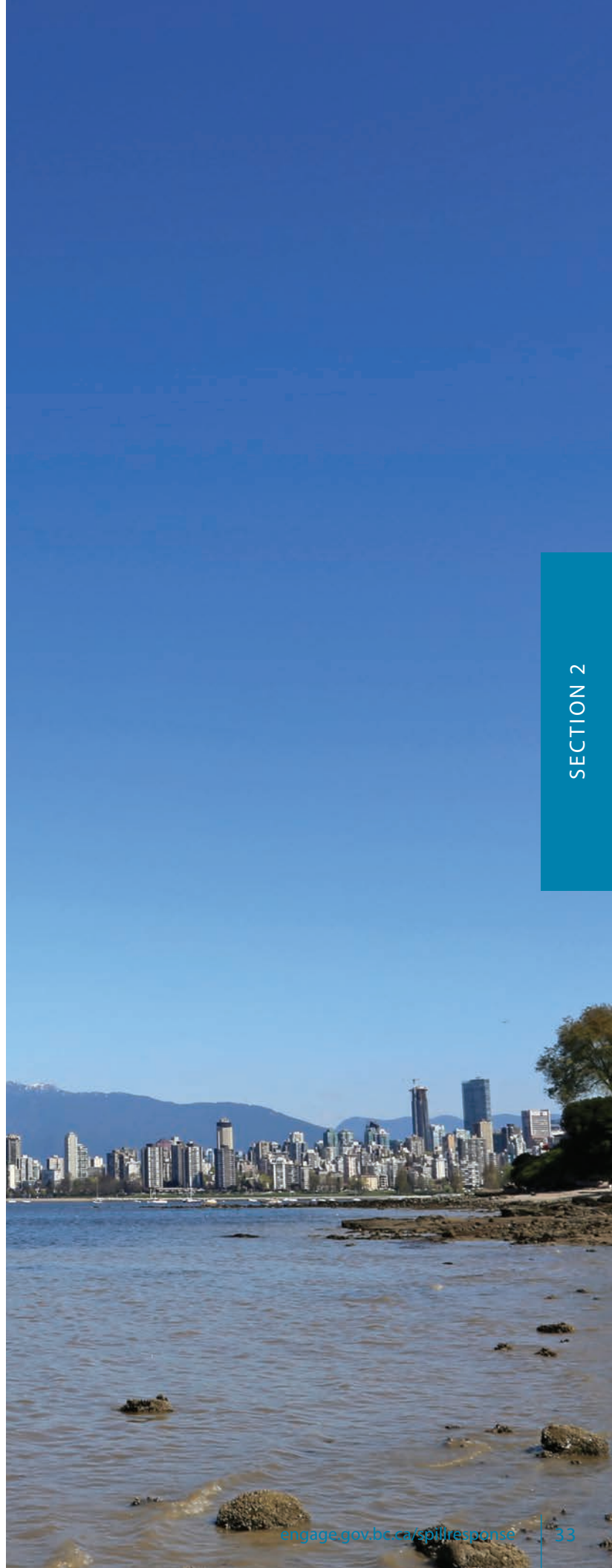
Other jurisdictions and regulators

The ministry is aware of similar area response planning efforts for marine environments and inter-provincial pipelines and railways. Rather than duplication, the intention is to discuss how to best use information already collected and available. However, while alignment is the goal, in BC's regulatory context ARPs would be designed with the specific purpose of demonstrating the capability and capacity of a PRO.

The State of Alaska is a widely recognized leader in area planning with one Unified Response Plan for oil and hazardous spills as well as 10 supporting sub-area plans. The Unified Response Plan is developed and approved by a regional response team comprised of the US Coast Guard, Environmental Protection Agency, and Alaska's Department of Environmental Conservation.

In Canada, the Canadian Coast Guard, Transport Canada, Fisheries and Oceans Canada and Environment and Climate Change Canada are currently developing coastal ARPs through a pilot project.

Federally, Western Canada Marine Response Corporation (WCMRC) is currently required by Transport Canada to have coastal area plans for BC, which are limited to response to marine oil spills from ships.



Testing spill contingency plans

Currently the Environmental Management Act does not require drills and exercises to be used in testing spill contingency plans developed by industry. New regulations would require drills and exercises to evaluate a regulated person's readiness to respond to a spill.

Proposed legislation

Proposed amendments to EMA would require regulated persons to test their spill contingency plans in a prescribed manner and frequency. The proposed amendments also provides a director with the ability to order a regulated person to test their plan at any time through an unannounced drill or exercise.

Proposed regulation

The ministry intends to propose regulations that would set specific requirements for meeting the testing provisions proposed above. The intent is to require a regulated person to demonstrate that they are able to implement their spill contingency plan.

The ministry intends to propose the use of drills and exercises over a three-year testing cycle which would involve:

1. Table top drills which bring key personnel together to test the activation of a particular aspect of a contingency plan in a simulated spill scenario (e.g.; communications, scaling up an incident command post, responder call out)
2. Deployment drills: bring key personnel together to discuss the deployment of a specific aspect of the contingency plan in a simulated spill scenario (e.g.; the deployment of spill response equipment)
3. Deployment exercises: bring key personnel together to test the deployment and/or use of equipment, personnel and procedures in the field as if a real incident were occurring at a given place and time.

The ministry intends to propose a regulation requiring that one tabletop drill be completed annually along with one deployment drill or exercise. Every three years, a deployment exercise would be required to test the response to a worst case spill, with 'worst case' to be defined in the proposed regulation.

The ministry intends to propose requirements for the regulated person to maintain records related to each drill and exercise including

an evaluation of the drill or exercise. A list of topics being considered for mandatory inclusion in those records can be found in Appendix F. Where the ministry orders an unannounced exercise or drill, it may also require a completed report on the regulated person's performance, including recommendations. The ministry is considering making these reports public.

Discussion

The ministry is considering allowing responsible parties to use their response to a spill event – under certain conditions – to satisfy the testing requirement for that period.

Links to other aspects of the regime

The ministry is considering how third parties may organize and conduct testing on behalf of multiple regulated persons. Refer to the PRO section (pg. 38) for information.

Additionally, the ministry would consider the use of contractors, third-party qualified professionals, or a PRO to evaluate drills and exercises.

Other jurisdictions and regulators

Some regulators require the testing of plans but do not specify how or when such testing must occur.

The *Canadian Environmental Protection Act* (through the Environmental Emergency Regulations) requires environmental emergency plans to be prepared by facilities with prescribed quantities of certain substances. Testing is not prescribed.

Transport Canada requires that Emergency Response Assistance Plans include information about testing, but does not prescribe how tests should be conducted. Transport Canada, through the *Canada Shipping Act*, also requires oil spill exercises for the marine sector.

The BC Oil and Gas Commission, under the *Oil and Gas Activities Act*, requires annual drills and exercises for its emergency management plans.

The Province of Alberta requires operations captured under Directive 71 to conduct a major exercise every three years as well as tabletop exercises in most years.

Many companies and industry associations voluntarily test their plans.

Preparedness record keeping

Preparedness record keeping and reporting of substances transported are not currently required for all sectors. The ministry intends to require record keeping related to spill preparedness such as: equipment inventory and maintenance, personnel training, documentation of completion of drills and exercises, updates to and testing of spill contingency plans. It is also the ministry's intention to require regulated persons to report information about the substances, volumes and locations (including transportation routes) where prescribed substances are present.

Proposed legislation

Under the proposed amendments to EMA, before a spill contingency plan is prepared, regulated persons would be required to: determine the magnitude of risk from their business or operation by conducting investigations, tests and surveys; keep certain records; and, prepare and submit prescribed reports to a director. A director would have the authority to order a regulated person to provide a copy of its spill contingency plan and information regarding its operations and activities, as well as the substances used, stored, treated, produced or transported by the regulated person.

Proposed regulations

Amendments also enable requirements for recordkeeping related to training, exercises and drills, equipment and personnel, education and other areas as outlined in proposed regulation. The ministry is considering proposing regulations that would require regulated persons to routinely report information about the materials transported or stored including details such as: the types of substances, volumes, transportation routes, and locations.

Discussion

Reporting information could be provided at prescribed intervals, or sooner if the volume increases over a specified percentage or if the substance changes. The ministry is aware that some reporting is already required by other regulators and would work towards minimizing the duplication of reporting.

Record keeping for a number of years enables the verification of compliance by confirming that personnel are trained, equipment is available and maintained, drills and exercises were performed and the spill contingency plan is updated and tested as required.

Other Jurisdictions and Regulators

Record keeping

- Transport Canada requires holders of Emergency Response Assistance Plans under the Transport of Dangerous Goods Regulations to retain inspection and maintenance records of response equipment. In addition, Transport Canada requires that records be maintained for training and exercises and the activation of the plan and these records be made available upon request.
- Alberta's Directive 071 requires records of plan updates, training, meetings and exercises be retained for a period of three years.
- The State of Washington requires that training records be maintained for five years and be available upon request. It states that records related to equipment maintenance and drills could be inspected.

Information reporting

- The State of Washington currently requires advanced notice of oil transfer operations be made to the Department of Ecology for specific facilities involved in an oil transfer over a specified amount. The state recently announced its intention to create notification rules regarding the movement of oil by rail and pipeline. Washington is considering requirements for facilities receiving crude oil by rail and pipelines transporting crude oil to notify the State, and is establishing procedures for the Department of Ecology to disclose crude oil movement information to the public.
- The Transportation Community Awareness and Emergency Response initiative (TRANSCAER®) is led by the Chemistry Industry Association of Canada (CIAC) and the Railway Association of Canada (RAC). TRANSCAER® members work with municipalities, emergency responders, and residents in communities along transportation routes to provide information about the products being moved through their area, and are prepared to respond to potential incidents involving dangerous goods.
- Recently the Railway Association of Canada (RAC) announced the release of a mobile application (AskRail) for first responders to access real-time information about the content of a train.

Preparedness and response organization

A provincially regulated, industry funded preparedness and response organization (PRO) would ensure capacity and capability to respond to all spills regardless of substances, source or location. The ministry proposes to require all regulated persons to have an arrangement with a provincially certified PRO.

Proposed legislation

Proposed amendments to EMA would require companies that present a defined level of risk – the regulated person – to meet new rules for planning and preparedness. The proposed amendments would also enable a regulation requiring regulated persons to have an arrangement with a PRO for the purposes of meeting those planning and preparedness requirements.

The amendments, if passed, would provide the Minister with the authority to regulate various aspects of the establishment and operation of a PRO including: certification; qualifications and mandated services; planning; a complaint

mechanism for fees; and a regulated person's arrangement with a PRO. The ministry intends to propose regulations addressing these elements.

The proposed amendments to EMA also establish a process for the Minister to receive complaints about a PRO's fee structure. While the ministry does not intend to set requirements for how fee structures are determined, the Minister would address fee disputes that cannot be resolved internally. The proposed amendments would provide the Minister with the authority to:

- Set the cost for filing a fee complaint
- Receive fee complaints
- Dismiss complaints
- Order a PRO to adjust the fee
- Waive the fee
- Order that the fee not apply

The proposed amendments are silent on how a PRO would be structured or operated: a PRO would be responsible for determining this.

Proposed regulation

The ministry intends to propose regulations setting the following process for certifying a PRO:

- **Stage 1: Conditional certification** – Conditional certification would establish that a potential PRO has met prescribed qualifications and is capable of reaching certification, while giving it time in which to reach the requirements for full certification, such as building response capability and capacity. The ministry intends to propose a regulation requiring applications for conditional PRO certification to contain: a business plan showing how and when the organization intends to meet full certification requirements; qualifications as described in the regulation; and, any other information the Minister considers necessary.
- **Stage 2: Full certification** – The Minister would evaluate a PRO's capabilities against the required standards and a PRO's performance in meeting the terms and conditions of the conditional certification. The ministry intends to propose a regulation requiring applications for full PRO certification to contain: an Area Response Plan (or plans) for the area in which a PRO operates; and, any other information the Minister considers necessary.
- **Recertification** – Once fully certified, a PRO would be reviewed by the ministry at prescribed intervals to ensure continued compliance with performance standards. The Minister would have the ability to amend a certificate as needed.

Discussion

A PRO could:

- Provide a centralized inventory of expertise and equipment currently located across various companies, sectors, response contractors and organizations, and industry organizations.
- Meet its preparedness requirements through 1) a mix of arrangements with existing preparedness and response programs (ex: TRANSCAER™), organizations and contractors, and, 2) building internal capacity to address gaps.
- Be available to anyone who has a spill – regardless of whether they have an arrangement with the PRO – on a fee-for-service basis.
- Be directed by government, at a fee, to take over a response where the responsible person is unable, unwilling or unidentified.
- Provide standardized training to assist regulated persons in meeting provincial requirements.

Preparedness and response organization *continued...*

- Provide just-in-time training and volunteer management services.
- Develop and deliver standardized services such as community notification, wildlife response, monitoring and waste handling.
- Develop and deliver communication resources such as a 1-800 number specific to a large or continuous spill, a database management system, satellite phones and inter-operable radios.
- Develop and deliver outreach and education programs.
- Provide a hub for sharing information learned from exercises, drills, incidents and technical research.

A PRO could not:

- Replace the ministry's Environmental Emergency Program or other provincial authorities with roles in spill response.
- Displace direction from other regulators such as the BC Oil and Gas Commission or Transport Canada.
- Have regulatory authority.
- Self dispatch to spills without direction from a responsible person or government.
- Discharge the Crown's obligation to consult with First Nations.
- Be expected to take on long-term restoration actions (though it would have the option of offering this service).
- Be run by the Ministry of Environment.

Links to other aspects of the regime

A PRO could coordinate GRP development (See pg 28) and a contingency plan on behalf of its members (regulated persons).

The ministry is considering proposing a regulation that would allow regulated persons to meet the worst-case scenario required as part of spill contingency planning (See pg 26) by participating in a joint worst-case scenario exercise led by a PRO. The PRO would conduct such an exercise to test its Area Response Plan and if the regulated person operates within the ARP area, and participates in the exercise, their participation could satisfy the three-year testing requirement.

A conditional PRO would be required to complete an ARP (See pg 30) for its operational area as a condition of full certification.

Other jurisdictions and regulators

The *Canada Shipping Act* requires vessels and oil-handling facilities to have an arrangement with a federally certified response organization, sometimes referred to as 'mandatory membership'.

Recovery

Currently, there is no process for determining how long-term impacts to the environment following a spill would be determined so that recovery work, including compensation where recovery is not possible, can occur. The ministry intends to propose requirements for recovery of the environment following a spill by establishing a process for evaluating damage from spills, undertaking recovery actions, and potentially compensating parties who experience damages as a result of a spill.

Proposed legislation

Proposed amendments to EMA would enable the ministry to:

- Require the responsible person to protect and restore the environment following a spill.
- Order a responsible person to prepare a recovery plan to resolve or mitigate the spill impacts.
- Approve a recovery plan or send it back to the responsible person with instructions for amendments.
- Require recovery plans to be carried out by qualified individuals.

- Allow for mitigation measures or payment when the impacts of a spill cannot be restored or completely restored.

Proposed EMA amendments would also allow a director to issue a certificate of recovery if satisfied that an approved recovery plan has been carried out. This certificate would not extinguish liability under Part 7 of the Contaminated Sites Regulation. Additionally, this certificate would be different from a certificate of restoration under the *Oil and Gas Activities Act*, the scope of which is limited to the reclamation of an oil and gas site that is no longer productive.

Proposed regulation

Future regulations could address the following elements of recovery:

- The evaluation of spill damages; the ministry is currently researching different models that may be used to quantify the impacts of a spill.
- Recovery actions required to address damages including on-site restoration or offsetting and mitigation measures where recovery on-site is not recommended.
- Long-term sampling and monitoring to determine the effectiveness of recovery actions.

- Deadlines for submitting recovery plans for review and timelines for conducting recovery actions and monitoring the outcomes.
- Options for determining the end of recovery activities.
- A mechanism for First Nations, local governments, the public and other stakeholders to be involved in determining recovery actions and reviewing plans.

The ministry is continuing policy research on many of the elements listed above as well as considering compensation requirements for the loss of public use of provincial resources such as beaches, parks or highways.

Discussion

The ministry intends to require recovery plans depending on the significance of a spill and at the discretion of the director.

Actions contained in recovery plans would be determined for each spill based on best conservation outcome.

Determination of the end of recovery activities would be science based, take into account the specific injured resources in the individual spill, be developed in consultation with stakeholders and leverage existing work in the ministry.

Restoration at the affected site is preferred as per BC's Environmental Mitigation Policy. The ministry proposes to consider offsetting and mitigation in spills where recovery actions are not feasible (e.g: for safety reasons), would cause further damage to the environment and/or may not support the best conservation outcome. In these situations, the amendments would give a director authority to: order mitigation measures that would compensate or partially compensate for the damage; or, allow restoration work to occur at another location.

Links to other aspects of the regime

Remediation under the Contaminated Sites Regulation may happen at the same time as recovery. The ministry is aware there is a potential for overlap with this regulation and intends to ensure alignment between the two areas.

Other jurisdictions and regulators

The State of Washington has a Natural Resource Damage Assessment process which may be used to address spills.

Fines and penalties

The proposed amendments to EMA include provisions for fines and penalties to encourage compliance.

Proposed amendments would extend penalty provisions currently in the legislation to cover the proposed new requirements.

The ministry intends to propose the use of administrative penalties for contraventions of future proposed regulations regarding spill preparedness, response and recovery. Regulatory requirements proposed in future will also contain offence provisions.

Administrative penalties are discretionary financial penalties that can be administered with less onerous procedural and legal requirements than a court prosecution. They are used by government agencies within BC, including the Ministry of Environment, and across Canada as a means of encouraging compliance with regulatory requirements.

Report to the legislative assembly

The Minister of Environment intends to report regularly to the Legislative Assembly on the effectiveness of the spill program, to support continuous improvement.

Proposed legislation

Proposed amendments to EMA include a requirement for the Minister to report to the legislature on the effectiveness of the spill response regime.

Proposed regulation

The ministry is considering a frequency of between two and four years. The report would focus on the administration and operation of the Environmental Emergency Program and the overall effectiveness of the regulatory framework.

Links to other aspects of the regime

The ministry anticipates that a PRO (see pg. 38) would submit regular reports to the ministry and these reports would be reflected in the Minister's report.

Other jurisdictions and regulators

This is modelled on similar requirements in Alaska and Washington State. Alaska's Department of Environmental Conservation is required to submit a biannual report to its legislature on the Oil and Hazardous Substance Prevention and Response Fund. Washington's Department of Ecology is required to submit a biannual report to the Senate and the House of Representatives on its geographic response plans.

Future elements

In addition to the elements described above, the proposed amendments to EMA would enable the ministry to set requirements for responder training and for several advisory committees referenced in this document.

The ministry does not plan to move forward with these requirements at this time as more technical research and policy design are needed.

These elements are presented here for information purposes. The ministry will seek additional input on these items at a later date.

SECTION 2: PROPOSED LEGISLATION AND REGULATION

Responder training

Currently, the Environmental Management Act does not require spill response personnel in BC to have specialized training to participate in spill response. The ministry intends to require responders to be trained before they are able to respond to spills.

Proposed legislation

The proposed amendments to EMA would require that those personnel responding to the spill site or to an area affected by a spill have the skills and expertise prescribed in a regulation, to be developed at a later date. The amended legislation also enables the prescription of training, again through regulation.

Proposed regulations

The ministry may propose regulations setting requirements for the following types of training:

- Specialized training for Incident Command System positions
- Shoreline Cleanup Assessment Technique (SCAT)

- Oiled wildlife response
- Other technical specialties (in situ burning, dispersant use, sampling and monitoring, etc.)
- Specialized oil spill response techniques
- General training for hazardous material response contractors

Discussion

The ministry recognizes that there are some requirements for spill responder training under certain statutes relevant in BC. The ministry also recognizes that not all responders require all types of training to effectively contribute to spill response. Training could be linked to response function and the ministry may consider provisions for just-in-time training to assist responsible parties in handling large or prolonged responses.

Links to other aspects of the regime

The ministry intends to propose a regulation requiring operations above the threshold (see Regulated Persons pg. 23) to include training in spill contingency plans, which would be tested through drills and exercises.



SECTION 3

Advisory Committees

Proposed amendments to EMA introduce the concept of three distinct advisory committees, including:

- A Minister’s advisory committee on spill preparedness, response and recovery intended to provide strategic advice to the Minister on any aspect of the spill regime;
- A Minister’s advisory committee on geographic response planning; and,
- An advisory committee on area response planning to be established by a PRO.

Opportunities for involvement in the advisory committees should encompass those with governance responsibilities (e.g.: city councils) or local knowledge that could assist in spill planning. While some individuals may overlap among the membership of these committees, the intent is that each committee have unique representation and expertise. The ministry is continuing to explore how each of these committees would function and will be seeking input on their development, procedures and roles.

Funding

The ministry is considering options for providing the funding necessary to support the legislative and regulatory changes described in this document. Decisions have not been made on funding types or sources and options are not outlined in this paper. These discussions will happen at a later date.

Funding options will be determined based on the principles guiding the design of the new spill response regime, in particular: using a fair and transparent process, polluter pays, and providing opportunities for First Nations and communities to be involved.

One of the key goals of improving the spill response regime is for First Nations and communities to have predictable and significant opportunities for involvement both in planning for spills and in shaping the response once a spill has occurred.

The ministry recognizes that First Nations and local governments are often the first parties on the scene when a spill occurs, yet they lack a sustainable financial mechanism to support this role.

Funding options will be considered in a fair and transparent manner and those affected by funding decisions will be involved in discussions at a later date.

Discussion and Engagement

The ministry has designed a five-phase engagement process to discuss the proposed legislative and regulatory changes with industry, First Nations, communities, first responders, other regulators, and others:

- Spill response intentions paper (Phase 1)
- Plenary session for industry, local governments, First Nations and other stakeholders (Phase 2)
- Regional meetings with First Nations (Phase 3)
- Technical working groups (Phase 4)
- Final summary paper (Phase 5)

Phase 1 (April – May 2016) is centered on this document. The ministry has set up a webpage at engage.gov.bc.ca/spillresponse to provide information and receive feedback.

The ministry is holding a series of workshops with First Nations in communities throughout BC (May 2016). Workshops will be held in Fort St John, Kamloops, Prince Rupert, Vancouver, Nanaimo and Prince George. These workshops will be organized and facilitated by the First Nations Fisheries Council, a non-profit First Nation organization which operates throughout the province. Proceedings of these meetings will also be posted on the webpage.

In April 2016, the ministry will hold a two-day workshop for industry, communities, first responders and other regulators (Phase 2). The ministry's technical staff will explain elements of the proposed spill response regime to those directly involved in spill response in British Columbia. Proceedings of the workshop will be on the ministry's spill response website.

The ministry will establish technical working groups (Phase 4) to focus on aspects of the proposed regulations that are technically complex, may be difficult to implement, or will require significant innovation to develop. Each technical working group will consist of 8-12 people representing a range of sectors and perspectives. The ministry will invite individuals with specific expertise in spill response to participate. Membership of the groups will be listed on the website. Most technical working groups are expected to complete their work by July 2016 while some technical working groups may work into the fall of 2016. Any outcomes or recommendations will also be posted on the webpage.

Working group topics may include:

- The PRO: application process, capability

SECTION 3

Conclusion

- requirements, governance
- Response requirements
 - Preparedness requirements
 - Recovery requirements
 - Advisory groups
 - Geographic Response Plans

The ministry will make informed policy decisions on regulatory requirements based on current information about best practices in spill preparedness, response and recovery and with input from technical experts throughout the engagement process.

Once engagement has concluded, the ministry will finalize proposed regulations based on the seven core design principles set by the ministry early in the policy development process:

1. Polluter pays
2. Risk-based requirements
3. Avoids duplication
4. Fair and transparent process
5. Opportunities for First Nations and communities
6. Strong government oversight
7. Continuous improvement

The ministry will continue to engage with technical experts across stakeholder groups on specific regulatory requirements, policies, and practices as regulations are drafted and phased in.



APPENDICES

APPENDIX A: Spill Reporting:

COMPARISON OF REPORT A AND REPORT B REQUIREMENTS

INITIAL REPORT A: TELEPHONE To be reported as soon as possible	INITIAL REPORT B: WEB-FORM Initial report B provides an opportunity for the responsible person to update the information provided in Initial report A immediately following the spill with all necessary information.
Name and telephone number of the reporting person	<ul style="list-style-type: none"> • Updates as required
Name and telephone number of the responsible person.	<ul style="list-style-type: none"> • Updates as required
Location and time of the spill	<ul style="list-style-type: none"> • Date, duration of release and location (latitude and longitude)
Type and quantity of the substance spilled	<ul style="list-style-type: none"> • Incident type (spill/ fire/ explosion), • Source type (vehicle/ facility/ private property/ public lands/ farm or agriculture/ military/ other), • Substance (Material Safety Data Sheet information, United Nations international substance number and shipping name, oil type, physical state contained and released, known or anticipated health effects, quantity spilled to water/to soil/ total, amount recovered/ contained/ disposed)
Cause and effect of the spill	<ul style="list-style-type: none"> • Activity at the time of the incident, cause type (equipment failure/ human error/ external conditions), • Regulated activity (yes/ no), • Affected size of the area, • Surface type (gravel/ asphalt/ water), • Affected or threatened resources, • People evacuated, • Deaths and injuries
Actions taken or proposed to comply with section 31	<ul style="list-style-type: none"> • Containment, recovery techniques, clean up actions, disposal methods and locations
Description of spill location and surrounding area	<ul style="list-style-type: none"> • Updates as required
Further required or contemplated actions	<ul style="list-style-type: none"> • Updates as required
Name of agencies on-scene	<ul style="list-style-type: none"> • Updates as required
Name of persons/ agencies advised of the spill concerns.	<ul style="list-style-type: none"> • Updates as required

Section 3 of the Spill Reporting Regulation states: "Where a spill occurs, the person who immediately before the spill had possession, charge or control of the spilled substance shall take all reasonable and practical action, having due regard for the safety of the public and of himself or herself, to stop, contain and minimize the effects of the spill." http://www.bclaws.ca/Recon/document/ID/freeside/46_263_90

APPENDICES

APPENDIX B: Examples of Spill Response Milestones

Initial notification of the spill to the ministry

Arrival of initial spill response personnel with basic equipment

Arrival of a hazardous materials team on-site

Arrival of subsequent waves of response personnel with additional equipment

Initiation of containment activities

Implementation of control points for any applicable geographic response plan

Commencement of monitoring and sampling activities

Initiation of situational awareness activities for the spill area
(e.g., photos, videos, and overflights as required)

Activation of wildlife response

Establishment of the Incident Command Post

Incident communication via website and/or phone numbers
(system for public to obtain information about the spill and file reports
regarding impacted wildlife and enquire about damage claims)

Assessment of shorelines

Implementation of product recovery / neutralization measures

APPENDIX C: Regulated Persons Proposed Substance List

The ministry proposes an initial list of approximately 140 substances that, together with volumes, would establish the thresholds for becoming a regulated person. This list is provided for discussion purposes. At this stage, the list focuses on liquid, toxic and persistent substances. Any spilled material can have toxic effects, particularly as quantities increase. However, toxic and persistent substances can be expected to have a greater acute or chronic poisoning effect on organisms that come in contact with it. Liquid substances are generally more difficult to contain once spilled and more likely to migrate following a spill. Additional criteria could be added over time in subsequent amendments to the regulation.

APPENDIX C: REGULATED PERSONS PROPOSED SUBSTANCE LIST

<p>SUBSTANCE OR MIXTURES OF SUBSTANCES</p> <p>(Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)</p>	<p>ALSO KNOWN AS</p> <p>(Alternate chemical names, trade names, synonyms)</p>
<p>1,1,1-trichloroethane (methyl chloroform) CCl₃-CH₃ (CAS no. 71-55-6) (UN2831)</p>	<p>Chemical Names: 1,1,1-Trichloroethane; Methylchloroform; Trichloroethane; Methyl chloroform; Chloroethene; Inhibisol</p>
<p>1,2,4,5-Tetrachlorbenzol (CAS no 95-94-3) (UN3077)</p>	<p>Chemical Names: 1,2,4,5-Tetrachlorobenzene; 95-94-3; S-Tetrachlorobenzene; Benzene, 1,2,4,5-tetrachloro-; Tetrachlorobenzene; Benzene tetrachloride.</p>
<p>1,2-DIMETHOXYETHANE (ethylene glycol dimethyl ether) (CAS no 110-71-4) (UN2252)</p>	<p>Chemical Names: 1,2-Dimethoxyethane; Monoglyme; Glyme; Ethylene glycol dimethyl ether; 110-71-4; Dimethyl Cellosolve</p>
<p>2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (CAS no 3846-71-7) (UN3077)</p>	<p>Synonyms: HDBB; UV-320; Tinuvin 320; uv absorber uv-320; 6-di-tert-butylphenol; 2-Benzotriazole-2-yl-4; benzotriazolelightabsorber; Ultraviolet Absorber UV-320; Ultraviolet absorbent UV-320; Hydroxydibutylphenylbenzotriazole</p>
<p>2-Phenylpropene (CAS no 98-83-9) (UN2303)</p>	<p>Alternate chemical names: alpha-methyl styrene; alpha-methylstyrene; alpha-methylstyrol; as-methylphenylethylene; benzene, (1-methylethenyl)-; benzene, isopropenyl-; beta-phenylpropene; beta-phenylpropylene; isopropenyl benzene; isopropenylbenzene; 1-methyl-1-phenylethene; (1-methylethenyl) benzene; methylstyrene; 1-methylvinyl benzene; 2-phenyl propylene; 1-phenyl-1-methylethylene; 2-phenyl-1-propene; 2-phenyl-2-propene; 2-phenylpropene; phenylpropylene; 2-phenylpropylene; 1-propene, 2-phenyl-; styrene, alpha-methyl-. Synonyms: isopropenyl-benzene; prop-1-en-2-ylbenzene; prop-1-en-2-ylbenzol; prop-1-en-2-ylbenzène</p>
<p>3,3'-Dichlorobenzidine (CAS no. 91-94-1) (UN3077)</p>	<p>Chemical Names: 3,3'-Dichlorobenzidine; 91-94-1; Dichlorobenzidine base; 3,3-Dichlorobenzidine; O,o'-Dichlorobenzidine; 3,3'-Dichlorobiphenyl-4,4'-diamine</p>
<p>4,4'-methylenebis(2-chloroaniline) (CAS no. 101-14-4)</p>	<p>Synonyms and trade names: DACPM; 3,3'-Dichloro-4,4'-diaminodiphenylmethane; MBOCA; 4,4'-Methylenebis(o-chloro aniline); 4,4'-Methylenebis(2-chlorobenzenamine); MOCA</p>
<p>5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof] (CAS no 505-22-6) (UN1165)</p>	<p>Names and identifiers: 1,3-Dioxane, 2-(2,4-dimethyl-3-cyclohexen-1-yl)-5-methyl-5-(1-methylpropyl)-; 2-(2,4-Dimethylcyclohex-3-ENE-1-YL)-5-METHYL-5-(1-Methylpropyl)-1,3-Dioxane</p>
<p>5-tert-butyl-2,4,6-trinitro-m-xylene (Musk xylene) (CAS no 81-15-2)</p>	<p>Synonyms: Butyltrinitroxylene,99%; Musk xylol; 1-tert-butyl-3,5-dimethyl-2,4,6-trinitrobenzene</p>

APPENDIX C: REGULATED PERSONS PROPOSED SUBSTANCE LIST

SUBSTANCE OR MIXTURES OF SUBSTANCES (Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)	ALSO KNOWN AS (Alternate chemical names, trade names, synonyms)
Alkanes	
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS no 85535-84-8)	Synonyms: HULS60;Cereclor56L; Witaclor171P; Cereclor50lv; Chlorparaffin40G;C10-13Chloroalkanes; Chloroalkanes C10-13;Alkanes,C10-C13,Chloro;Chloroalkanes(C10-C13); Alkanes, C10-13, chloro
Chlorinated alkanes that have the molecular formula $C_nH_xCl_{(2n+2-x)}$ in which $10 \leq n \leq 20$ (CAS no 63449-39-8)	Synonyms: Chlorinated paraffin; chlorinated hydrocarbon waxes; chlorinated paraffin waxes; chlorinated waxes; chloroalkanes; chlorocarbons; chloroparaffin waxes; paraffin, chlorinated; paraffins, chloro; paraffin waxes, chlorinated; paroils, chlorinated; poly- chlorinated alkanes; polychloro alkanes
alpha-Methylstyrene (CAS no 98-83-9)	Alternate chemical names: alpha-methyl styrene; alpha-methylstyrene; alpha-methylstyrol; as-methylphenylethylene; benzene, (1-methylethenyl)-; benzene, isopropenyl-; beta-phenylpropene; beta-phenylpropylene; isopropenyl benzene; isopropenylbenzene; 1-methyl-1-phenylethene; (1-methylethenyl) benzene; methylstyrene; 1-methylvinyl benzene; 2-phenyl propylene; 1-phenyl-1-methylethylene; 2-phenyl-1-propene; 2-phenyl-2-propene; 2-phenylpropene; phenylpropylene; 2-phenylpropylene; 1-propene, 2-phenyl-; styrene, alpha-methyl-. Synonyms: isopropenyl-benzene; prop-1-en-2-ylbenzene; prop-1-en-2-ylbenzol; prop-1-en-2-ylbenzène.
Benzenamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)- (CAS no 1592-09-8)	Synonyms: trifluralin, 2,6-Dinitro-N,N-di-n-propyl-alpha,alpha,alpha-trifluoro-p-toluidine; 2,6-Dinitro-N,N-dipropyl-4-(trifluoromethyl) benzenamine; 2,6-Dinitro-N,N-dipropyl-4-trifluoromethylaniline; 4-(Di-n-propylamino)-3,5-dinitro-1-trifluoromethylbenzene; 4-(Trifluoromethyl)-2,6-dinitro-N,N-dipropylaniline; Agreflan; Agriflan 24; Benzenamine, 2,6-dinitro-N,N-dipropyl-4-(trifluoromethyl)-; Crisalin; Crisalina; Digermin; Elancolan; Ipersan; L-36352; Lilly 36,352; N,N-Di-n-propyl-2,6-dinitro-4-trifluoromethylaniline; N,N-Dipropyl-2,6-dinitro-4-trifluormethylanilin [German]; N,N-Dipropyl-2,6-dinitro-4-trifluoromethylaniline; N,N-Dipropyl-4-trifluoromethyl-2,6-dinitroaniline; Nitran; Nitran K; Olitref; Su seguro carpidor; Super-Treflan; Synfloran; TRI-4; Trefanocide; Treficon; Treflan; Treflan EC; Treflanocide elancolan; Trifluralina 600; Triflurex; Trifurex; Trikepin; Trim; Tristar; alpha,alpha,alpha-Trifluoro-2,6-dinitro-N,N-dipropyl-p-toluidine; p-Toluidine, alpha,alpha,alpha-trifluoro-2,6-dinitro-N,N-dipropyl-; [ChemIDplus] UN2811

APPENDIX C: REGULATED PERSONS PROPOSED SUBSTANCE LIST

<p>SUBSTANCE OR MIXTURES OF SUBSTANCES</p> <p>(Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)</p>	<p>ALSO KNOWN AS</p> <p>(Alternate chemical names, trade names, synonyms)</p>
<p>Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (CAS no 68921-45-9)</p>	<p>Synonyms: Agerite Stalite; Alkylated DIPHENYLAMINES; octylated, styrenated diphenylamines; Diphenylamine reaction product with styrene and diisobutylene; N-Phenyl-, reaction products with styrene and 2,4,4-trimethylpentene; Reaction product of N-phenylbenzenamine, ethenylbenzene, and diisobutylene; benzenamine,n-phenyl-,reaction products with styrene and 2,4,4-trimethylpente; benzenamine, n-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene; Benzolamin, N-Phenyl-, Reaktions produkte mit Styrol und 2,4,4-Trimethylpenten; N-Phenyl-benzenamine reaction products with styrene and 2,4,4-trimethylpentene</p>
<p>Benzene, 1-methyl-2-nitro-, which has the molecular formula C₇H₇NO₂ (CAS no 88-72-2)</p>	<p>Also known as 2-Nitrotoluene</p>
<p>Bromotrifluoromethane that has the molecular formula CF₃Br (CAS no 75-63-8) (UN1009)</p>	<p>Chemical Names: Bromotrifluoromethane; Bromofluoroform; Trifluorobromomethane; Methane, bromotrifluoro-; Trifluoromethyl bromide; Halon 1301</p>
<p>Brominated ethers and flame retardants</p>	
<p>Bis(pentabromophenyl) ether (decabromodiphenyl ether) (DecaBDE) (CAS no 1163-19-5)</p>	<p>Chemical name: Benzene, 1,1-Oxybis (2,3,4,5,6 Pentabromo Synonyms: Bis(Pentabromophenyl) ether</p>
<p>Brominated diphenyl ether (CAS No. 101-84-8)</p>	<p>Other names: Diphenyl oxide; 1,1'-Oxybisbenzene; Phenoxybenzene</p>
<p>Heptabromodiphenyl ether (see brominated diphenyl ether) (CAS No. 189084-67-1)</p>	<p>Synonym: Heptabromodiphenyl oxide; Benzene, 1,1'-oxybis-, heptabromo deriv.; Diphenyl ether, heptabromo derivativec</p>
<p>Hexabromocyclo-dodecane (HBCDD) and all major diastereoisomers identified: α-hexabromocyclododecane β-hexabromocyclododecane γ-hexabromocyclododecane and Hexabromocyclododecane, which has the molecular formula C₁₂H₁₈Br₆ (CAS no 25637-99-4 and 3194-55-6)</p>	<p>Synonyms: HBCD; 1,2,5,6,9,10-Hexabromocyclododecane</p>
<p>Hexabromodiphenyl ether (CAS no 36355-01-8)</p>	<p>2,2',4,4',5,5'-Hexabromodiphenyl ether; BDE-153; PBDE-153</p>
<p>Pentabromodiphenyl ether (CAS no 32534-81-9)</p>	<p>Chemical names: PBDE 99; 2,2',4,4',5-Pentabromodiphenyl ether; 60348-60-9; 1,2,4-Tribromo-5-(2,4-dibromophenoxy)benzene; BDE-99; BDE No 99 solution</p>

APPENDIX C: REGULATED PERSONS PROPOSED SUBSTANCE LIST

SUBSTANCE OR MIXTURES OF SUBSTANCES (Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)	ALSO KNOWN AS (Alternate chemical names, trade names, synonyms)
Polybrominated diphenyl ethers that have the molecular formula $C_{12}H_{(10-n)}Br_nO$ in which $4 \leq n \leq 10$ (Several CAS nos)	
Tetrabromodiphenyl ether (CAS no 40088-47-9)	Synonyms: 2,2',4,4'-Tetrabromodiphenyl ether; Benzene, 1,1'-oxybis(2,4-dibromo)-; PBDE 47; BDE-47
Chlorobenzenes	
1,2-dichlorobenzene (CAS no 95-50-1)	Chemical Names: 1,2-DICHLOROBENZENE; O-Dichlorobenzene; 95-50-1; Chloroben; Dilantin DB; O-Dichlorbenzol
1,4-dichlorobenzene (CAS no 106-46-7)	Chemical Names: 1,4-DICHLOROBENZENE; P-Dichlorobenzene; Paradichlorobenzene; 106-46-7; Para-Dichlorobenzene; Paracide
Hexachlorobenzene (CAS no 118-74-1)	Chemical Names: Hexachlorobenzene; Perchlorobenzene; Anticarie; Sanocide; 118-74-1; Benzene, hexachloro-. apor-phase hexachlorobenzene
Pentachlorobenzene, which has the molecular formula C_6HCl_5 (CAS NO 608-93-5)	Chemical Names: Pentachlorobenzene; 1,2,3,4,5-Pentachlorobenzene; 608-93-5; Benzene, pentachloro
Tetrachlorobenzenes, which have the molecular formula $C_6H_2Cl_4$ (CAS NO 95-94-3)	Synonyms: NSC 50729; 1,2,3,4-tcb; 1.2.3.4-Tetrac; Tetrachlorobenzene; 1,2,3,4-tetrachloro-benzen; 1,2,3,4-four chlorobenzene; BENZENE, 1,2,3,4-Tetrachloro-; Tetrachlorobenzene, 1,2,3,4-; 1,2,3,4-Tetrachlorobenzene
Chlordecone (kepone) (CAS no 143-50-0)	Chemical names: Chlordecone; Kepone; Clordecone; Merex; 143-50-0; Decachloroketone
Chlorophenols:	
2,3,4,5-Tetrachlorophenol (CAS no 4901-51-3)	Chemical Names: 2,3,4,5-Tetrachlorophenol; Tetrachlorophenol; Phenol, 2,3,4,5-tetrachloro-; Phenol, tetrachloro-; 4901-51-3; 2,3,4,5-Tetrachlorophenate
2,3,4,6-Tetrachlorophenol (CAS no 58-90-2)	Chemical Names: 2,3,4,6-TETRACHLOROPHENOL; Dowicide 6; 58-90-2; Chlorophenols; Phenol, 2,3,4,6-tetrachloro-; 2,4,5,6-Tetrachlorophenol
2,4,5-trichlorophenol (CAS no 95-95-4)	Chemical Names: 2,4,5-TRICHLOROPHENOL; 95-95-4; Dowicide 2; Collunosol; Preventol I; Phenol, 2,4,5-trichloro-

APPENDIX C: REGULATED PERSONS PROPOSED SUBSTANCE LIST

<p>SUBSTANCE OR MIXTURES OF SUBSTANCES</p> <p>(Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)</p>	<p>ALSO KNOWN AS</p> <p>(Alternate chemical names, trade names, synonyms)</p>
<p>Compounds that consist of a perfluorinated alkyl group that has the molecular formula C_nF_{2n+1} in which $n=7$ or 8, or $8 \leq n \leq 20$ and that is directly bonded to any chemical moiety other than a fluorine, chlorine or bromine atom</p>	<p>Environment Canada considered some 90 perfluoroalkyl compounds as being long-chain (C9-C20) PFCAs, their salts and their precursors</p>
<p>Cyclotetrasiloxane, octamethyl-, which has the molecular formula $C_8H_{20}O_4Si_4$ (CAS no 556-67-2)</p>	<p>Also known as Siloxane D-4</p>
<p>Decahydronaphthalene and Decalin (CAS no 91-17-8)</p>	<p>Chemical names: Decalin; Cis-Decahydronaphthalene; Trans-Decahydronaphthalene; CIS-Decalin; 493-01-6</p>
<p>Dibenzo-para-dioxin that has the molecular formula of $C_{12}H_8O_2$ (CAS no 262-12-4)</p>	<p>Also known as dibenzodioxin or dibenzo-p-dioxin (dibenzo-para-dioxin)</p>
<p>Dibromotetrafluoroethane that has the molecular formula $C_2F_4Br_2$ (CAS no 124-73-2)</p>	<p>Chemical Names: 1,2-Dibromotetrafluoroethane; 124-73-2; 1,2-Dibromo-1,1,2,2-tetrafluoroethane; Dibromotetrafluoroethane; Fluobrene; Khladon 114B2</p>
<p>Dioxane (ether) (CAS no 123-91-1)</p>	<p>Chemical Names: 1,4-DIOXANE; P-Dioxane; Dioxane; 123-91-1; Diethylene ether; 1,4-Diethylene dioxide</p>
<p>Henicosafuoroundecanoic acid (CAS no 218-165-4)</p>	<p>Synonym: Perfluoroundecanoic acid</p>
<p>Heptacosafuorotetradecanoic acid (CAS no 376-06-7)</p>	<p>Synonyms: Perfluoromyristic acid; Perfluorotetradecanoic acid; Heptacosafuorotetradecanoic acid; Tetradecanoic acid, heptacosafuoro-</p>
<p>Hexachlorobutadiene, which has the molecular formula C_4Cl_6 (CAS no 87-68-3)</p>	<p>Chemical Names: Hexachloro-1,3-Butadiene; Hexachlorobutadiene; 87-68-3; Perchlorobutadiene; HCBd; Hexachlorobuta-1,3-diene</p>
<p>Hydrochloric acid solutions (CAS no mixture)</p>	
<p>Hydrochlorofluorocarbons that have the molecular formula $C_nH_xF_yCl_{(2n+2-x-y)}$ in which $0 < n < 3$ (CAS no 306-83-2)</p>	<p>Synonyms: HCFC, chlorofluorocarbon, CFC</p>
<p>Isooctenes (CAS no 25167-70-8)</p>	<p>Chemical name: 2,4,4-trimethyl-1-pentene. Synonyms: NSC-8701; Isooctene; isooctene; nsc-73942; Isooctenes; Isooctylene; Diisobutene; Isocaprylenes; Diisobutylene; 2,4,4-TriMethy</p>

APPENDIX C: REGULATED PERSONS PROPOSED SUBSTANCE LIST

SUBSTANCE OR MIXTURES OF SUBSTANCES (Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)	ALSO KNOWN AS (Alternate chemical names, trade names, synonyms)
Isopropenylbenzene (CAS no 98-83-9) UN2303	Alternate chemical names: alpha-methyl styrene; alpha-methylstyrene; alpha-methylstyrol; as-methylphenylethylene; benzene, (1-methylethenyl)-; benzene, isopropenyl-; beta-phenylpropene; beta-phenylpropylene; isopropenyl benzene; isopropenylbenzene; 1-methyl-1-phenylethene; (1-methylethenyl) benzene; methylstyrene; 1-methylvinyl benzene; 2-phenyl propylene; 1-phenyl-1-methylethylene; 2-phenyl-1-propene; 2-phenyl-2-propene; 2-phenylpropene; phenylpropylene; 2-phenylpropylene; 1-propene, 2-phenyl-; styrene, alpha-methyl-. Synonyms: isopropenyl-benzene; prop-1-en-2-ylbenzene; prop-1-en-2-ylbenzol; prop-1-en-2-ylbenzène
Metallic Compounds	
Bis(tributyltin) oxide (TBTO) (CAS no 56-35-9)	Chemical names: TBTO; Hexabutyl-distannoxane; Tributyltin oxide; BIS(TRIBUTYLTIN) OXIDE; Distannoxane, hexabutyl-; Lastanox Q
Tetrabutyltins, which have the molecular formula (C ₄ H ₉) ₄ Sn (CAS no 1461-25-2)	Synonyms: Tetra-n butyltin; Tetrabutylstannane; Tetrabutyltin; (C ₄ H ₉) ₄ Sn; Tin, tetrabutyl-
Tetraethyl lead (CAS no 78-00-2)	Synonyms and trade names: Lead tetraethyl, TEL, Tetraethylplumbane
Tributyltins, which contain the grouping (C ₄ H ₉) ₃ Sn (CAS no 688-73-3)	
Methanone, bis[4-(dimethylamino)phenyl]-, which has the molecular formula C ₁₇ H ₂₀ N ₂ O (CAS no 90-94-8)	Synonym: Michlers ketone; bis[(4-Dimethylamino)phenyl] methanone; Bis[p-(N,N-dimethylamino)phenyl] ketone ;
Methyl Bromide (CAS no 74-83-9)	Synonyms and trade names: Bromomethane, Monobromomethane
METHYL tert-BUTYL ETHER (CAS no 1634-04-4)	Chemical Names: Tert-Butyl methyl ether; Methyl tert-butyl ether; MTBE; Methyl t-butyl ether; 1634-04-4; 2-Methoxy-2-methylpropane
Methylium, [4-(dimethylamino) phenyl] bis[4-(ethylamino)3-methylphenyl]-, acetate, which has the molecular formula C ₂₇ H ₃₄ N ₃ .C ₂ H ₃ O ₂ (CAS no 72102-55-7)	Other names: [4-(Dimethylamino)phenyl]bis[4-(ethylamino)-3-methylphenyl]methylium acetate; MAPBAP acetate
Methylstyrenes, stabilized (CAS no 25013-15-4)	Chemical Names: Alpha-Methylstyrene; 2-Phenyl-1-propene; Isopropenylbenzene; 2-Phenylpropene; 98-83-9; 2-Phenylpropylene
n-AMYLENE (CAS no 25377-72-4)	Synonyms: Pentenes; alkenes
Octachlorostyrene (CAS no 29082-74-4)	Synonyms: octachloro-styren; Octachlorostyrene Standard; Octachlorostyrene solution; pentachloro(trichloroethenyl)-benzen

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SUBSTANCE OR MIXTURES OF SUBSTANCES (Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)	ALSO KNOWN AS (Alternate chemical names, trade names, synonyms)
Organochlorine Pesticide , Liquid, Flammable, Toxic, flash point less than 23 °C	
Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1a,2a,3,4a,5a,6b)- (CAS no 319-84-6)	Also known as γ-lindane
Organophosphorus Pesticide , Liquid, Flammable, Toxic, flash point less than 23 °C	(e.g. parathion)
PAHs	
Anthracene (Anthracene oil, anthracene paste, anthracene fraction, anthracene-low) (CAS no 120-12-7)	Chemical Names: ANTHRACENE; Paranaphthalene; Anthracin; Green Oil; Tetra Olive N2G Synonyms: Anthracene oil;p-Naphthalene;Anthracen;Coal tar pitch volatiles;anthracene;Sterilite hop defoliant
Benzo(a)pyrene (CAS no 50-32-8)	Chemical Names: Benzo[a]pyrene; 3,4-Benzopyrene; Benzo[pqr] tetraphene; 50-32-8; 3,4-Benzpyrene; BENZO(A)PYRENE
Terpene hydrocarbons, N.O.S. (CAS no 63394-00-3)	Synonym: limonene
Petroleum Products	
Crude oil; naphtha; diesel; gas oil; heavy fuel oil; marine intermediate fuel; bunker; naphtha solvents; jet fuel; turbine fuel; gasoline; asphalt; waste oil; waste lube oil	Synonym: petroleum ether; Hex; Petrol; Benzin; Naphtha; Ligroin; Hexanes; benzine; ligroine; n-hexanes; alkane C6; Petroleum distillates; Aliphatic petroleum naphtha, Petroleum naphtha, Rubber solvent; Ligroin
Phenols	
Phenol, 2,4,6-tris(1,1-dimethylethyl)-, and Phenol, 2,6-bis(1,1-dimethylethyl)-4-(1-methylpropyl)-, which have the molecular formula C ₁₈ H ₃₀ O (CAS no 732-26-3)	Chemical names: 2,4,6-Tri-tert-butylphenol; Voidox; Alkofen B; 2,4,6-Tris(tert-butyl)phenol; 2,4,6-Tri-t-butylphenol
Phenol, 4,4'-(1-methylethylidene)bis-, which has the molecular formula C ₁₅ H ₁₆ O ₂ (CAS no 80-05-7)	Synonym: Bisphenol A, epichlorohydrin polymer, 2-methylimidazole condensate
Phthalate esters	
Benzyl butyl phthalate (CAS no 85-68-7)	Chemical Names: Benzyl butyl phthalate; BUTYL BENZYL PHTHALATE; 85-68-7; Sicol; Butylbenzyl phthalate; Palatinol BB
Di-n-butyl phthalate (CAS no 84-74-2)	Chemical Names: Dibutyl phthalate; Di-n-butyl phthalate; N-Butyl phthalate; Butyl phthalate; 84-74-2; Celluflex DPB

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SUBSTANCE OR MIXTURES OF SUBSTANCES (Rows with grey background belong together under the substance group heading in first row of the group). Clear background rows stand alone)	ALSO KNOWN AS (Alternate chemical names, trade names, synonyms)
POLYCHLORINATED BIPHENYLS, LIQUID , regulated only when the concentration is more than 50 ppm by mass	
Chlorobiphenyls that have the molecular formula $C_{12}H_{(10-n)}Cl_n$ in which "n" is greater than 2 (CAS nos – several)	PCBs
Polyhalogenated biphenyls, liquid, and Polyhalogenated terphenyls, liquid regulated only when the concentration is more than 50 ppm by mass (CAS no – none)	Alternate chemical names: Polyhalogenated biphenyl or polyhalogenated terphenyl, [liquid]
Propylene dichloride (CAS no 78-87-5)	Other chemical names: 1,2-dichloropropane; 78-87-5; Propylene chloride; Propane, 1,2-dichloro-; Dwuchloropropan. Other chemical names: 1,2-dichloropropane; 78-87-5; Propane, 1,2-dichloro-
Pulp mill strong black liquor (CAS no 66071-92-9)	
Pulp mill white liquor	
Siloxanes and Silicones, di-Methyl (CAS no 70900-21-9)	Chemical name: Siloxanes and silicones, di Me, 3- [3-[(3-cocoaminopropyl) dimethylammonio] 2-hydroxypropoxy] propyl group terminated, acetates (salts). Other name: Di-quaternised poly dimethylsiloxanespolysiloxanes
Sodium hydroxide solutions (CAS no 1310-73-2)	
Sulphuric acid solutions (CAS no 7664-93-9)	
Tetrachloromethane (carbon tetrachloride) CCl_4 (CAS no 56-23-5)	Synonyms and trade names: Carbon chloride, Carbon tet, Freon® 10, Halon® 104, Tetrachloromethane
Tricosafuorododecanoic acid (CAS no 307-55-1)	Synonym: Perfluorododecanoic acid, Perfluorolauric acid
Volatile organic compounds that participate in atmospheric photochemical reactions (CAS no – several)	Synonyms: VOCs

APPENDICES

APPENDIX D: Spill Contingency Plans: Proposed Content

<i>Contact information</i>	The responsible person and their alternates' telephone numbers, email and mailing addresses.
<i>Personnel and Incident Command System details</i>	<p>List the response personnel, their roles and responsibilities, relevant training and their alternates should they be unavailable, as well as an organizational diagram. Information on the transitional process for shift changes.</p> <p>How the prescribed Incident Command System would be implemented.</p>
<i>Equipment and equipment management</i>	<p>Identify and inventory equipment (using unique numbering system), detail maintenance schedules and the frequency of inspections.</p> <p>Equipment includes: communication assets, response technologies, wildlife rescue and rehabilitation resources, aircraft, shoreline clean up etc.</p>
<i>External resources</i>	List any external resources that may be required for response such as contractors, advisors, transporters and any other non-dedicated equipment and personnel resources.
<i>Training</i>	Indicate the type and frequency of training required for each individual or contractor (including training for the Incident Command System, safety and equipment).
<i>Hazard assessment / contingency planning</i>	Describe the operations, locations, inventory and description of prescribed substances, volumes, types and size of storage containers, size and calculation of the worst case spill (which should include multiple potential trajectories of spilled material and an impact assessment that includes consideration for sensitive areas and areas of importance).
<i>Relationship to ARPs and GRPs</i>	Identify any applicable area response plans and geographic response plans, if any.

<i>Initial response procedures / preparation</i>	Describe the steps necessary to activate the plan, including: procedures to notify key response personnel; equipment to use, when to use it and how to mobilize it; procedures to deploy or mobilize personnel; and, forms to record initial actions.
<i>Spill notification and call-out procedures</i>	Describe the notification procedure in order of priority, listing the names and phone numbers of government agencies, response contractors, personnel, and Incident Command Post locations.
<i>Operational response planning and procedures</i>	Describe the procedures to: detect, assess and document the presence and size of a spill; monitor personnel and equipment; track the steps and response activities as they occur; track the volume and extent of the spill as it changes overtime; protect key resources or sensitive areas; identify resources and centres to assist with wildlife assessment, rescue and rehabilitation; conduct shoreline response; safely store and ultimately dispose of recovered wastes; begin implementing damage assessment tools; and, provide spill reports (as prescribed in regulation), and engage with media.
<i>Effective daily recovery capacity</i>	Determine the effective daily recovery capacity of recovery equipment.
<i>Calculating response times</i>	Provide calculations of the time it would take to mobilize a response for various components of the plan (e.g., notifications to occur, initial responders and/or equipment to be on-site and full activation).
<i>Medical, health, safety and firefighting</i>	Describe safety policies and instructions for a spill site – how emergency services would be provided, procedures to control fires and explosions, as well as medical treatment and first aid.
<i>Communications</i>	Identify and describe the communications system, including back-up systems.
<i>Maps</i>	Identify the location of the substances prior to a spill occurring, facilities, storage tanks, wells, storm water and other drainage systems, piping, spill response planning zone and control points, roads, topographical features (mountains, streams, rivers, lakes etc.), public access areas or facilities, schools, dwellings, water supply intakes, and municipal or industrial operations.
<i>Declaration</i>	Signature by a regulated person declaring the plan would be implemented if practicable.

APPENDIX E: Geographic Response Plans: Proposed Content

PLAN SECTIONS	TOPICS IN EACH SECTION
Introduction	Purpose Development process Goals Record of changes
Site description	Maps GPS coordinates Photographs Physical features Hydrology Currents and tides Winds Climate Seasonal constraints Risk assessments
Response strategies and priorities: Equipment and control points	Maps Booming strategy priority tables Proposed booming and collection strategies Onsite considerations: <i>control points access locations staging sites waste storage sites decontamination sites wildlife management plan safety plan sampling and monitoring plan communications plan evacuation plan hazmat response plan oil spill response plan</i>
Shoreline information and countermeasures	Shoreline types and sensitivities Shoreline workforce Maps Appropriate countermeasures
Resources at risk	Natural, cultural, economic, social, historical resources at risk General resource concerns
Sensitive resources	Fish and wildlife Hazing Flight restriction zones Agricultural, recreational and economic points Key infrastructure Any other points of local importance
Logistical support	Spill response contact sheet Location of operations center for the central response organization Local equipment and trained personnel Local facilities and services and appropriate contacts for each (housing, medical, food) Site access and contacts Staging areas Helicopter and air support Local experts Volunteer organizations Potential wildlife rehabilitation centers or infrastructure to support facilities Marinas, docks, piers, and boat ramps Potential interim storage locations, permitting process Damaged vessel safe havens Vessel repairs and cleaning Response times for bringing equipment in from other areas
Appendices	Summary of protection techniques Original GRP contributors comments, corrections and suggestions received via engagement.

APPENDIX F: Proposed Testing Recordkeeping Topics

Notifications	Implement the procedure to inform the appropriate entities about the incident
Responder mobilization	Ability to assemble within the spill response time identified
Incident Command System and Post	Ability to operate within the response management system described in the plan, including: identification of individuals for ICS positions; use of ICS procedures; and establishment of an incident command post (as required)
Source control	Ability to control and stop the spill at the source
Assessment	Ability to provide an initial assessment of the spill and provide continuing assessments of the effectiveness of the tactical operations
Containment	Ability to contain the spill at the source or in various locations for recovery operations
Recovery	Ability to recover, mitigate and remove the spilled product
Protection	Ability to protect the sensitive areas identified in the plan
Disposal	Ability to dispose of the recovered material and contaminated debris
Communications	Ability to establish an effective communications system throughout the scope of the plan
Transportation	Ability to provide effective multimode (air, land or water) transportation
Personnel support	Ability to provide the necessary logistical support of all personnel associated with the response
Equipment maintenance and support	Ability to maintain and support all equipment associated with the response
Procurement	Ability to establish an effective procurement system to manage any necessary purchasing, contracting etc.
Documentation	Ability to document all operational and support aspects of the response and provide detailed records of decisions and actions taken

APPENDIX G: Glossary

Area response plan (ARP) is a plan for an area of the Province designated by the Minister. The plan must demonstrate the capacity and capability to effectively and efficiently respond to any spill in the plan area. Area Response Planning is the way a Conditional PRO demonstrates preparedness to respond to any spill anywhere in the Province.

Arrangement means the nature of the relationship between a certified Preparedness Response Organisation and regulated persons. An arrangement could be contractual in nature, for example, a contract for services, or membership in a body.

Capacity is about what is needed to meet an objective, and in what amount.

Capability is about how to meet an objective, knowing the various capacities. The relevant questions are “How can we get done what we need to get done?” and “How easy is it to access, deploy or apply the systems, resources and personnel we need?”

Consequence is an impact or effect on the environment resulting from a spill.

Director is defined in the *Environmental Management Act* and means a person employed by the government and designated in writing by the Minister as a director of waste management or as an acting, deputy or assistant director of waste management.

Emergency Management BC (EMBC) is the Province’s lead coordinating agency for all emergency management activities, including planning, training, testing and exercising, to help strengthen provincial preparedness.

Environment is defined in the *Environmental Management Act* and means air, land, water and all other external conditions or influences under which humans, animals and plants live or are developed. Pursuant to the legislative amendments, it would be further defined under the spill preparedness, response and recovery division of the Act as including flora, fauna, and animal, fish and plant habitat.

Fixed Facilities for the purpose of defining a regulated person includes, but is not limited to, oil and gas processing plants, mines, pulp and paper mills, chemical plants, temporary industrial sites and storage and distribution operations. Typically, a fixed facility in this context has a defined footprint that within which there are prescribed substances in

prescribed quantities present and being contained in above and below-ground storage tanks, tailings and other open containers, as well as stored in tanker trailers on-site.

Geographic Response Plans (GRPs) are for specific small geographic response areas that may have a range of spill hazards and sensitive environments. They describe tactics or strategies to guide response in the first 48 – 72 hours of a spill. They are also developed collaboratively by, and made available to, a variety of risk bringers, spill responders, regulators, First Nations and other stakeholders.

Hazard is a potential source of damage to the environment or society.

Incident Command System (ICS) is a North America-wide standard approach to commanding, controlling and coordinating the response to an emergency. It provides a common approach and hierarchy that all trained responders know and understand so when multiple organizations and agencies work together to address an incident, everyone understands their roles and responsibilities and how decisions are made.

- **Unified Command (UC)** is used when there is more than one agency with incident jurisdiction or when incidents cross political jurisdictions. Agencies work together through the Unified Command to establish a common set of objectives and strategies and a single Incident Action Plan.
- **Incident Command Post (ICP)** is a field location at which the primary tactical-level, incident command and operations functions are performed.
- **Incident Action Plan (IAP)** is an oral or written plan containing general objectives reflecting the overall strategy for managing an incident. It may include the identification of operational resources and assignments. It may also include direction and information for management of the incident during one or more operational periods.
- **Emergency Operations Center (EOC)** is a designated place where a local authority (local government or First Nation government) coordinates information and resources to support incident management activities

Infrastructure includes buildings, bridges, drinking water intakes, utility conduits and wastewater treatment plants.

APPENDIX G: Glossary *Continued...*

Monitoring is the act of collecting, and analysing information to identify changing conditions and determine if there are trends. Ongoing air, water, biological, sediment, and soil sampling is proposed to be a routine part of spill management to determine if and how a spilled substance affects a given area's resources over a period of time. This type of analysis is used to inform next steps in response and recovery efforts.

Net Environmental Benefit is a concept of weighing the benefits and harms of various spill response tactics to ensure spill response actions are not more harmful than the spill itself. Experience has shown that some treatments can have negative effects on fragile ecosystems.

Officer is defined in the *Environmental Management Act* and means a person or class of persons employed by the government, a government corporation or a municipality and designated in writing by a director as an officer, or a conservation officer.

Probability is the chance that something will happen. It can be estimated in percentage terms, or described using words like "unlikely", "likely" and "certain".

Preparedness is getting ready to cope with spills, and includes planning and organizing, training and practicing, having spill management resources and developing spill management systems.

Preparedness and Response Organization (PRO) is an organization that holds a PRO Certificate issued by the Minister: a fully certified PRO. It is recognised that gaining full certification could take a period of years during which an organisation would build clients or members and resources to meet its mandate. In the interim, the organization will be known as a conditional PRO.

Pollution is defined in the *Environmental Management Act*, and means the presence in the environment of substances or contaminants that substantially alter or impair the usefulness of the environment;

Recovery is the process of returning an affected area, including any damaged resources, to its pre-spill state. It can also include compensation for damages.

Recovery Plans are prepared by responsible persons at the discretion of the director, depending on the severity of the consequences of a spill. They assist in the

recovery of an environment that has been degraded by a spill and include engagement with relevant stakeholders. Contents may include damage assessment, restoration actions, offsetting or mitigation measures, and long term impact monitoring.

Regulated person is a person who, in the course of operating an industry, trade or business, has possession, charge or control of a prescribed substance in prescribed quantities, or a person whose employee, under the person's direction, has possession, charge or control of a prescribed substance in prescribed quantities.

Responder is a person who has the skills and qualifications needed to manage a hazardous material spill and its consequences. Responders may need to have specific training and credentials, and typically, are pre-identified by a responsible person in a contingency plan. First responders, including police, firefighting and ambulance services, are managed by local authorities, and in some cases are trained to assist in addressing immediate spill response needs.

Response is a collection of activities aimed at controlling the source, removing the spilled substance, and limiting damage.

Response Organization (RO) is an entity that provides or intends to provide spill preparedness and response services. Such organizations are usually contractors in the service of regulated persons.

Response times are set as either rules or guidelines that specify maximum time intervals between the occurrence of a spill and certain response actions. They typically relate to the mobilization and delivery of response resources to the spill site, or Incident Command Post.

Responsible person is a person who has possession, charge or control of a substance or thing when a spill of the substance or thing occurs or is at imminent risk of occurring.

Risk is the possibility of something bad happening. In scientific terms, risk is defined as *probability x consequence*, and can be qualitatively or quantitatively estimated.

Sampling is the act of collecting a portion of a material from a larger whole. Air, water and soil samples could be collected in a spill area to determine whether the spilled substance is present. In the context of spill response, sampling is closely related to monitoring, and is often referred to in relation to monitoring (e.g., sampling and monitoring).

APPENDIX G: Glossary *Continued...*

Sensitive environment is an area deemed to be in need of special protection due to its environmental values.

Spill means the introduction into the environment, other than as authorized under Provincial legislation, and whether intentional or unintentional, of a substance or thing that has the potential to cause adverse effects to the environment, human health or infrastructure;

Spill Prevention, Preparedness, Response, and Recovery are four pillars of emergency management. The new spill management system under the *Environmental Management Act* focusses on preparedness, response and recovery.

Spill Contingency Plans are prepared by regulated persons for areas where their operations may pose spill hazards. Spill Contingency Plans establish and demonstrate a state of readiness to promptly and effectively respond to spills, serve as a guide during a response, and describe how equipment and personnel will be deployed and function to minimize the effects of a spill.

Western Canada Marine Response Corporation (WCMRC) is a Transport Canada-certified response organization, whose mandate is to ensure there is a state of spill preparedness in place for marine spills and to mitigate the impact when a spill occurs. This includes the protection of wildlife, economic and environmental sensitivities, and the safety of responders and the public.

Western Canada Spill Services (WCSS) is a cooperative comprised of petroleum companies that work together to achieve a state of spill response readiness, by creating and maintaining spill contingency plans and providing spill containment and recovery equipment in strategic locations. WCSS also holds exercises and provides educational funding for their membership.

World leading spill response regime is a descriptive phrase used by the Province to provide a conceptual understanding of the desired attributes of the regime. These attributes have been derived from research into how other leading jurisdictions have evolved their spill management regimes.

APPENDICES

Appendix H: Engagement Questions

This document and a response form for providing comments to the ministry are posted on the Province's website at engage.bc.ca/spillresponse.

All submissions will be reviewed for inclusion, without attribution, in a summary report to be made public following the engagement period.

Response

Spill Reporting

- *The appropriateness of the proposed reporting timelines*
- *Timing of the end-of-spill report*

Response Times

- *Which response actions should not have a prescribed response time*
- *What would constitute a reasonable response time for various milestones in Appendix B*
- *Additional milestones for which the ministry should consider establishing response times*
- *Whether response times should be differentiated based on: transportation vs storage, the type of substance, or other factors.*

Sampling and Monitoring

- *Potentially requiring the use of qualified professionals in sampling and monitoring*
- *The appropriate mechanism for sampling and monitoring: regulation, guidelines or a combination*

Preparedness

The regulated person

- *Whether the focus on liquid, toxic and persistent substances is appropriate*
- *The appropriateness of the quantity thresholds for each category*
- *Any additional categories or thresholds that should be considered*

Spill contingency planning

- *How often the spill contingency plan should be reviewed for non-significant changes - annually or every five years*

Geographic Response Plans

- *The process for selecting the advisory committee size and membership*
- *Duties and responsibilities of the advisory committee*
- *The proposed content for GRPs*
- *How best to align with existing GRP-like plans under development in areas of BC*

APPENDICES

Appendix H: Engagement Questions *Continued...*

- *The process, timelines and frequency of updating and testing GRPs*
- *The process for publication during GRP development*
- *The notification and publication process and requirements*

Area Response Plans

- *The proposed content for ARPs*
- *The criteria for determining ARP boundaries*
- *Number of ARPs required across BC*
- *The process for determining advisory committee size, membership, duties and roles*
- *The requirements for testing, reviewing and updating ARPs*
- *The publication process for ARP development*
- *Notification and publication requirements for completed ARPs*

Testing spill contingency plans

- *The proposed types and frequencies of drills and exercises*
- *The use of contractors, qualified professionals or the PRO to evaluate tests.*

Preparedness Record Keeping

- *Frequency of substance reporting: monthly, quarterly, or annually*
- *Length of time regulated persons should keep records*
- *Whether and how this information should be made public*

Preparedness and Response Organizations:

- *Sequencing or prioritization of roles and functions of a PRO*
- *Services a PRO provides to regulated persons*
- *First Nation and local government relationship to a PRO*
- *Information, qualifications, capabilities or other requirements to be either a conditional PRO or a fully certified PRO*
- *Opportunities for a PRO to improve spill planning, preparedness and response in British Columbia*

Recovery

- *The elements of a recovery plan*
- *The extent and type of stakeholder involvement in recovery planning*



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