

Final Report, October 2016

Spill Contingency Plan Technical Working Group

B.C. Spill Response Regime, Environmental Protection Division, Ministry of Environment

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Context

It is the ministry's intention to complete priority regulations in early 2017. Other regulations may take years to develop and implement. Some, but not all regulation development will require the support of a technical working group. Between July and September 2016, the ministry received input through technical working groups on three selected topics:

1. Defining regulated persons
2. Determining spill contingency plan content
3. Reviewing spill response times.

The purpose of the technical working group is to receive policy recommendations and comments on proposed policy from diverse experts in the field of spill preparedness and response and from representatives of groups impacted by the spill of hazardous substances in B.C.

Approximately 60 participants met in one or more of the technical working groups listed above. Participants in the three technical working groups met in two formations – as sector specific groups (rail, oil and gas, chemical, pipelines, trucking, environmental non-government organizations, local governments, response contractors) that discussed all three topics at once and as multi-stakeholder groups that focused on one topic at a time. This report summarizes participant comments and recommendations related to spill contingency plans, specifically.

Spill Contingency Plan Topic Overview

Part of building response capability and capacity is planning. Planning is the first phase of ensuring effective spill response occurs. In this phase, information is gathered, spill hazards and probabilities are identified and strategies are developed. Next, the plan is implemented, resources are acquired, training occurs and the plan is tested through drills and exercises. The last phase is sustained readiness where the plan is monitored, maintained and improved on through drills and exercises.¹

The third Intentions Paper stated that *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.*

Amendments to the *Environmental Management Act* will require regulated persons to have a spill contingency plan that complies with the regulation. The third Intentions Paper proposed regulations in relation to spill contingency plans that would require regulated persons to:

- Develop plans for a worst case spill scenario, with worst case to be defined in a future regulation;

¹ IOSC Workshop Report: A Proposed International Guide for Oil Spill Response Planning and Readiness Assessment, Elliott Taylor, POLARIS Applied Sciences, Inc May 2008

- Determine what kind of risks they pose;
- Meet specific plan content and formats to the level proposed in the appendices of the third Intentions Paper (see first column in the table of Appendix Two);
- Ensure a set level of capability and capacity;
- Demonstrate access to trained personnel, equipment and resources to implement the plan in the event of a spill;
- Publish some plan content, excluding proprietary or personal information; and,
- Review and update plans according to a set frequency.

Consultative Process

Ministry staff developed spill contingency plan policy and worst case definition wording for the participants to review and discuss; then, participants provided input on the benefits or challenges of the proposed approach throughout a series of meetings. Ministry staff incorporated the suggested changes, wherever possible, if the solutions supported the Regime design principles: strong government oversight, transparency, including First Nations and communities, polluter pays, avoid duplication, risk-based, continuous improvement – and otherwise aligned with ministry intentions for the Regime.

The table in Appendix Two compares the policy intentions from March 2016 in the third Intentions Paper to the updated versions as of October 2016, developed in collaboration with the technical working group participants. The following text divides participant comments into themes and offers a short discussion for each on why participant suggestions were incorporated or not in the October 2016 policy text. Moving forward, the content in all policy areas is still under review and subject to change. Final decisions on all content will be presented in a fourth Intentions Paper, due out in November, 2016. Further public input is welcome at that time.

As development of the new Regime continues, ministry staff will continue to provide intentions papers on each set of new regulations so that public review can occur before regulations are finalized.

Key Input Themes

For the most part, the proposed spill contingency plan policies were supported. Certain aspects were a concern to certain sectors or interest groups, resulting in the following key themes and suggestions:

Alignment with other regulators

Alignment with existing voluntary and regulatory standards was preferred as a means to:

- Build the Regime on the existing capacity of spill preparedness and response in B.C.;
- Minimize confusion by streamlining the type of actions required of a regulated or responsible person in all jurisdictions;
- Avoid unnecessary duplication of work and costs; and,
- Facilitate the move towards the integration of spill management across B.C., as a whole.

Key Themes

- Alignment with other regulators
- Allow elements of other plans to meet Regime requirements
- Defining worst case
- Guide vs prescribe
- Exemptions and variations
- Minimize administrative efforts
- Published vs private plans
- Suitability for all sectors

If participants noticed that the spill contingency plan content was significantly different than that of other regulators, they suggested the Regime align with the existing plans. Participants cited the following specific examples:

- Under the federal Environment and Climate Change Canada's Environmental Emergency Regulations, facilities are required to prepare for an unplanned release of a substance into the environment and are to consider the potential consequences from an environmental emergency on the environment and on human life or health. It was believed that planning was expected for releases outside their property boundaries whereas under the Regime, preparedness requirements are for both inside and outside property lines.
- Similar to Transport Canada regulation, shippers/consignor should be responsible for spill response and not the transporting agent. When truck transport companies carry dangerous substances, the shipper/consignor is responsible to generate an Emergency Response Assistance Plan (ERAP) and manage spill response and recovery. Other spill response is contracted out.
- Federal government spill reporting standards recently changed and should be reviewed to ensure harmonization with the Regime.

Allow elements of other plans to meet Regime requirements

If participants noticed that the spill contingency plan content was required by other regulators, it was suggested that either that provincial requirement be removed or that regulated persons be allowed to be in compliance for certain elements by referencing their work done in the other plans.

Appendix Three provides a list of relevant regulations identified by participants. Some specific examples of alignment that participants recommended are listed below:

- Publishing requirements should align with the new National Energy Board system.
- The declaration should only be done once, similar to Environmental Emergency plans.
- Health and safety policies as well as training and instructions for emergency procedures are already covered under WorkSafe BC and TEAPIII so can be removed.
- Firefighting and first aid resources required for a given facility are typically prescribed under the B.C. Fire Code and national or international standards; the fire chief is the authority having jurisdiction in fire prevention and response.
- The first aid /medical treatment resources required for a given facility are specified under B.C. OHS Worker’s Compensation Act Regulations.
- The communications section could be expanded to align with section 16 of the Oil and Gas Commission’s Emergency Management Regulations.
- The province should consider adopting the Canadian Emergency Response Contractor Association (CERC) TEAPIII spill response training standards for internal and outsourced spill response contractors.
- The province could consider aligning with the specific spill responder refresher training frequency rates set by the Justice Institute of BC.
- The B.C. Hazardous Waste Regulation provides a comprehensive system for waste management that includes solid, liquid and medical waste.
- The communication section should align with the Incident Command System, Environmental Response Assistance Plan, National Energy Board requirements, as well as other multi-governmental policies and those of the Wildlife Rescue Association of B.C.

Discussion

The ministry is dedicated to the design principle of avoiding unnecessary duplication. Part of the rationale for new, slower phased-in implementation plan is to allow ministry staff time to further research the changing regulatory landscape relevant to spill management in B.C. Ongoing meetings with other federal and provincial regulators continue with a goal of seeking opportunities for collaboration, information sharing and possibly streamlining reporting tools for regulated and responsible persons.

For health and safety, specifically, all members noted that other regulators specify health and safety requirements and cautioned against duplicative efforts in this area. The recently amended legislation regarding spill preparedness and response connects the environment and human health; hence, a general requirement to meet health and safety requirements will be drafted.

As of October 2016, in many cases, the ministry agreed to allow reference to the elements of other plans as a means to show compliance with the Regime requirements for spill contingency plan content. For example, some participants noted that equipment and resources are listed in electronic systems such as in a maintenance management system. This system would enable the regulated person to meet the proposed requirement by referencing the existing list of response and clean up equipment. Instead of requiring the list be printed, the regulated person could reference the system and the ministry could verify compliance by viewing the system.

However, in other instances, plans from other regulators did not cover those preparedness elements specific to protecting the environment necessary under the new Regime. In these cases, extra content would be required from regulated persons in order to be considered in compliance. For example, related to waste management and wildlife response, a spill response procedure with an environmental focus would be required.

Minimize administrative efforts

Discussions around several topics centered on finding the right level of information to ensure plan effectiveness. Some participants felt that this goal could be accomplished without requiring details that would make the plans onerous to maintain or adhere to.

For example, participants requested the following modifications:

- Instead of listing personnel names, cite job titles to avoid having to update the plans each time staff is hired, leave a position or duties change.
- Only require one alternative to the primary in the listed Incident Command System positions rather than two.
- Link training records with job titles rather than individual personnel; allow reference to existing human resources tracking documents.
- Allow reference to existing company asset lists of equipment and related resources in the spill response and clean up assessment equipment section to minimize having to reformat the lists.
- Do not require equipment to be assessed by a qualified person.
- Allow the existing company maps – or relevant geographic response plans – to meet the requirements of identifying public or key areas so responders know what needs to be protected and who to contact if the spill is impacting that area.
- Review plans reviews shouldn't be too onerous but should be reviewed and updated on a regular schedule. A range of between 5-10 years was proposed and updates from between 2 days to a month when there is a significant change to staffing, resources or operational practices.

Guide versus Prescribe

Finding the balance between flexibility and prescription was another challenge; often, participants pushed for providing detailed content suggestions in the guidelines and letting the policy be less prescriptive. Recommendations from participants included:

- Reference industry standards and manufacturer recommendations in guidance, not policy, as standards for equipment care.
- List the specific characteristics, types and systems of training in the guidelines and allow regulated person's to determine which type of personnel training to require and document.
- Move the list of what types of equipment and resources could be included to guidelines and let the regulated persons determine what to list.

- Be more prescriptive about the risk assessment; the moderate risk assessment process was deemed acceptable by most participants, but a few preferred a more prescriptive approach.
- Choose the less prescriptive option for storage and waste management.
- Wildlife Contingency Plans are an important aspect of any Regulated Person’s contingency plan and wildlife response should be incorporated in almost every component of the spill contingency plan. Guidelines for wildlife response should be referenced in the plan.

Discussion

The preparedness goal of the ministry is to ensure that all company staff who could be involved in spill response is aware, trained and practiced in their respective spill response duties and have enough personnel and alternates identified to ensure a timely respond to a spill. Another goal is that the company management has considered what resources are required for effective spill response and whether those resources are readily available. If not, the new requirement is for companies to have identified and built relationships with existing external contractors to fill any gaps.

Drills and exercises will help to confirm the spill contingency plan is sufficient to meet ministry standards. As some of the sectors captured by these proposed policies have existing preparedness capacities, the ministry has moved much of the specific requests for information into the guidelines, but expects each company to provide the most effective level of detail required for their specific circumstances – and to be able to readily access all aspects of the spill contingency plan contents when asked. With this approach, the ministry can be assured that the level of prescription and plan components will assist those not currently captured in becoming prepared for spills.

Suitability for all Sectors

Participants from all sectors in the technical working groups approached the spill contingency requirements from their own perspectives and suggested that the plan content policy:

Incident Command System

- Be explicit about the scalability of the Incident Command System to ensure that the public is aware that it is common practice for one staff member to fill multiple roles in smaller spills and for smaller organizations.
- Add an “as needed” clause to the use of the Incident Command System.
- Remove the “using appropriate Incident Command System forms” specification.
- Describe how wildlife spill response planning could fit in with the Incident Command System, but do not require it since it is not common practice and could be a significant burden on the regulated persons who are smaller companies.

Fixed Facilities

- Allow fixed facilities hazard/risk assessment, waste management and wildlife response requirements to be different than for transported goods since many factors are not applicable.

- Allow fixed facilities response planning scope to be limited to the property inside its operational boundaries.
- Use a more prescriptive approach to fixed facility waste management siting and preparation.

Trucking

- Allow transported goods hazard/risk assessment, waste management and wildlife response requirements to be different than for fixed facilities since without a fixed location to plan around, many factors are impossible to identify.
- Allow smaller-volume regulated persons, like trucking companies to complete a modified and simpler plan template.

Other

- Use the Forest Practices Code that includes measureable and verifiable objectives, allowing flexibility in operational applications and training standards.
- Ensure that the substance classification system offers clear definitions for all sectors even though some use United Nations (UN) numbers, others use Material Safety Data Sheets (MSDS) and some are not required to classify substances.
- Do not require non-fixed facilities to identify all the possible sites that could store recovered wastes if a spill occurred since this would be too difficult and take up significant resources.
- More clearly identify the target audience for the communication plan.
- Under the operational and spill response procedures section of the plan, include the phrase, “As appropriate depending on the severity of the spill...” to clarify that not all spill reporting requirements would be necessary for each spill.
- In the notification section, add a clarifying piece that says “notify the appropriate parties, when necessary...” so not all listed need to be notified every time.
- Allow for organizations to contract out certain services and not have trained in-house staff; some organizations only train staff to manage simple and small emergencies. Personnel are not typically trained in specialty services like wildlife spill response, shoreline cleaning, fast water river response, enhanced skimming, etc. Contractors are typically hired for these operations and staff is trained to manage the contractors.

Discussion

Generally, a fundamental intention of the Regime is to create plan standards that ensure all regulated persons, regardless of their sector, are prepared for a spill, anywhere in B.C. Key sectors range from mining, forestry, chemical operations manufacturers with fixed facilities, to trucking with indeterminate routes, to pipelines and rail that have fixed transport corridors for their regulated substances. Some regulated persons are large organizations already deeply engaged with spill management practices, like pipelines and rail; others may be smaller companies that may be new to the responsibility of environmental emergency preparedness requirements, like trucking. Ultimately, the ministry will work with each sector to best prepare for a spill while minimizing negative unintended consequences.

For example, though most members supported a moderate approach to hazard assessment, certain sectors, like trucking, expressed concern with the risk assessment requirements for their operations because they transport a variety of regulated substances over great distances in the province, often without a set route or discrete operating area. It was noted that the resources required to plan for each inch of a highway under their operations would be too costly. The ministry will work with these sectors to ensure the intent to prepare for a spill is met without negatively impacting smaller operations or businesses.

In another example, some members requested a qualified wildlife response professional be required to conduct a wildlife assessment. Many others cautioned against this approach as smaller operations may not have the resources to do so. The proposed wildlife response staging area siting, too, was a concern for those sectors that do not operate at a fixed location. The ministry is proposing that sectors without a fixed transport corridor should plan for a wildlife response to ensure the resources required are available should a spill occur.

Published versus Private Plans

Most participants were generally against publishing spill contingency plans, citing the threat of theft, vandalism, terrorism and the general safety of company personnel and resources. However, most participants agreed that first responders and local governments impacted by a spill should have access to these plans to aid their response efforts. The following specifics were suggested by participants as content that could be shared with certain audiences:

Share publicly:

- Company name and general contact info
- Wildlife contingency plan details to ensure the public don't take matters into their own hands
- General titles of who will fill the Incident Command System roles as long as disclaimers are included to highlight to the public that for small spills, one person can fill several roles
- Transportation of Dangerous Goods placards and related Material Safety Data Sheets information, container size for trucks, railcars and drums as each available publicly
- The level of risk in a given community and the measures implemented to mitigate the risks
- Area and Geographic Response Plan details
- Response times; these are already shared for oil handling facilities under the Canada Shipping Act regulations.
- Medical, health, safety and fire hazards

Share with first responders and impacted governments only:

- Staff names and contact information
- The maximum volume of a shipment of a given product
- All company-specific operational and spill response procedures
- Medical, health, safety and firefighting procedures

Share with government only:

- Equipment and resources, as this is too detailed to be useful to the public or first responders.
- Personnel training records
- Storage and waste management procedures
- Facility and transportation route maps
- Changes in the process operations driven by business competition

Do not share:

- Maximum pipeline flow rate information on producing wells
- Frequency of shipments of a given product

Discussion

Almost all of the members of the technical working group expressed concern with publishing sensitive information contained in spill contingency plans. Vandalism, terrorism, security threats, proprietary information, competitive advantage were examples provided by the group. The ministry is still contemplating publication requirements at this moment. The National Energy Board will soon require the publishing of plans and the ministry will review the implementation of this policy and make a determination based on the implementation impacts of this policy.

Defining Worst Case

Sector-specific worst-case definitions are proposed in Appendix Four for fixed facilities, pipelines, rail and trucking. The definitions describe volumes for each sector to which they need to conduct their risk assessments as part of the hazard assessment component of the spill contingency plan.

Discussion

Some members requested that the most probable worst case replace the worst case spill volume as done in other jurisdictions. Past spills have indicated that planning to most probable has not resulted in preparedness the ministry is striving for in BC.

Next Steps

A follow up policy paper due out before the end of 2016 will outline ministry response to this input.

Appendix One: Spill Contingency Plan Technical Working Group Members

Name	Organization	Sector
Jim Bird	Responsible Distribution Canada	Chemicals
Spencer Buckland	ERAC	Responder/Contractor/Consultant
Adam Cooney	Parkland Fuel Corporation	Trucking
Kristin Dangelmaier	Domtar	Facilities
Steve Dignon	Coastal First Nation	First Nation Communities
Coleen Doucette/Linda Bakker	Wildlife Rescue Association of BC	ENGO
Markus Ermisch (alternate)	Canadian Association of Petroleum Producers	Oil and Gas
Robert Fewchuk	GHD	Responder/Contractor/Consultant
Shaun Garvey	Berry & Smith Trucking Ltd	Trucking
Saleh Haider	City of Burnaby	Local Government
Andrew Higgins	Canadian Natural Resources Limited	Oil and Gas
Kevin Houle	Canadian Pacific Railway	Rail
Andy Jeves	Nucor Environmental	Responder/Contractor/Consultant
Deborah Jones-Middleton	Regional District of Bulkley-Nechako	Local Government
Andjela Knezevic-Stevanovic	Metro Vancouver	Local Government
Jennifer Mayberry (tentative)	City of Vancouver	Local Government
Anne Mauch	Council of Forest Industries	Forestry
Jose Rios	Polaris	Responder/Contractor/Consultant
Lindsay Samson (alternate)	BC Trucking Association	Trucking
Dan Sutherland	City of Kamloops	Local Government
Karl Tress	Northern Gateway	Pipelines
Laurie Whitehead	Heiltsuk Nation	First Nation Communities

Appendix Two: Spill Contingency Plan Policy Adaptations, March 2016 to October 2016

Content	March 2016 from the IP3	October 2016 from the TWG
	March 2016 Proposed Policy from the third Intentions Paper (IP3)	Proposed Policy, as of October 2016, written in response to the Spill Contingency Plan Technical Working Group Input (TWG)
<i>Contact information</i>	The responsible person and their alternates' telephone numbers, email and mailing addresses.	Provide the regulated person's name, company and contact information.
<i>Personnel and Incident Command System details</i>	List the response personnel, organizational diagram, their roles and responsibilities, relevant training and their alternates should they be unavailable. Information on the transitional process for shift changes. How the prescribed incident command system would be implemented.	<ol style="list-style-type: none"> 1. Provide the job titles of the spill management team that will fulfill roles in the Incident Command System (ICS) whether contracted or sub-contracted. 2. For the purpose of ensuring depth of the spill management team, provide the job title and two alternates who fulfill the following ICS roles: the Information Officer, Liaison Officer, Safety Officer, Incident Commander and section chiefs. If a response contractor is used to fill positions, this must be noted on the plan. 3. ICS is a scalable system and is dependent of the severity of the spill, in practice for a small spill not every ICS position would be filled by a different person.
<i>Equipment and equipment management</i>	Identify and inventory equipment (using unique numbering system), detail maintenance schedules and the frequency of inspections. Equipment includes: communication assets, response technologies, wildlife rescue and rehabilitation resources, aircraft, shoreline clean up etc.	<ol style="list-style-type: none"> 1. The plan must list of response and clean up equipment and any other resources needed to address the worst case spill. Resources could include communication equipment, vehicles, boats, trailers, monitoring equipment, accommodation, remote sensing or aerial surveillance etc. If this information is captured in a system or other documents, please reference these sources. 2. If the hazard assessment determines the prescribed substance is flammable or is harmful to human health, the plan must list the qualified firefighting and/or appropriate first aid resources that would be called upon when necessary for the prescribed substances. 3. The plan holder must maintain the equipment in a state of readiness to address the worst case spill and include the maintenance schedule and frequency of inspection. Guidance will clarify that the maintenance details are available in industry standards and manufacturers recommendations. 4. The plan holder must maintain records of equipment maintenance and inspection as outlined in 3.
<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.	Incorporated in 'Equipment and equipment management' above.
<i>Training</i>	Indicate the type and frequency of training required for each individual or	<ol style="list-style-type: none"> 1. The plan will identify the training required for each job title listed in 'Personnel and ICS' component of the spill contingency plan that includes:

Content	March 2016 from the IP3	October 2016 from the TWG
	contractor (including training for the incident command system, safety and equipment).	<ul style="list-style-type: none"> a. Type and frequency of training for the assigned ICS role. b. The operational/spill response procedure outlined in item 8. 2. Training materials and records of training completed must be maintained for inspection.
<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).	<ul style="list-style-type: none"> 1. The plan must describe the properties and characteristics of the prescribed substance. This could be achieved by referencing the Material Safety Data Sheets or U.S. Department of Transportation and Transport Canada’s classification of the substance UN number, shipping name, hazard class or division number, packing group. 2. The type and size of the means of containment either to store or transport the prescribed substance. 3. A potential spill risk assessment to the environment up to and including the worst case volume of a spill (within and beyond the property boundary for fixed facilities) of the prescribed substance including: <ul style="list-style-type: none"> a. a general analysis of how a spill could occur, how often and where from; b. a general description of the potential consequences of a spill to the environment, human health and infrastructure such as any environmentally-sensitive areas, wildlife, archeo-cultural effects, socio-economic implications etc. <p>(The Ministry is considering a guidance document that would direct its reader to iMapp or some BC government ecosystem and wildlife source to ensure better quality hazard assessment. Guidance could list the qualifications of professionals that could be consulted when developing a plan – geologist, hydrologist, hydro geologist, chemist, registered biologists, agrologists etc.)</p>
<i>Relationship to ARPs and GRPs</i>	Identify any applicable area response plans and geographic response plans, if any.	Remove the reference to applicable area and geographic response plans at this time and insert when policy and/or regulations on these types of plans are developed.
<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.	Incorporated in ‘Operational/spill response procedures’.
<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 initial command post locations.	Incorporated in ‘Operational/spill response procedures’.
<i>Operational</i>	Describe the procedures to: detect,	Renamed to Operational/spill response procedures:

Content	March 2016 from the IP3	October 2016 from the TWG
<i>response planning and procedures</i>	<p>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.</p>	<ul style="list-style-type: none"> • All personnel will have access to spill response procedures. • Spill response procedures will be implemented as appropriate depending the severity of the spill. • Spill response procedures must describe: <ol style="list-style-type: none"> 1. Initial spill assessment – safety assessment (workers and public), evacuation procedures for facility staff, the equipment needed to first assess the spill, the method to estimate the quantity and nature of the spill and if applicable criteria used to classify the level of response. 2. Initial spill notification of appropriate parties which may include: <ol style="list-style-type: none"> a. a central reporting number as per the Spill Reporting Regulation, b. internal notification and order of priority (supervisor, contractors, key response personnel etc), c. external notification of federal and municipal governments, police and fire departments in the vicinity, emergency response teams, ambulance and medical services, schools, hospitals, surrounding community or those impacted by the spill. 3. Initial spill actions: <ol style="list-style-type: none"> a. detect, assess, document and track the presence and size of the spill, b. damage assessment methodology/tools. 4. The method to deploy or mobilize personnel and equipment appropriate for that area (aerial versus marine transport if land is not an option). 5. The method to monitor personnel and equipment. 6. The methods to identify and establish the incident command post. 7. Appropriate response actions that could include containment, confinement, transfer, neutralization, storage and disposal instructions. 8. The tracking and documentation of spill response actions. 9. Applicable protection strategies to prevent impacts or damage to environmentally sensitive areas, infrastructure, and any economic/historical/archeological/cultural resources if the spill is adjacent to or nearby a pathway that will impact these resources. <p>Note: Ministry of Environment defines environmentally sensitive areas as places that have special environmental attributes worthy of retention or special care. These areas are critical to the maintenance of productive and diverse plant and wildlife populations. Examples include rare ecosystems (such as the Garry oak and associated ecosystems found in southwestern British Columbia), habitats for species at risk (such as sagebrush grasslands) and areas that are easily disturbed by human activities (such as moss-covered rocky outcrops). Some of these environmentally sensitive areas are home to species which are nationally or provincially significant, others are important in a more local context. They range in size from small patches to extensive landscape features, and can include rare and common habitats, plants and animals.</p> 10. The method to implement the communications plan as described in #13 Communications of the spill contingency plan.

Content	March 2016 from the IP3	October 2016 from the TWG
<i>Effective daily recovery capacity</i>	Determine the effective daily recovery capacity of recovery equipment.	Incorporated in 'Hazard Assessment' component.
<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).	To be determined at the response planning standard and response times technical working group meetings.
<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.	Incorporated under "Equipment and Resources"
<i>Communications</i>	Identify and describe the communications system, including back-up systems.	The communication strategy in the spill contingency plan will describe: <ol style="list-style-type: none"> 1. The method to provide information to the contractors; on-scene coordinators; response teams; local, provincial, and federal responders; and the public during response to a spill or threat of a spill. 2. The system or method to gather information about the spill from the public or other sources. 3. The system or method to receive claims from those who have been impacted by a spill.
<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.	A map showing the following information: <ol style="list-style-type: none"> a) Location of prescribed substance or facility that is the subject of the plan e.g. a diagram indicating tanks, cargo, pipelines, pipes, wells, mooring areas, storm water and other drainage systems and other prescribed substances' storage, transfer and operational sites; b) The spill response planning zone, escape routes and designated spill control points (if applicable); c) Location of roads within the spill response planning zone, access roads, urban centres. d) Topographical features/surface and environmental features and structures including streams, stream crossings, lakes, rivers etc. e) Locations or areas within the spill response planning zone that may be used by the public, including but not limited to, public facilities, infrastructure, dwellings, schools, recreational areas, water supply intakes for municipal and industrial operations, etc.
<i>Declaration</i>	Signature by a regulated person declaring the plan would be implemented if practicable.	The regulated person or an authorized representative must certify that the information contained in the spill contingency plan is accurate and complete.
<i>Storage and Waste</i>	N/A	<ol style="list-style-type: none"> 1. The plan must identify sufficient temporary storage for all recovered waste, and identify facilities that would be able to accept the recovered waste for recycling or other means of waste management whether onsite or contracted.

Content	March 2016 from the IP3	October 2016 from the TWG
<i>Management</i>		2. Each plan shall identify licensed transporters that could remove the recovered wastes from temporary storage sites to authorized waste management facilities.
<i>Wildlife Response</i>		<p>If the hazard assessment has identified wildlife risks, the plan will identify:</p> <ol style="list-style-type: none"> 1. Potential wildlife impacts; 2. Interim protection strategies to implement at the site before the qualified wildlife response resources arrive; 3. potential onsite staging areas for equipment, field stabilization and structures to be used as care facilities, and establish an area that could be a staging area if not a fixed facility; 4. qualified wildlife response resources able to arrive on site to assist with impacted wildlife; 5. a pre-set time for the qualified wildlife response resource to arrive on site. <p>[Guidance will clarify that for oiled wildlife, the qualified wildlife response resource should follow appropriate international guidelines such as the International Petroleum Industry Environmental Conservation Association (IPIECA) and the International Association of Oil & Gas Producers (OGP)'s <i>Wildlife response preparedness – Good practice guidelines for incident management and emergency response personnel</i>.]</p>



Appendix Three: Relevant Emergency Preparedness Plans by Other Regulators

Abbreviation	Name of plan	Legislation/regulation	Agency
ERAP	Emergency Response Assistance Plan	Transport of Dangerous Goods Regulations	Transport Canada
E2	Environmental Emergency Plan	Environmental Emergency Regulations	Environment and Climate Change Canada
EMP EPM SCP	Emergency Management Program Emergency Procedures Manual Spill contingency plan	National Energy Board	National Energy Board
RCP	Response contingency plan	Emergency Management Regulation	BC Oil and Gas Commission
MERP	Mine Emergency Response Plan	Section 3.7.1 of the Health, Safety and Reclamation Code for Mines in British Columbia and the Mines Act	BC Ministry of Energy and Mines
HWCP	Hazardous waste contingency plan	Sections 11 to 13 of the Hazardous Waste Regulation	BC Ministry of Environment

Appendix Four: Worst Case Definitions

Table 3: Worst case volume definitions by sector

Sector	Proposed worst case definition
Fixed facilities	<p>The worst case volume for fixed facilities is the contents of the largest container on-site released, and alternative volumes involving the release of lesser amounts of the prescribed substance(s). Those preparing plans under the Environmental Emergency Regulations would meet this definition and do not require further worst case volume calculations.</p> <p>The worst volume and the methodology, including calculations, used to arrive at the volume must be documented in the spill contingency plan.</p>
Rail	<p>The volume of worst case means the sudden loss of the prescribed substance in adverse weather conditions that impede clean up from either 1 railcar or 20 percent of the railcars carrying prescribed substance, whichever is greater, transported in a single train within British Columbia whether a manifest or a unit train. For oil based products, the volume is 714 barrels per tank car.</p> <p>The worst volume and the methodology, including calculations, used to arrive at the volume must be documented in the spill contingency plan.</p>
Pipelines	<p>The volume of the worst case spill is dependent on the location of pump stations, key block valves, geographic considerations, or volume of the largest breakout tank. The largest volume is determined from three different methods, complicated by adverse weather conditions:</p> <ul style="list-style-type: none"> (i) The pipeline's maximum time to detect the release, plus the maximum shutdown response time multiplied by the maximum flow rate per hour, plus the largest line drainage volume after shutdown; (ii) The maximum historic spill from the pipeline; and (iii) The largest single breakout tank or battery of breakout tanks without a single secondary containment system. <p>Each operator shall determine the worst case volume that would discharge and provide the methodology, including calculations, used to arrive at the volume and document the volume in the spill contingency plan.</p>
Trucking	<p>Worst case volume means in the case of truck and trailer rolling stock facilities, the sudden loss of the entire contents of the truck or trailer.</p> <p>The worst volume and the methodology, including calculations, used to arrive at the volume must be documented in the spill contingency plan.</p>