



Ministry of
Environment and
Climate Change Strategy

Testing Spill Contingency Plans

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CONTEXT

This document is intended to assist regulated persons in testing Spill Contingency Plans (SCPs) and maintaining records of investigations, tests, and surveys as outlined in the Spill Contingency Planning Regulation (SCPR). The Spill Preparedness, Response and Recovery Regulation (SPRRR) requires that rail and pipeline operators must have a SCP in place prior to April 30, 2018 and that highway transporters must have a SCP in place no later than October 30, 2018. Information on the preparation of SCPs is outlined in the [Preparing Spill Contingency Plans](#) guidance document available on the Environmental Emergency Program (EEP) website.

Division 2.1 Spill Preparedness, Response and Recovery of the *Environmental Management Act 2003* (EMA) came into force on October 30, 2017. Section 91.11 of EMA focuses on spill preparedness and the requirement for regulated persons to prepare and maintain a SCP. The preparation of SCPs is a proactive requirement placed on regulated persons to demonstrate their capability to respond to a spill of a prescribed quantity. Section 91.11 (3) of EMA outlines that regulated persons must engage in spill response training exercises and drills in the manner and frequency outlined in the regulations.

It is the responsibility of regulated persons, responsible persons, and the owners of regulated substances to understand and comply with EMA and the associated regulations. This document is solely for the convenience of the reader and is intended to assist in understanding the legislation and regulations, not replace them. It does not contain and should not be construed as legal advice. Failure to comply with EMA and/or the regulations can result in fines and convictions.

Neither EMA nor the SCPR require SCPs to be submitted to the Ministry of Environment & Climate Change Strategy (the ministry) for approval by a director. SCPs must, however, be tested in accordance with the requirements outlined in EMA and the SCPR and may be subject to auditing.

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1. INTRODUCTION

The purpose of SCPs is to demonstrate that regulated persons operating in British Columbia (B.C.) can respond to a worst-case scenario spill. Being properly prepared for an accidental release of a regulated substance can improve response times and minimize environmental impacts. SCPs must demonstrate that resources, equipment, and procedures are in place to address a worst-case scenario spill with special consideration for areas that are environmentally sensitive along transportation routes. This guidance document provides details on how regulated persons must comply with regulatory requirements for testing and record keeping.

All regulated persons must have a SCP in place by:

- April 30, 2018 for pipeline and rail sectors; and
- October 30, 2018 for the highway transport sector.

Regulated Person
A regulated person is a person who has possession, charge, or control of liquid petroleum products as defined in the SPRRR in the following defined quantities: 1. Any quantity being transported by pipeline 2. 10,000 litres or more transported by rail 3. 10,000 litres or more being transported by truck Additional information can be found in section 2 of the SPRRR. Operations regulated by the B.C. Oil and Gas Commission (OGC) are exempt from the spill contingency planning requirements as outlined in section 91.11 of EMA (see section below on OGC exemption). These operations are governed by a comprehensive emergency preparedness and response system under the Oil and Gas Activities Act 2008 (OGAA).

Preparedness requirements for regulated persons are outlined in the SPRRR; it establishes detailed criteria regarding the definition of a regulated person, the deadline to prepare SCPs by sector, and record keeping requirements.

Section 2 of the SPRRR outlines when a person is not considered to be a regulated person:

- (2) Despite subsection (1), a person is not a regulated person in respect of the transportation of a substance in the following circumstances:
- (a) the substance is being transported through a pipeline at a facility that
 - (i) uses, produces or refines the substance, or
 - (ii) stores the substance other than incidentally to its transportation through a pipeline;
 - (b) the substance is in a fuel tank of a train or motor vehicle and is being used, or intended to be used, to propel the train or motor vehicle;
 - (c) the substance is being transported only within the area of an airport, Indian reserve, military installation, national park or national park reserve;
 - (d) the substance is being transported by a railway that is operated only within an area of land on which is located industrial infrastructure, including, without limitation,
 - (i) facilities for manufacturing or processing, and
 - (ii) mines, well sites, equipment yards and other facilities for or ancillary to energy production or resource extraction.

Sections 8 – 10 of the SPRRR outline the record keeping requirements for regulated persons related to hazard assessments, SCPs, and service arrangements. Records must be kept for a period of five years.

1.1 Oil and Gas Commission exemptions

Regulated persons whose operations are regulated by the OGAA are exempt from all preparedness requirements outlined in EMA, the SCPR, and the SPRRR: (1) spill contingency planning, (2) testing SCPs, and (3) records keeping; however, activities that are undertaken by an OGAA permittee that fall outside of an OGAA permit must comply with the regulations (e.g. a pipeline company that transports regulated substances by truck in prescribed amounts must produce a SCP). SCPs that are prepared under OGAA can be used providing they are in compliance with the regulations. The OGC will remain the primary service provider for all provincially regulated oil and gas activities under OGAA. Operators regulated by the OGC who would otherwise be regulated persons under EMA will continue to interact primarily with the OGC in order to fulfil the regulatory requirements of both OGAA and EMA.

2. DEFINITIONS

3-year period in relation to a SCP, 3-year period is defined as

- the period of 3 calendar years beginning with the calendar year immediately after the calendar year in which the SCP is first prepared; and
- each subsequent period of 3 calendar years.

Breakout tank is a tank, attached to a pipeline, used to relieve surges in the pipeline and store the substance being transported for reinsertion into the pipeline.

Disposal in relation to waste, includes the treatment, recycling, storage, and destruction of the waste.

Heritage feature is a heritage site or heritage object designated under section 9 (1) of the *Heritage Conservation Act 1979*.

Highway as defined in the *Transportation Act 2004*.

Highway transporter is a regulated person as defined in section of the SPRRR.

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

Pipeline as defined in section 1 of the SPRRR.

Pipeline transporter is a regulated person as defined in EMA and referred to in section 2 (1) (a) of the SPRRR.

Protected area as defined in section 1 of the SCPR.

Railway transporter is a regulated person as defined in EMA and referred to in section 2 (1) (b) (i) of the SPRRR.

Regulated substance in relation to a regulated person or a regulated person's SCP, is the substance in respect to which the regulated person is a regulated person

Specified quantity as defined in section 2 of the SCPR for each sector.

Spill response equipment as defined in section 1 of the SPRRR.

Spill response planning zone in relation to a regulated person and a regulated substance, is

- the area within which the regulated person transports the substance and

- the surrounding area that could be impacted by a worst-case spill.

Wildlife is any of the following, including eggs and juvenile development stages, but excluding controlled alien species as defined in the *Wildlife Act 1996*:

- raptors;
- threatened species;
- endangered species;
- game;
- species of vertebrates prescribed as wildlife under the *Wildlife Act 1996*; and
- fish from or in the non-tidal waters of B.C.

Worst-case scenario test is an operations-based test that is a simulation of the worst-case scenario spill of a regulated substance.

3. SPECIFIED QUANTITY

Section 2 of the SCPR defines the specified quantity (worst-case scenario volume) in relation to the transportation of regulated substances. The specified quantity must be used for preparing SCPs and worst-case scenario tests.

Section 2 of the SCPR:

(1) The specified quantity in relation to the transportation of a regulated substance is the following, as applicable:

(a) in the case of transportation through a pipeline, the greatest of

- (i) the quantity of the largest historic spill from the pipeline,
- (ii) the volume of the largest breakout tank, or battery of breakout tanks, without a secondary containment system, and
- (iii) the quantity calculated in accordance with subsection (2);

(b) in the case of transportation by railway, the greater of

- (i) the maximum quantity that could be transported by a single rail car operated by the regulated person, and
- (ii) 20% of the maximum quantity that could be transported by a train operated by the regulated person;

- (c) in the case of transportation on a highway, the maximum quantity that could be transported by a single motor vehicle, including trailers, if any, attached to the motor vehicle operated by the regulated person.

(2) For the purposes of subsection (1) (a) (iii), the quantity is to be calculated as follows:

$$\text{quantity} = (\text{detection time} + \text{shutdown time}) \times \text{flow rate} + \text{line drainage}$$

where

detection time = the maximum time that is likely to be required to detect an unintentional release from the pipeline;

shutdown time = the maximum time that is likely to be required to shut down the pipeline;

flow rate = the maximum flow rate of the pipeline;

line drainage = the maximum quantity that could be contained by the pipeline between any 2 shutoff valves.

3.1 Pipeline transporters

For pipeline transporters, the size of the worst-case scenario spill is dependent on the location of the pump stations, presence of single or multiple pipelines in the network, key block valves, geographic considerations, or volume of the largest breakout tanks. Pipeline transporters can divide their lines into segments and develop a worst-case volume that differs based on the above-mentioned variables. As a planning standard, the detection and shutdown time should be based on the largest historic discharge data or, in the absence of such historic data, the operator's best estimate based on exercise or testing data. In most cases, the volume is based on the formula, as the majority of breakout tanks have secondary containments and few worst-case spills have occurred.

3.2 Railway transporters

Section 2 (1) (b) of the SCPR prescribes that the specified quantity of railway operators is to be based on the greater of:

- The maximum volume of the regulated substance in a single railcar or
- 20% of the maximum quantity that could be transported by the train.

Example: If a train has ten railcars with a maximum capacity of 1,150,000 litres, the specified quantity that must be considered in worst-case scenario planning is 20% of the total capacity (maximum total capacity x 20% = specified quantity). In this example, 1,150,000 litres x 20% = 230,000 litres. Note that the specified quantity for this train is always 230,000 litres, even if it is carrying less than the maximum capacity volume.

3.3 Highway transporters

Unlike pipeline and railway transporters, highway transporters only require the specified volume of the regulated substance for preparing the SCP. The specified volume of the regulated substance for highway transporters is the truck's maximum carrying capacity including the trailer.

4. TYPES OF TESTS

Tests can occur in the form of drills and/or exercises. Section 15 (1) of the SCPR establishes the types of tests that can be used. For clarity, the definitions of test, drill, and exercise are provided below.

Test means an exercise or a drill

Drill means a test that evaluates a single, specific function. It is a coordinated, supervised activity that is used to validate a specific function or capability in a single agency or organization. For example, a drill for a SCP could be the initiation of notification procedures.

Exercise means a test that evaluates a process or series of functions. For example, the activation of the entire SCP in sequence to assess how the various components work together.

The SCPR outlines that testing must occur in the form of discussion-based, operations-based, and worst-case scenario-based tests; the following sections define each test and provide guidance on performing the three types of tests.

4.1 Discussion-based test

A discussion-based test is an exercise or drill based on a spill scenario of a regulated substance. Regulated persons can select any type of discussion-based exercise. The volume of the regulated substance in the spill scenario does not have to be the worst-case scenario volume. It is recommended that regulated persons use a range of spill magnitudes throughout the testing cycle to ensure readiness for a spill of any volume. A discussion-based test does not involve the deployment of staff or equipment and can be characterized by the following recommended attributes:

- Focuses on training and familiarization of roles, responsibilities, plans, policies, and procedures
- Is controlled and led by a facilitator
- Is based on a specific spill situation with questions and/or injects to address
- Allows for thorough discussion and analysis of actions taken and decisions made
- Includes problem-solving practice with limited or no time pressures
- Practices coordination of services
- Could include a simulated interaction with contractors, local government, provincial government, federal government, Indigenous Nations etc.

Examples of discussion-based tests include seminars, workshops, and/or table-top exercises:

- Seminar – an informal discussion, designed to orient participants to new or updated plans, policies, or procedures
- Workshop – resembles a seminar, but is employed to build specific products such as a draft plan or policy
- Tabletop – involves the discussion of spill scenarios by key personnel in an informal setting; can be used to assess plans, policies, and procedures

4.2 Operations-based test

An operations-based test is an exercise or drill based on a spill scenario of a regulated substance that involves the deployment of equipment, personnel, other resources, and/or the implementation of spill response procedures as outlined in the SCP. Operations-based tests may include functional drills and/or full-scale exercises. Regulated persons can select any type of operations-based exercise to meet the requirements as outlined in section 15 (b) (ii) of the SCPR. The volume of the regulated substance in the spill scenario does not have to be the worst-case scenario volume for operations-based tests. It is recommended that regulated persons use a range of spill magnitudes throughout the testing cycle to ensure readiness for spills of any volume.

Examples of operations-based tests include drills, functional exercises, and full-scale exercises:

- Drills – validate individual functions and activities
- Functional exercises – detailed simulations used to validate multiple functions at a single site
- Full-scale exercises – realistic spill scenarios used to validate multiple functions at multiple sites

4.3 Worst-case scenario test

A worst-case scenario test is an operations-based test (a drill or an exercise) that simulates a spill of the specified quantity of a regulated substance. The specified quantity for each sector is outlined in section 2 of the SCPR. The SCPR prescribes that worst-case scenario tests must be conducted in B.C. Worst-case scenario tests should also be performed at different transportation route locations throughout B.C. in each planning cycle to test the readiness of regionally based resources and the impacts of varying weather conditions and geographical landscapes.

When conducting any exercise, it is important that all created documentation clearly note “**EXERCISE**” as either a watermark or big bold letters along the top of each page. If email is being used as communication “**EXERCISE, EXERCISE, EXERCISE**” should be in the subject line as well as the body of the text. When making any phone or radio calls the start of each call should say “**Exercise, exercise, exercise**”. Failure to identify the event as an exercise could cause personnel to initiate actual response actions potentially causing delay to another emergency taking place elsewhere in the province.

5. FREQUENCY OF TESTS

Section 15 (1) of the SCPR:

- (1) For the purposes of section 91.11 (1) (b) [*regulated persons – spill contingency planning*] of the Act, a regulated person who has a spill contingency plan must test the plan, in accordance with this section, every 3-year period by conducting
- (a) at least one worst-case-scenario test, and
 - (b) in every calendar year in the 3-year period that is not a calendar year in which the regulated person conducts a worst-case-scenario test,
 - (i) at least one discussion-based test, and
 - (ii) at least one operations-based test.

The SCPR outlines that regulated persons with SCPs must test the SCP every 3-year period; a 3-year period is defined as:

- The period of three calendar years beginning with the calendar year immediately after the calendar year in which the SCP is first prepared; and
- Each subsequent period of three calendar years.

Example: if a regulated person prepares a SCP in April 2018, the 3- year period starts on January 1, 2019 and ends on December 31, 2021.

The following sections describe the required frequency of testing for regulated persons in each sector.

5.1 Pipeline and railway transporters

During each 3-year period, regulated persons operating in the pipeline and railway sectors must perform a worst-case scenario test and both a discussion-based and operations-based test in each of the other two years for a total of five tests. The order of the tests in each 3-year period is not prescribed in the SCPR; regulated persons can conduct the worst-case scenario test at any time within the 3-year period cycle. Table 1 below provides a detailed example of a testing schedule for a 3-year period beginning in 2019 for regulated persons operating in the pipeline and railway sectors.

Table 1: 3-year testing schedule for pipeline and railway operators

January 1, 2019 to December 31, 2019	January 1, 2020 to December 31, 2020	January 1, 2021 to December 31, 2021
Discussion-based test EXERCISE <u>Components:</u> 1. Initial and ongoing assessments 2. Protection of specific aspects of the environment, human health, and infrastructure	Discussion-based test DRILL <u>Components:</u> 1. Maintaining the proficiency of equipment, personnel, and other resources as it relates to the mobilization and deployment of spill response equipment and spill response personnel	Worst-case scenario test EXERCISE <u>Components:</u> 1. Notification 2. ICS and ICP 3. Monitoring and documentation 4. Communication
Operations-based test DRILL <u>Components:</u> 1. Mobilization, deployment, and ongoing proficiency as it relates to spill response equipment and personnel	Operations-based test EXERCISE <u>Components:</u> 1. Source control 2. Stabilizing, containing, removing, and cleaning up the spill 3. Waste management	

5.2 Highway transporters

Highway transporters must perform a discussion-based and an operations-based test each calendar year in a 3-year period for a total of six tests. The order of tests in each 3-year period is not prescribed in the SCPR; regulated persons are free to develop their own schedule to meet the testing requirements. Table 2 below provides an example of a testing schedule for a 3-year period starting in 2019 for highway transporters.

Table 2: 3-year testing schedule for highway transporters

January 1, 2019 to December 31, 2019	January 1, 2020 to December 31, 2020	January 1, 2021 to December 31, 2021
Discussion-based test DRILL <u>Components:</u> 1. Maintaining the ongoing proficiency of equipment, personnel, and other resources as it relates to the mobilization and deployment of spill response equipment and spill response personnel	Discussion-based test EXERCISE <u>Components:</u> 1. Notification 2. ICS and ICP 3. Monitoring and documentation 4. Communication	Discussion-based test DRILL <u>Components:</u> 1. Protection of aspects of environment, human health, and infrastructure
Operations-based test EXERCISE <u>Components:</u> 1. Mobilization, deployment, and ongoing efficiency as it relates to spill response equipment and spill response personnel and 2. Source control	Operations-based test DRILL <u>Components:</u> 1. Initial and ongoing assessments	Operations-based test EXERCISE <u>Components:</u> 1. Stabilizing containing removing and cleaning up and 2. Waste management

Section 15 (4) of the SCPR clarifies that highway transporters are not required to conduct a worst-case scenario test:

(4) Despite subsection (1) (a), a highway transporter is not required to conduct a worst-case-scenario test.

As such, highway transports must perform three discussion-based and three operations-based tests, one of each test type per calendar year, for a total of six tests in a 3-year cycle.

6. COMPONENTS OF THE SCP TO BE TESTED

Section 15 (2) (a) of the SCPR requires that regulated persons test at least all of the 11 components of the SCP referred to in section 16 of the SCPR in the 3-year period; note that not all of the components of the SCP are required to be tested. Additional tests can be conducted within the same 3-year period if not all 11 components were tested as part of the minimum required tests.

Section 15 (2) of the SCPR:

- (2) The tests conducted for the purposes of this section must
- (a) cover, in each 3-year period, at least the components of the plan that are referred to in section 16, so as to ensure that the plan demonstrates that the regulated person has the capability to effectively respond to a spill,

The 11 components of SCPs are outlined in section 16 of the SCPR:

The components of a spill contingency plan to be tested for the purposes of section 15 (2) (a) are the following:

- (a) section 12 (3) *[notification]*;
- (b) section 12 (4) (c) *[mobilization, deployment and ongoing sufficiency]* as it relates to the mobilization and deployment of spill response equipment and spill response personnel;
- (c) section 12 (4) (c) as it relates to maintaining the ongoing sufficiency of equipment, personnel and other resources;
- (d) sections 7 *[incident command system]* and 12 (4) (d) *[incident command post]*;
- (e) section 12 (4) (e) *[source control]*;
- (f) section 12 (2) and (4) (b) *[initial and ongoing assessments]*;
- (g) section 12 (4) (f) *[stabilizing, containing, removing and cleaning up]*;
- (h) section 12 (4) (g) *[protection of aspects of environment, human health and infrastructure]*;
- (i) section 12 (1) (d) *[monitoring and documentation]*;
- (j) section 9 *[communication]*;
- (k) section 10 *[waste management]*.

Regulated persons can distribute the components of the SCP that are required to be tested, into drills and exercises as preferred over the 3-year testing period. For example, notification, mobilization, and the ICS could be tested in year 1 and spill source control and stabilization in year 2 of the 3-year cycle and so on. The objective of testing SCPs is to verify the effectiveness of the components, reveal any gaps which may exist, and provide an opportunity for response staff identified in the SCP to become familiar with their role during a spill response.

The following sections describe the 11 components of SCPs outlined in section 16 of the SCPR which must be tested and provide guidance on how to test them.

6.1 Notification

Section 16 (a) of the SCPR outlines that testing the notification component of SCPs is required. Testing the notification component can be done by demonstrating how stakeholders are informed of a spill incident. Regulated persons must be able to demonstrate how the following stakeholders are notified:

- Emergency Management British Columbia
- Response personnel and contractors employed by the regulated person and the order in which they are to be notified
- Government bodies (federal and provincial) and other public agencies (health authorities)
- Persons who may need to take protective actions

A notification flowchart, call-down list, and response resource list could assist to confirm that the appropriate stakeholders are identified and that contact information is accurate.

6.2 Mobilizing, deploying, and maintaining equipment, personnel, and other resources

Spill response personnel and equipment readiness is essential for effective spill management. Testing deployment of staff and equipment can enhance spill incident preparedness by providing training to spill response personnel and reveal any gaps in the SCP. Section 16 (b) of the SCPR outlines the requirement to test the spill response personnel deployment and equipment readiness component of SCPs. Some examples of how to test this component of SCPs can be done by demonstrating the ability to:

- Identify and describe the resources available for deployment in the event of a spill
 - The description should include the location of required personnel, equipment, and services and consider any challenges that may impact the timely arrival of off-site resources such as weather, roadworks, etc.
- Assemble the spill response personnel identified in the SCP

- Provide the necessary logistical support of all spill response personnel to mobilize and deploy
- Maintain, mobilize, and deploy spill response equipment
- Confirm the availability of spill response equipment and personnel identified in the SCP
- Verify the location of the equipment caches

As discussion-based tests do not involve the deployment of equipment or spill response personnel, maps, guides, forms, and other aids could be used.

6.3 The ICS and ICP

The ICS is a standardized approach to the command, control, and coordination of emergency response and provides a common structure for use by multiple agencies during a spill incident. The ICP is the designated physical location at the tactical-level where on-scene spill response personnel can manage spill response actions. Section 16 (d) of the SCPR outlines the testing requirement for the ICS and ICP component of SCPs. Section 7 of the SCPR, summarized in Table 3 below, identifies the ICS components that must be tested by sector.

Table 3: Components of the ICS to be tested

Pipeline and railway transporters	Highway transporters
• Incident Commander • Information Officer • Liaison Officer • Safety Officer • Section Chiefs of the following sections: ○ Administration/finance ○ Logistics ○ Operations ○ Planning	• Incident Commander • Information Officer • Liaison Officer • Safety Officer

For pipeline and railway transporters each ICS position must have one primary and two alternate individuals and highway transporters must have one primary and one alternate individual who have been identified in the SCP and must participate in every test. To test the ICS component of SCPs, regulated persons should test the ability to operate the ICS in the manner described in the SCP and/or establish the ICS and ICP.

In testing the ICS component of SCPs, regulated persons should demonstrate that:

- An ICP capable of supporting the response can be established
 - The size and equipment in the ICP depends on the size of the incident; a smaller incident may only require a small area and minimum equipment, however, larger incidents may require a larger space and various equipment
 - Considerations for preparing an ICP for a large incident may include internet and electrical accommodations, support equipment, washroom facilities, etc.
- Individuals identified in the SCP understand the responsibilities of their assigned position(s)
 - Depending on the test scenario, a single person may fill more than one position; that person must be familiar with all of their roles and responsibilities

6.4 Spill source control

Following a spill incident, responsible persons must control the source of the spill to prevent further spillage of the product and minimize impacts to human health, the environment, and infrastructure. Section 16 (e) of the SCPR outlines the requirement to test the spill source control component of SCP. In order to test this component, regulated persons must demonstrate the ability to safely control and stop a spill at the source. Regulated persons could test this component by following the source control procedures as outlined in their SCP and test the deployment and operation of source control equipment.

6.5 Initial and ongoing assessment of the spill site

Following a spill incident, responsible persons must conduct initial and ongoing assessments of the spill site to effectively manage the spill; section 16 (f) of the SCPR outlines that regulated persons must test these components of SCP. Assessments are used to manage the spill and to document the incident and the response. Regulated persons could test this component by undertaking an initial assessment of a spill scenario and following the procedures as outlined in the SCP for the assessment of tactical operations.

It is recommended that the following be included during spill assessments and when testing this component:

- Identification and evaluation of the immediate risks to and impacts on the environment, human health, and infrastructure
- Classification of the spill based on the following factors:
 - The substance spilled
 - The quantity of the substance spilled
 - The location and circumstances of the spill
- Assessment of procedures to protect the safety of spill response personnel and the public and whether an evacuation is necessary

- Assessment of the current and potential adverse impacts of the spill on environment, human health, and infrastructure as outlined in section 12 (4) (b) of the SCPR

6.6 Stabilization, removal, containment, and clean-up of spilled product

Section 16 (g) of the SCPR outlines the requirement to test the stabilization, removal, containment, and clean-up component of SCPs. Regulated persons testing this component should demonstrate the ability to:

- Establish steps that demonstrate that the primary authority is contacted to direct prevention, removal, abatement, response, containment, and clean-up efforts
- Contain the spill at the source or in various locations
- Collect, mitigate the impact, and remove the spilled product

6.7 Protection of aspects of the environment, human health, and infrastructure

Spill response planning maps identify aspects such as environmental features, urban centres, and infrastructure that must be protected in the event of a spill. Section 16 (h) of the SCPR outlines the requirement for regulated persons to test the protection of aspects of the environment, human health, and infrastructure. In order to identify and protect these aspects, pipeline and railway transporters must identify the location of key aspects on spill response planning maps. Highway transporters must identify only one aspect (i.e. the location of bodies of water) on a spill response planning zone map for the area where the highway transporter regularly operates or include an assessment of the magnitude of risk to these aspects that would result from the worst-case scenario spill in the hazard assessment of the SCP.

Table 4: Environment, human health, and infrastructure aspects to be tested

Pipeline or railway transporter	Highway transporter
• Bodies of water • Wetlands • Protected areas (see Appendix 1) • Heritage features • Key infrastructure including, without limitation, dams and other major public and industrial water intakes	• Bodies of water

• Areas of human habitation, including areas used for recreation, hospitals, schools, and other public facilities	
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To test the protection of these features, regulated persons must demonstrate the steps taken to safeguard these aspects from a worst-case scenario spill. For example, regulated persons could discuss or demonstrate the procedure to evacuate an area in the event of a spill.

6.8 Monitoring and documenting

Monitoring and documenting the spill response process is important in order to effectively monitor the work being done and to record the spill response actions taken. Section 16 (i) of the SCPR outlines the requirement to monitor and document the spill response process. While testing this component, regulated persons must demonstrate the ability to document all operational and support aspects of the response and provide detailed records of decisions and actions taken as outlined in the SCP. Activity logs could be used as a tool to record individual spill response actions.

Section 12 (1) (d) of the SCPR outlines that regulated persons must specify how monitoring and documenting of spill response procedures will occur in SCPs that include:

- The spill
- The initial assessment of the spill
- Notification of persons about the spill
- Spill response actions

6.9 Communications

The ability to prevent, mitigate, respond to, and recover from a spill incident will require resources and expertise from various organizations and agencies; effective communication amongst those involved is important for effective spill management. Section 16 (j) of the SCPR outlines the requirement to test the communication component of SCPs. When testing this component, regulated persons must demonstrate the ability to establish and utilize an effective communications system. Regulated persons must review and activate the communications component of the SCP and identify equipment and resources to communicate with involved parties and stakeholders. Highway transporters are exempt from the public communication portion of communications requirements as per section 9 (2) of the SCPR.

The SCPR section 9 (1) outlines that in SCPs, regulated persons must identify procedures for:

- Communications amongst spill response personnel and

- Communications with the public about the spill, including procedures for providing information to the public and gathering information from the public.

Considerations for testing the communications component include:

- Identification of proper lines of communication (e.g. notification procedures)
- Identification of communication method/tool (e.g. cell phone, satellite phone, two way radio)
- Evaluation of the communications component

6.10 Waste management

Following the clean-up of a spill, responsible persons are required to manage and dispose of the waste created during the clean-up including spilled substances and polluted soil or waters that were collected. Section 16 (k) of the SCPR outlines the requirement for testing the waste management component of SCPs. When testing this component, regulated persons must demonstrate the ability to collect, store, transport and dispose of the recovered product that spilled, contaminated debris, and any waste produced in the clean-up of the spill. For testing purposes, it is recommended that regulated persons report the volume of waste as well as the method and location of disposal of waste. Highway transporters are not required to identify temporary storage locations of waste as per section 10 (3) of the SCPR.

Section 10 of the SCPR outlines that:

- Regulated persons must identify:
 - Locations where the waste will be stored temporarily before being transported to facilities at which the waste will be received for disposal or recycling (except for highway transporters);
 - The person(s) or contractor(s) who will transport the waste must be identified; and
 - Facilities at which the waste will be received for disposal.
- If the waste resulting from a spill is likely to be hazardous waste, regulated persons must identify:
 - That the person(s) or contractor(s) who will transport the waste are persons licensed under EMA to transport the waste; and
 - That the facilities are authorized under EMA to receive the waste for disposal.

6.11 Components of SCPs that do not need to be tested

Regulated persons are exempt from testing a component of the SCP in a 3-year period if that component was implemented during a response to an actual spill incident within that 3-year cycle as per section 15 (5) (a) of the SCPR. For example, if a pipeline transporter suffers a spill in 2019, within the 2019 – 2021 3-year period, and implements the ICS component of the SCP in response to the incident, the pipeline transporter is not required to test the ICS component in the 2019 – 2021 3-year period. Pipeline and railway transporters are also exempt from testing a worst-case scenario in a 3-year period if the pipeline or railway transporter suffered a worst-case scenario spill incident within that 3-year period as per section 15 (5) (b) of the SCPR. If pipeline and railway transporters suffer a worst-case scenario spill incident, the pipeline and railway transporters are still required to perform a discussion-based test and an operations-based test in the year that they suffered the worst-case scenario spill.

Section 15 (5) of the SCPR outlines when SCPs or components of SCPs are not required to be tested:

- (5) Despite subsections (1) and (2) (a), a regulated person is not required
 - (a) to test a component of the plan in a 3-year period that was implemented in response to an actual spill in the 3-year period, or
 - (b) to carry out a worst case scenario test in a 3-year period if the regulated person suffers the worst case scenario of a spill of the specified quantity of the regulated substance in the 3-year period.

7. PERSONNEL PARTICIPATION IN TESTS

Only those individuals identified in the SCP to implement the components being tested must participate in the test, not all response staff employed by regulated persons are required to be involved in every test. For example, if the waste management component of the SCP is being tested, only the individuals that would participate in waste management functions during a spill incident must be involved in that test. Response personnel that are not identified to participate in waste management, such as wildlife specialists and spill response equipment operators, are not required to participate in waste management tests. However, regulated persons can decide to involve more response staff positions than the required personnel based on the testing scenario.

Section 15 (2) (b) of the SCPR outlines the participation of personnel when testing SCPs:

- (2) The tests conducted for the purposes of this section must
- (b) involve individuals who, in the event of a spill, would be deployed or otherwise involved in implementing the components of the plan that are being tested but need not involve more than the minimum number of those individuals necessary to implement those components, and

In order to ensure that all response staff are prepared for a spill incident, the alternate staff identified in the SCP must also participate in the tests. Involvement of the alternate staff could include participating in exercises as an observer or sharing roles during the exercise (e.g. the primary Incident Commander could participate in the exercise with the secondary Incident Commander in the deputy role).

8. PROVIDING TESTING INFORMATION TO THE DIRECTOR

Section 15 (3) of the SCPR (below) outlines the requirement for regulated persons to provide information to the director; this information is to be provided upon request and is not required to be submitted for review.

- (3) A regulated person who has a spill contingency plan must, on request of the director,
- (a) inform the director of the dates of the tests that the regulated person has conducted, or plans to conduct, for the purposes of this section in the current 3-year period,
 - (b) give to the director information or records relating to the tests referred to in paragraph (a), and
 - (c) allow the director, or an individual authorized by the director, to observe any test that the regulated person plans to conduct for the purposes of this section.

Regulated persons must submit the following information, upon request from the director, regarding SCP testing:

- The dates of the tests that have been conducted or planned to be conducted in the current 3-year period; and
- Information and/or records related to the tests.

Information and/or records related to the tests include, but are not limited to the:

- Nature, duration, and objectives of the tests
- Parties and number of staff involved
- Components of the SCP that were tested
- Evaluation of the tests and any gaps that were revealed during testing

Section 15 (3) (c) outlines that regulated persons must allow the director, or an individual authorized by the director, to observe any test. Ministry staff may audit and/or evaluate tests.

9. TESTING CONSIDERATIONS

This section provides recommendations for planning tests; the information provided in this section is not specific to regulatory requirements. It is recommended that regulated persons take a comprehensive approach to test design and maintain a testing program. By strategically designing SCP tests, regulated persons can ensure that components are tested appropriately, the purpose for each test is articulated in conjunction with test objectives, and that improvement plans are created to learn from tests and improve SCPs.

Tests should simulate a wide range of geographic and weather scenarios along transportation routes. It is advised to provide a minimum of 30 days advance notice of tests to participating response personnel and to allow other staff to participate in an observer role. It is also recommended to invite the local authorities, government departments, and other stakeholders to participate in and/or observe tests. Regulated persons may want to conduct unannounced tests to ensure that response personnel and equipment have the ability to deploy at any time. See Appendix 1 for resources related to designing and documenting tests.

The regulated person may request EEP staff to either participate in the exercises as a player and/or attend to provide feedback on the implementation of the SCP through testing. Participation from the ministry will be subject to availability. Send all inquiries for participation or general questions on SCP or the testing of SCPs to spillresponse@gov.bc.ca.

Note: The regulated persons SCP or testing of SCP does not authorize entry upon, crossing over, or use for any purposes of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the regulated person. The regulated person is required to ensure that activities conducted under the SCP are carried out with regard to the rights of third parties and comply with other applicable legislation that may be in force. The regulated person must also obtain any necessary authorizations from other agencies if required.

9.1 Test planning process

The four main phases for emergency management tests are:

- Foundation phase – identify the team include: team designer, safety, information, operation, planning, logistics and finance
- Design and development phase – define test details including the purpose, objective, expected action, and evaluate the criterion
- Conduct phase – control and briefing
- Evaluation phase – apply the expected action; the exercise must be evaluated to identify strengths and weaknesses

The following graph shows the main phases of emergency management tests:

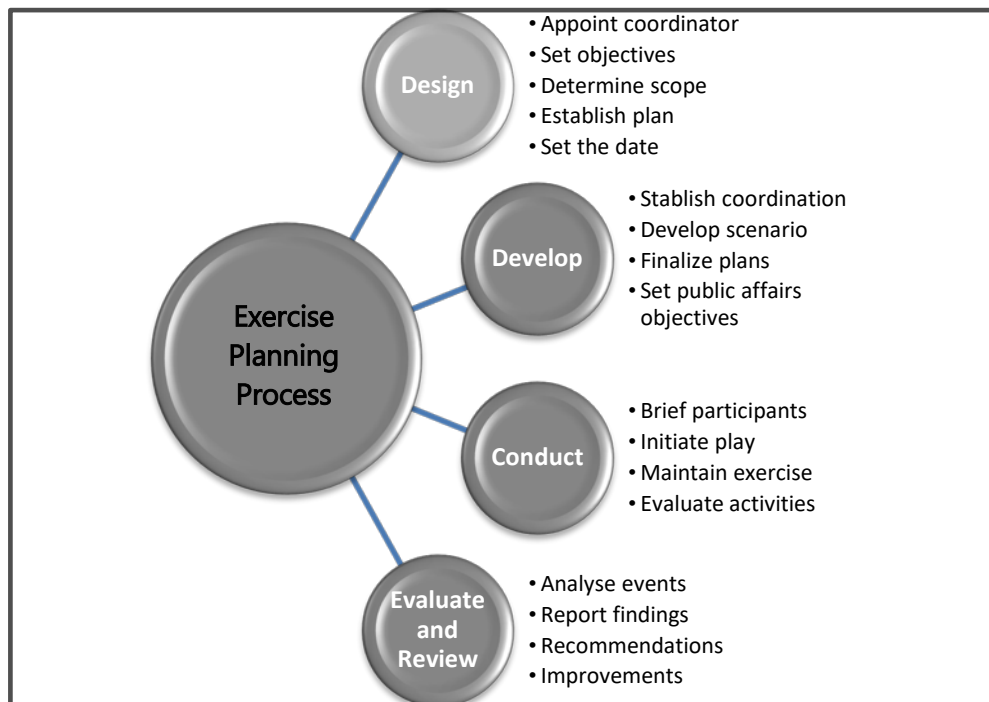


Figure 1: Test planning process

Regulated persons may benefit from the use of After Action Reports which are developed following a test or a spill; After Action Reports can be used to facilitate institutional learning through the identification, documentation, and tracking of positive and negative actions following an event. When used effectively, After Action Reports will help inform positive changes/updates to SCPs and identify areas that require additional testing. For After Action Reports related to tests, criteria and topic headings should be developed during the design and development phase. Common headings that are found within After Action Reports include:

- Executive summary/overview
- Goals and objectives
- Analysis of outcomes

- Analysis of performance on critical tasks/evaluation
- Summary/conclusion
- Recommendations/action plan for improvements

See Appendix 1 for additional resources and courses that are available for planning and designing tests.

10. RECORD KEEPING

Section 91.11 (3) (a) of EMA, on spill contingency planning for regulated persons, directs that regulated persons must maintain records that contain prescribed information and sections 8 – 10 of the SPRRR outlines the record keeping requirements for SCPs.

The SCPR prescribes the specific documents and information that must be kept, however, regulated persons should retain all records associated with spill planning, preparedness, response, and environmental recovery. A list of the prescribed records is below.

- Records related to hazard assessments
- Records related to the contingency plan
- Records evidencing the inspection and maintenance of response equipment (in the SCP)
- Records related to investigations, tests, and surveys
- Records of changes to the SCP
- Records related to the spill response equipment listed in the SCP
- Records of training
- Records related to testing SCPs

Section 8 of the SPRRR:

For the purposes of section 91.11 (3) (a) [*regulated persons – spill contingency planning*] of the Act, the period during which a regulated person must ensure that records respecting investigations, tests and surveys referred to in section 91.11 (2) of the Act are kept is the period during which the person has a spill contingency plan to which the records relate.

Section 8 of the SPRRR outlines the record keeping requirements for hazard assessments within SCPs. These records include documents related to the investigations, tests, and surveys that are undertaken to determine the magnitude of the risk to the environment, human health, and infrastructure. Regulated persons must keep the hazard assessments records as long as the regulated person has the SCP to which the records relate.

Section 9 of the SPRRR:

(1) A regulated person who has a spill contingency plan must maintain the following records:

- (a) a record of changes to the plan that shows, for each change, the date the change was made and the reason for the change;
- (b) a record in relation to the spill response equipment listed in the plan that shows
 - (i) the dates on which each item on the list was inspected and whether the item was ready for use on each date, and
 - (ii) the dates on which each item on the list was maintained or repaired;
- (c) a record of the training referred to in section 13 (1) [training] of the Spill Contingency Planning Regulation that includes the following for each course of training provided:
 - (i) the dates of the training;
 - (ii) a description of the training;
 - (iii) the person who provided the training;
 - (iv) the roles and procedures, as applicable, on which the training was provided;
 - (v) the names and job titles of the individuals to whom the training was provided;
- (d) a record of the tests conducted by the regulated person for the purposes of section 15 [*testing spill contingency plans*] of the Spill Contingency Planning Regulation that shows the following for each test:
 - (i) the date of the test;
 - (ii) a description of the test;
 - (iii) whether the test is a discussion-based test, an operations-based test or a worst-case-scenario test;
 - (iv) the components of the spill contingency plan tested;
 - (v) the records generated by the individuals who participated in the test;
 - (vi) an evaluation of the components tested that identifies any deficiencies in the components revealed by the test or changes to the components suggested by the test;
 - (vii) if applicable, the changes made to the spill contingency plan in response to the test and the dates on which those changes were made.

(2) The regulated person must keep each record referred to in subsection (1) for at least 5 years.

Section 9 of the SPRRR outlines that regulated persons must maintain records related to SCPs for a minimum of five years.

As per section 10 of the SPRRR:

If a regulated person enters into an arrangement with another person respecting the use of the other person's services to meet obligations of the regulated person under Division 2.1 [*Spill Preparedness, Response and Recovery*] of Part 7 of the Act in relation to spill contingency planning or spill response actions, the regulated person must keep any records relating to the arrangement for at least 5 years after that arrangement comes to an end.

Section 10 of the SPRRR outlines the requirement for regulated persons to keep records related to arrangements that they make with other persons to fulfil their obligations as regulated persons for five years. Examples of these types of records include contracts with response contractors, equipment service contractors, and mutual service agreements between regulated persons.

10.1 Record keeping recommendations

Regulated persons should develop a systematic approach to maintaining and archiving records in such a way that the records are easily accessible by staff involved in response efforts. An established filing system that tracks the date that the records were written, the version number, and the author will facilitate in managing records. It is recommended that regulated persons undertake annual housekeeping of records and movement to storage, ensuring that paper documents are archived in a dry, secure, and fire safe location and that electronic files are sufficiently backed up via off-site servers. Regulated persons could consider the use of professional services that archive both hard and electronic files off-site to ensure business continuity and accessibility.

10.2 Request for records

In the event that the ministry requests records, the request will describe the reason, which records are being sought, and when the records are to be submitted. The ministry may request records from regulated persons for a variety of reasons:

- To assess and evaluate SCPs
- To understand the scope, frequency, and scale of tests of SCPs
- To obtain information following a spill incident
- For compliance audits
- To assess best practices and evaluate how they are operationalized
- To collect statistical data

- To gather information before participating in a joint test with a regulated person

APPENDIX 1. RESOURCES FOR DEVELOPING EXERCISES

Justice Institute of B.C. Exercise Design documents:

<https://myem.jibc.ca/exercise-design/exercise-forms>

Exercise Design courses

Introduction to exercises course (FEMA)

<https://training.fema.gov/is/courseoverview.aspx?code=IS-120.a>

Exercise design courses (JIBC)

<http://www.jibc.ca/programs-courses/schools-departments/school-public-safety/emergency-management-division/academic-programs/emergency-management-exercise-design-certificate>