

Report to October 2016 Response Times Technical Working Group

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

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 policy proposals 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 participated 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 response times.

Response Times Topic Overview

According to the legislative amendment passed in May 2016, if regulations indicate, a responsible person is required to ensure that skilled personnel arrive at the spill site with the equipment and resources needed to properly respond to a spill within a prescribed period; they are also required to implement an incident command system in a prescribed time and manner. If prescribed times are not met, administrative penalties could be set. In other cases, exemptions could be allowed for extenuating circumstances, to protect responder safety. Regulations must prescribe the period or the time in order for the requirement to be in effect.

Many variables can impact the type of training, experience, equipment and resources required to properly respond to a spill, including the type of spilled substance, environment, geographic area and water conditions. Prescribed times could be linked to these variables. Prescribed times could also be



linked to specific actions or milestones the responsible person must attain. Appendix Two lists a set of example milestones and, in some cases, notes where these are being used in other jurisdictions.

Planning standards are directly related to response times in that they outline how regulated persons can prepare to meet response times and test their planning details through drills and exercises. For reference, sample planning standards from Washington are described in Appendix Three.

Consultative Process

Ministry staff developed background materials for participants to review and then facilitated discussions in face to face meetings and conference calls. Specific policies were not determined during the course of this technical working group work to October 2016 and therefore, consultation with this group will continue. Regulations outlining response times or planning standards will not be included in the Regime launch in Spring 2017.

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

Throughout the course of the technical working group discussions, participants identified possible milestones for framing the response time regulations. For many of the milestones, though, participants also highlighted a list of barriers and complications involved with completing each of those milestones within set timeframes. Through general discussion, it was noted that the limited number of trained spill response contractors and spill response organizations in B.C. is one of these barriers.

It was clarified that if a Preparedness and Response Organization (PRO) was formed, the PRO could hold key information, response plans and contact information for all of B.C. Even in this case, though, the management of the spill response would remain with the spiller – the “responsible person”; the PRO would be fulfilling the role of response contractor and, as such, would be required to comply with existing regulations.

Key Input Themes

- Acknowledge barriers to compliance
- Align with other regulators
- Assess the unintended consequences
- Build on existing response capacity
- Consider exemptions
- Ensure responder safety
- Guide vs prescribe
- Identify milestones
- Phase in implementation
- Slow down the regulations development process

A few participants expressed support for using risk-based response times enforced by fines and penalties to incent the strategic placement of greater numbers of equipment caches. Other participants expressed concern about the cost of placing and updating remote equipment caches and explained that

since remote equipment caches might get vandalized or stolen, it is a best practice for first responders to bring their own.

Several organizations stated that if the purpose of setting response times is to get people there faster, they are not necessary since all industries are motivated to deliver trained personnel to a spill site as quickly as possible to avoid lengthy service disruptions.

Guide vs prescribe

Rather than formal response times, many participants showed support for planning standards or guidelines, possibly with a tiered system to build in flexibility and to better reflect what is likely to happen on the ground; other participants suggested that certain industries be exempt from response times regulations altogether. As outlined below, participants provided some recommendations for how best to proceed with developing the response time or planning standard regulations.

Identify Milestones

Several participants provided suggestions on possible response time milestones that help to determine if a response is progressing appropriately. These included wildlife management stages (initial assessment, deterrents, field stabilization, rehabilitation, release), Incident Command System stages (establishing Incident Command, establishing an Incident Command Post), and general spill response stages (notification, initial assessment, mobilization of equipment and trained personnel, on site arrival of equipment and trained personnel, controlling the source, initial containment, initiation of monitoring, recovery and restoration). Other participants emphasized the need for trained and qualified wildlife management personnel on site quickly.

A few participants linked milestones with example timeframes:

- Have trained response personnel onsite within two hours after the initial site assessment.
- Conduct an initial wildlife management assessment in the first 12 to 24 hrs.
- Mobilize response officers within six minutes for individuals and 12 minutes for a team.
- Require trained response personnel onsite within 30 to 45 minutes throughout the 24 period for local zones and within twelve or more hours for remote zones.

Participants expressed general support for the following response time milestones:

- Reporting a spill
- The immediate activation of response
- The immediate implementation of contingency plans
- Initial mobilization of equipment and personnel
- Initial notification
- Engaging local and regional governments, where applicable to the spill



- Initial assessment by a qualified person (determine what is spilled, potential consequences and initial mitigation steps)
- Launching incident command system
- Establishing incident command post
- Initiate mitigation steps
- 24 hour wildlife response and add in a description of required actions and equipment

Participants expressed concern about response times for the milestones listed below because, generally if responders are required to rush through these activities, their personal safety may be at risk and the actions may not be completed effectively:

- Initial containment
- Personnel arrive on site
- Equipment arrives on site
- Initiation of monitoring
- Clean up of the spill
- Recovery and restoration

Acknowledge potential barriers to compliance with response times

Several participants expressed resistance to setting enforceable response times in regulation due to variables beyond the control of the first responders. The following items, in any given spill, might impact responder progress and threaten responder safety if personnel were in a rush:

- Posted speed limits
- Traffic
- Equipment not readily available
- Accessibility
- Distance
- Weather conditions
- Power outages
- Lack of available staff after work hours
- Distance of qualified staff from the spill site
- Limitations in remote communications/ internet and satellite
- Unreliable cell phone coverage

Build on existing response capacity in B.C.

Participants noted that most of the trained responders are in the urban core of southern B.C. and so spill response to more remote areas is an ongoing challenge. Participants described three types of zones in B.C. that have distinctly different spill responder capacity:

1. Urban core (Metro Vancouver) (from Hope in) – There are three verified spill response teams in this zone. This zone has mountains, rivers, logging roads and boat access only to some areas. Traffic volume becomes a concern for environmental emergency responders who do not typically have access to emergency lighting to gain advanced right-of-way passage. Snow is not typically an issue.



2. Medium hubs (Kamloops, Kelowna) – These areas often do not have a lot of technical crew (i.e. Level B resources only) and would still need assistance from Metro Van.
3. Rural Area – These areas have very few services and response to these areas may still be from Metro Vancouver. Responders may need to get flown in or dropped in if there is no local hub of trained responders.

A few participants outlined several different scenarios for current spill response. It was noted that there are a number of companies that have not previously been required to prepare, plan and meet spill response requirements and they are concerned about the additional costs (i.e. 24,000 individual trucking company owner operators). In response, the rail lines and bigger operators suggested that, through planning, they know who they are going to call if a spill occurs. Pipelines and fixed facilities, too, feel well-prepared along core operations. For remote areas that are difficult to access, large operators subcontract with other spill response contractors. Smaller operators with fewer resources were encouraged to use this model.

Participants reported, though, that there are not enough verified spill response teams all across the province. It was noted that 90% of first responders are at the technician level for hazmat training and some spill response still relies on volunteers without technical training. More specifically, participants said that B.C. has four Canadian Emergency Response Contractor Alliance (CERCA) verified spill contractors. Concern was expressed that if response time regulations were in place and one contractor could not make it to a second remote spill on time, then a more local contractor with less training might try to respond to the local spill; CERCA does not want contractors put at risk or receiving penalties because they cannot make it on time.

Recommendations

Participants offered the following recommendations, with significant support shown for the first four points:

- **Slow down** the regulation development process to get it right.
- **Ensure responder safety.**
- **Consider exemptions** or different response times for fixed facilities.
- **Assess the unintended consequences** of the regulatory decisions and in particular, the matrix (i.e. a high risk and low resourcing issues arose from a health exposure matrix).
- Require regulated persons to describe their response times relevant to their specific situation.
- Keep it simple so that one organization that is moving various substances knows how fast to respond in each situation; find a balance between simplicity and flexibility.
- Gather and share data for proper determinations of risk.
- Find the balance between response times being too long to motivate quick action or too short to cause rushed, ineffective or unsafe spill response decisions.
- Build local spill response awareness, capacity and communication systems.

- Treat oil spills like any other hazardous material that is complex and needs special response and equipment; regulate them all the same way.
- Calculate response times based on land speeds of 60 km/hr.
- Use proximity to human populations as a benchmark for how fast response should occur.
- Do not base response times on:
 - Substance
 - Environmental hazards. This is an important point as the product list is defined with these parameters.
 - Receiving environment

Seek alignment with other regulators

- Consider existing models:
 - National Fire Protection Association response times are prescribed for fire and use the phrase “conditions are favorable” to consider and calculate different scenario variations
 - Transport Canada’s four tier systems used for marine spills would be relevant here.
 - Transport Canada’s marine response time of 12 hours for crew and equipment.
 - ERAP response times in ERAP guidelines (guidelines not legislation). These are incorporated into Part 7 of the Transportation of Dangerous Goods Regulation.
 - CEPA response times in planning standards.
 - Some felt the planning standards used in Washington State were reasonable.
 - Consider the model set out in the *U.S. Coast Guard Marine Environmental Response and Preparedness Manual published in August 2016* in which response times are:
 - Described as planning standards, not enforceable performance standards.
 - Written into contingency plans.
 - Evaluated primarily through exercises.
 - Set a 1 hour response time to begin deploying containment boom at a spill site to ensure early containment of a spill.
 - Set for initial deployment of first response equipment and personnel in X hours of spill notification.
 - Set for deployment of additional resources determined to be necessary after initial assessment within Y hours of spill notification – to ensure all the appropriate resources for specific spills are moving to a site as soon as possible.

Next Steps

The ministry will provide the technical working group participants with a draft matrix for setting response times that takes into consideration the spilled substance, receiving environment and geographic distance from responders. The matrix could be used as a decision making tool to determine the required response time for each specific spill by factoring in the spill location, substance and type of response required.

Some considerations for the matrix might include, for example:

- Location (i.e. where the response capacity is located)
 - City (i.e. Metro Van stringent, including the Lower Fraser)
 - Urban areas (i.e., Kamloops) and a distance from that
 - Rural (i.e., Revelstoke)
 - No access (i.e., Atlin)
- Substance (i.e. impact to the environment, motility)
 - Hydrocarbons - look at existing guidelines, standards and improve these
- Milestones
 - On scene first assessment
 - Equipment and personnel
 - See Appendix Two for additional milestone options

Appendix One: Response Times Technical Working Group Members

Participant	Organization
Linda Pillsworth	First Nations Health Authority
Andy Jeeves	Nucor Environmental
Mark Jasper	GHD
Michael Gordon	M.R. Gordon and Associates Ltd.
Mark Pickering	Pembina Pipeline Corporation
Mike Linder	Canadian National Rail
Markus Ermisch	Canadian Association of Petroleum Producers (CAPP)
Chris Battaglia	Focus Wildlife
Wayne Schnitzler	First Nations Emergency Services Society
Jennifer Mayberry	City of Vancouver
Carlos da Ponte	Sustainable Elements
Caaron Adderley	Tervita
Mike Bissell	DCT Chambers
Deborah Jones-Middleton	Regional District of Bulkley-Nechako
Jennifer Mayberry	City of Vancouver
Linda Clarke	Canadian Association of Petroleum Producers (CAPP)
Rick Ferguson	Shell Canada
Trent Bossence	District of Kitimat
Valerie Calderwood	Ministry of Environment
Dave Maedel	Ministry of Environment
Daphne Dolhaine	Ministry of Environment
Ian Sharpe	Ministry of Environment
Leon Gaber	Ministry of Environment

Appendix Two: Example Milestones from other Jurisdictions

Milestone	Further explanation and examples from other jurisdictions
Initial Notification (to First Nations, local government, public)	Immediate expected but should also have a no later than time
Implement Incident Command System	Immediate expected but should also have a no later than time <ul style="list-style-type: none"> • Canadian Energy Pipeline Association Guidelines: establish ICS no more than 2 hours
Arrival of initial response personnel with dedicated equipment owned by responsible person	<ul style="list-style-type: none"> • Washington State: 30 minutes for mobilization • Canadian Fuels Association Guidelines: respond within 30 minutes of notification, urban areas arrive onsite within 2 hours, within 250 km of southern border within 6 hours, all other areas as soon as possible • Transport Canada within 6, 12, 18, or 72 hours for Tier 1,2,3 and 4 accordingly • Canadian Energy Pipeline Association Guidelines: personnel arrive within 3 hours, equipment within 6 hours
Mobilization of dedicated equipment contracted by responsible person	<ul style="list-style-type: none"> • Washington State: 1 hour for mobilization
Mobilization of non-dedicated equipment	<ul style="list-style-type: none"> • Washington State: 3 hours for mobilization
Protect Potential Losses (protect responders; rescue trapped/injured persons; protect public; protect environment, wildlife; protect property)	
Stabilize the Hazard (stop leak; contain; remove sources of ignition; control burn; prevent container failure)	
Extinguish Ignited Material	
Mitigate the Hazard (overpack, apply agent, material displacement, remove uninvolved containers/material, place barriers)	
Clean Up and Recovery a. Assess quantity spilled and area affected (detect, monitor, sample)	Within 1 hour of arrival
b. Assess impact on the environment (safety, spill destination, effect on wildlife, evaporation, biodegradation, bio-remediation)	<ul style="list-style-type: none"> • Washington State 1 hour • Washington State: Wildlife rescue and rehab within 24 hours • California Code of Regulations Title 14, § 819 <i>et seq.</i> • Containment and Reasonable Worst Case Spill (RWCS) recovery rates: <ul style="list-style-type: none"> ○ Within 6 hours – 10% RWCS ○ Within 12 hours – 50% RWCS ○ Within 24 hours – 100% RWCS

Appendix Three: Planning Standards from Washington State

1. For purposes of determining plan adequacy, the plan must include time calculations for notification and mobilization of equipment and personnel in the plan. The time needed for a resource to move to the spill site is the sum of the notification, mobilization, and travel times.
2. For dedicated resources owned by the plan holder, the mobilization planning factor to be used by the plan holder, contracted company and/or the PRO is thirty minutes.
3. For all other dedicated response equipment the mobilization planning factor is one hour.
4. Non-dedicated resources shall have a mobilization planning factor of three hours.
5. Equipment travel speeds shall be computed using a speed of 60 kilometers per hour for land and five knots for water.
6. The plan must document how the length of time was determined to take equipment over a given distance. For example geographic information systems (GIS), standard nautical charts, street maps and available on-line mapping programs.
7. Resource deployment timelines should include:
 - a. Actual arrival on-scene at spill control points, not just at staging area (e.g. define the "spill site"). The last hundred meters from a staging area (accessible from land) to the actual spill on a river, coastal, land, lake can be problematic and time-consuming.
 - b. Timelines for actual deployment of field observers to assess and spill trajectory and exposures. Reconnaissance field observations need to be well in advance of tactical equipment arriving.
 - c. Establishing an Incident Command Post and having a "core" Incident Management Team on-site.
 - d. Establishing base-camps for support.
8. Timeline expectations as performance measure should account for potential spills in remote or rural areas versus urban cities.