



Office of the
Auditor General
of British Columbia

February 2024

Managing Hazardous Spills in B.C.



An independent audit report



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of British Columbia

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The Honourable Raj Chouhan
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Dear Mr. Speaker:

I have the honour to transmit to the Speaker of the Legislative Assembly of British Columbia the report, *Managing Hazardous Spills in B.C.*

We conducted this audit under the authority of Section 11(8) of the *Auditor General Act*. All work in this audit was performed to a reasonable level of assurance in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3001 – Direct Engagements, set out by the Chartered Professional Accountants of Canada (CPA Canada) in the *CPA Canada Handbook – Assurance*.

Michael A. Pickup, FCPA, FCA
Auditor General of British Columbia
Victoria, B.C.

February 2024



Contents

Audit at a glance	4
Background	7
Objective	10
Scope	10
Conclusion	11
Findings and recommendations	12
Preparing for spills	12
Provincial response plans not current, and training requirements not reviewed	12
Spill response	15
Staff provided oversight of spill response, but didn't consistently notify First Nations	15
Spill recovery	21
Staff provided oversight of spill recovery, with some exceptions	21
Identifying and addressing non-compliance	24
Compliance staff not consistently notified of potential non-compliance, but responded when notified	24
Cost recovery	27
Substantive costs not fully recovered	27
Monitoring and reporting	30
Spills data monitored, but not easily accessible	30
Annual reports included information on operations, but not on effectiveness	31
About the audit	33
Appendix A: Recommendations and auditee response	34
Appendix B: Audit criteria	37

Audit at a glance

Why we did this audit

- Thousands of spills are reported every year in B.C., with the number of reports generally rising since 2018.
- Preparedness, response and recovery management helps to prevent hazardous spills from causing significant harm to people and the environment.
- The Ministry of Environment and Climate Change Strategy, through the Environmental Emergency Program, leads the province's response to hazardous spills and other environmental emergencies.

Objective

To determine whether the Ministry of Environment and Climate Change Strategy has effectively managed hazardous spills to protect the welfare of the public and the environment.

Audit period

November 23, 2020 – June 13, 2023

Conclusion

We found that the ministry provided oversight of spill response and recovery activities after high-risk incidents. Specifically, we found that:

- response officers assessed and monitored high-risk incidents, and referred incidents to recovery staff;
- recovery staff reviewed all incidents referred to them, and monitored the recovery of most high-risk incidents to ensure requirements were met; and
- compliance and enforcement staff acted when potential non-compliance was identified.

However, we found shortcomings and deficiencies in key areas. Specifically, we found that the ministry:

- did not have a current provincial-level plan for responding to a major spill;
- did not consistently notify First Nations communities of high-risk incidents;
- had not ensured that staff followed policies and procedures for identifying potential non-compliance;
- had not recovered substantive costs, as required; and
- had not met the legislated requirement to report to the Legislative Assembly on the effectiveness of the spill response regime.

As the deficiencies identified in the audit were in key areas impacting the ministry's overall management of hazardous spills, we concluded that the ministry had not effectively managed hazardous spills.

The ministry has accepted all 9 recommendations.

Audit at a glance (*continued*)

What we found

Provincial response plans not current, and training requirements not reviewed

- Two provincial plans for responding to a major spill were 10 years old and needed updating.
- The Environmental Emergency Program's training procedure, including training requirements for spill response, hadn't been reviewed annually as required.

Recommendations 1 and 2

Staff provided oversight of spill response, but didn't consistently notify First Nations

- High-risk incidents were assessed and monitored to ensure requirements were met.
- Incidents were referred to spill recovery staff as required.
- In three of 12 high-risk incidents, staff didn't follow procedures to notify First Nations communities. An automated notification system was planned.

Recommendation 3

Staff provided oversight of spill recovery, with some exceptions

- Recovery activities were monitored, and completion was verified, for the majority of high-risk incidents.
- Spill recovery staff used their scientific expertise to provide oversight of the restoration of the environment (as closely as possible to pre-spill conditions).
- Operational guidance for engaging with First Nations was limited to larger incidents that required the involvement of other jurisdictions.

Recommendations 4 and 5

Compliance staff not consistently notified of potential non-compliance, but responded when notified

- Response officers didn't consistently follow requirements to notify compliance and enforcement staff about potential cases of non-compliance.
- When notified, compliance and enforcement staff responded to all cases of potential non-compliance, including issuing warnings and advisories.
- A new process for identifying non-compliance started during the audit.

Recommendation 6

Audit at a glance (*continued*)

Substantive costs not fully recovered

- Cost recovery wasn't initiated for all spills that met requirements.
- From April 2016 to February 2023, approximately \$900,000 of spill-related costs were recovered.
- Approximately \$13.9 million of spill-related costs remained outstanding at the end of February 2023.
- One incident (at the bankrupt Neucel pulp mill site on Vancouver Island) accounted for almost all of the unpaid costs.

Recommendation 7

Spills data monitored, but not easily accessible

- The ministry collected provincial-level data including information on the status of spill incidents by region, and other statistics.
- Software system limitations impacted how staff could access and use information for program decisions.

Recommendation 8

Annual reports included information on operations, but not on effectiveness

- The ministry reported annually to the Legislative Assembly on its spill preparedness, response and recovery work.
- The reports didn't include required information on the effectiveness of the spill response regime.

Recommendation 9

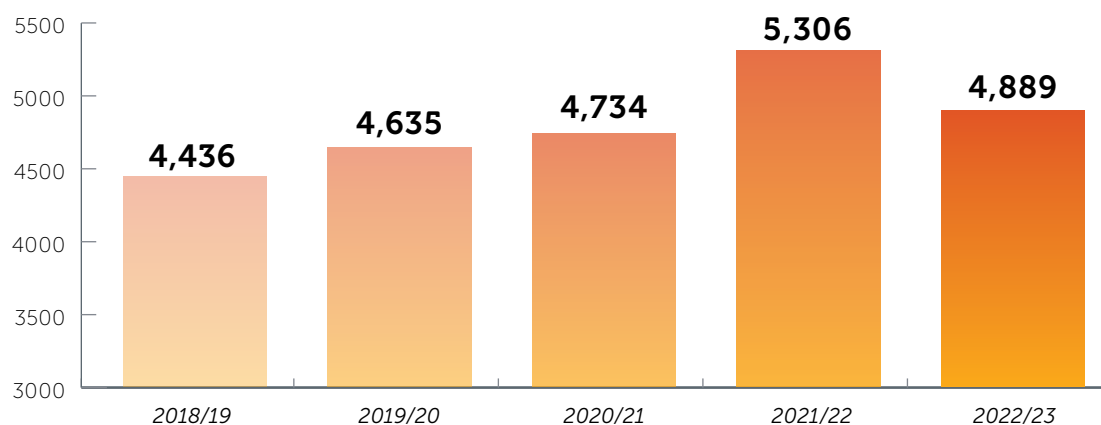
After reading the report, you may want to ask the following questions of government:

- 1.** How will the ministry support the Environmental Emergency Program to meet the increasing demand to respond to hazardous spills?
- 2.** How will the ministry ensure cleanup costs are paid by those responsible for a hazardous spill and not by the province?
- 3.** How will the ministry support the Environmental Emergency Program to fully engage with First Nations?

Background

Thousands of spills are reported in B.C. every year, with the number of reports generally increasing since 2018.

Number of spills and other environmental emergencies reported from fiscal years 2018/19 to 2022/23



Source: Data provided by Environmental Emergency Program

Hazardous spills commonly involve gasoline, diesel, and heating fuel. They can also involve spills of any substance that could be harmful. Spills are commonly caused by equipment failure (e.g., ruptured lines or radiators), sunken or grounded boats, human error, or motor vehicle incidents.

Spills that aren't managed quickly and effectively can become more severe, with longer lasting impacts on health or the environment.

The Ministry of Environment and Climate Change Strategy, through its Environmental Emergency Program, leads the province's response to hazardous spills. The ministry is responsible for preparing for and responding to oil spills, chemical spills and spills of any substance that could affect or harm the environment.

The *Environmental Management Act* sets requirements for spill preparedness, response and recovery. Under the act, those responsible for a spill must ensure that all actions are taken to address any threats or hazards caused by the spill. A key responsibility of the Environmental Emergency Program is to oversee compliance with regulations.



The Environmental Emergency Program has three sections: preparedness, response and recovery (see table below for program structure, including focus areas and key responsibilities). Its 45 staff members are located in 14 communities. Significant spills may require the coordinated response of local, provincial, federal or international governments, First Nations, communities and industry.

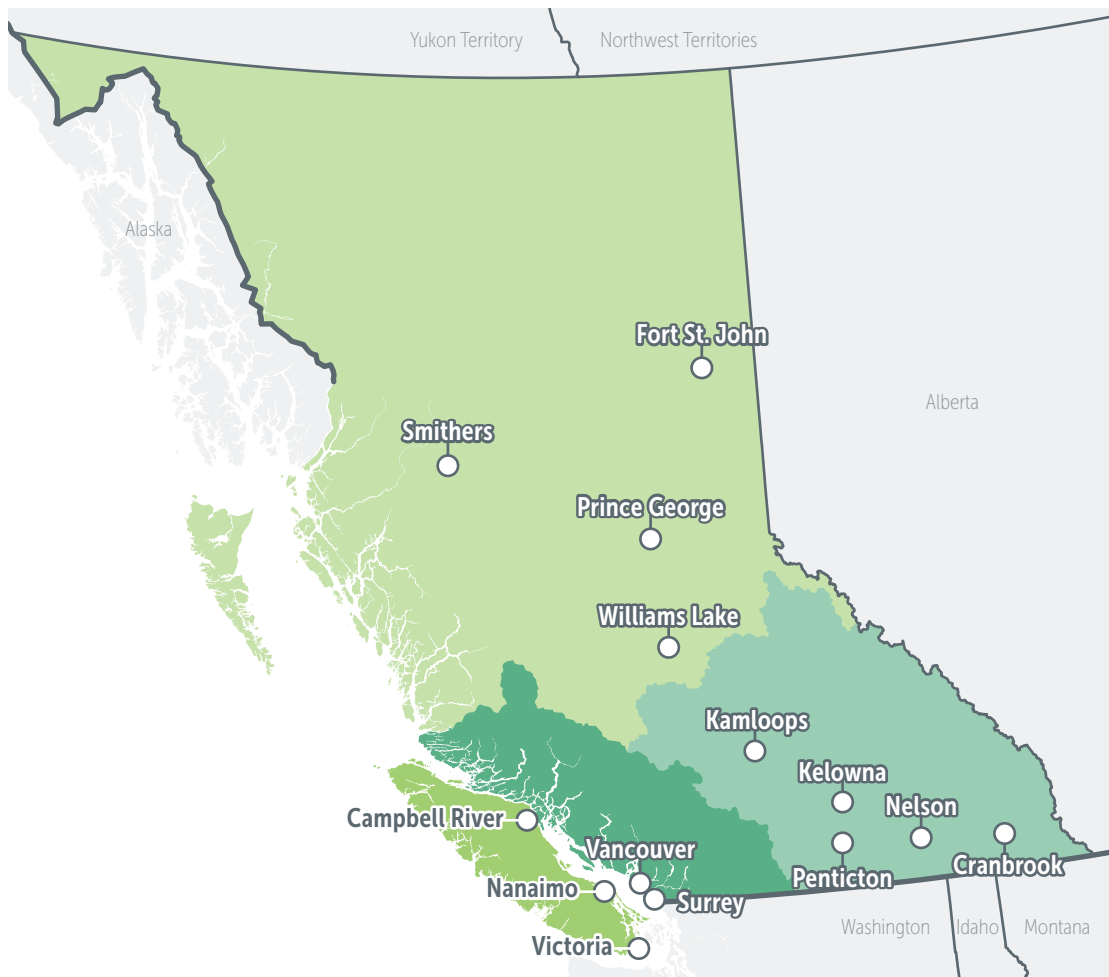
Environmental Emergency Program structure

Environmental Emergency Program sections	Focus	Key responsibilities
Preparedness	Developing capacity and capability to respond effectively to an emergency	<ul style="list-style-type: none"> ▪ Planning for catastrophic events ▪ Developing legislation, regulations, internal policies and guidance ▪ Conducting training and participating in exercises ▪ Collaborating on external intergovernmental and Indigenous initiatives ▪ Compliance and enforcement
Response	Protecting the environment and the public by effectively managing spill response	<ul style="list-style-type: none"> ▪ Developing response policy and procedures ▪ Conducting response operations and spill response ▪ Community outreach ▪ Providing spill response training and participating in spill exercises ▪ Supporting provincial emergency operation centres
Recovery	Providing advice to those responsible for spills to ensure they address their legislative and regulatory responsibilities	<ul style="list-style-type: none"> ▪ Overseeing and regulating environmental recovery after a spill ▪ Providing scientific advice and support to incident response teams ▪ Engaging with Indigenous communities involved in or impacted by spill recovery activities ▪ Developing policies and procedures for spill recovery ▪ Leading the administration of program cost recovery

Source: Information provided by Environmental Emergency Program



Environmental Emergency Program staff locations



Source: Information provided by Environmental Emergency Program



Objective

The objective of the audit was to determine whether the Ministry of Environment and Climate Change Strategy had effectively managed hazardous spills to protect the welfare of the public and the environment.

Scope

The audit examined the Ministry of Environment and Climate Change Strategy's management of hazardous spills, through its Environmental Emergency Program.

The audit assessed the effectiveness of key components of the Environmental Emergency Program's preparedness, response and recovery work to manage hazardous spills in the province. The audit did not consider the program's responsibilities for other environmental emergencies.

The overall time period for the audit was from Nov. 23, 2020, to June 13, 2023, with specific time periods identified for the data analysis components of the audit. The start of the audit time period coincided with the ministry's implementation of an emergency management software system.

[Learn more about the audit criteria on page 37.](#)

[Learn more about how we did this audit on page 33.](#)



Source: Environmental Emergency Program



Conclusion

We found that the ministry provided oversight of response and recovery activities after high-risk incidents. Specifically, we found that:

- response officers assessed and monitored high-risk incidents, and referred incidents to recovery staff;
- recovery staff reviewed all incidents referred to them, and monitored the recovery of most high-risk incidents to ensure requirements of the *Environmental Management Act* and regulations were met; and
- compliance and enforcement staff acted when potential non-compliance was identified.

However, we found shortcomings and deficiencies in key areas. Specifically, we found that the ministry:

- did not have a current provincial-level plan for responding to a major spill;
- did not consistently notify First Nations communities of high-risk incidents;
- had not ensured that staff followed policies and procedures for identifying potential non-compliance;
- had not recovered substantive costs, as required; and
- had not met the legislated requirement to report to the Legislative Assembly on the effectiveness of the spill response regime.

As the deficiencies identified in the audit were in key areas impacting the ministry's overall management of hazardous spills, we concluded that the ministry had not effectively managed hazardous spills.



Source: Getty Images



Findings and recommendations

Preparing for spills

Preparation is an important part of emergency management. Hazardous spills preparation involves developing the capacity and capability to respond effectively when an emergency occurs. Planning and training help ensure staff respond efficiently and effectively when spills occur, minimizing impacts on people and the environment.

Provincial response plans not current, and training requirements not reviewed

What we looked for

We looked at whether the Environmental Emergency Program had a current plan to coordinate a provincial response to a major hazardous spill. We also assessed whether the program's training procedure was reviewed every year as required to ensure it met current standards, regulations and best practices.

[Learn more about the audit criteria on page 37.](#)

What we found

The Environmental Emergency Program didn't have a current plan to coordinate a provincial response to a major hazardous spill and its training procedure wasn't reviewed as required.

Provincial response plans required updates

The ministry's two spill response plans were each created in 2013 and needed updating.

The *BC Hazardous Material Response Plan* defines the approach to a significant release, or threat of release, of hazardous materials into the environment.

The *Inland Oil Spill Response Plan* defines the scope and structure of the province's role in responding to a major inland oil spill resulting from a pipeline rupture, train derailment, motor vehicle incident or other events.

Updates to the plans were required to align with the province's approach to emergency planning. Staff also identified that revisions to the plans were needed to meet commitments under the *Declaration on the Rights of Indigenous Peoples Act* ([Declaration Act, see page 13](#)).



The Environmental Emergency Program's commitments to working with First Nations

The *Declaration Act* establishes the United Nations Declaration on the Rights of Indigenous Peoples (UN declaration) as the province's framework for reconciliation with Indigenous Peoples. The UN declaration states: "Indigenous Peoples, in exercising their right to self-determination, have the right to autonomy or self-government in matters relating to their internal and local affairs."

In the context of hazardous spills, the Environmental Emergency Program is "committed to strengthening our relationships with (First Nations) and communities in a government-to-government manner through open, respectful, and collaborative conversations." This includes working with First Nations to deliver all aspects of spill preparation, response and recovery.



Source: Getty Images



Training and development requirements not reviewed

The Environmental Emergency Program hadn't reviewed its training and development procedure annually. The procedure, which included training requirements for spill response, was developed to supplement legislation, policies and procedures and to address program-specific needs. It hadn't been reviewed since being implemented in 2018.

Eight program staff members we interviewed spoke about potential impacts of the training and development procedure not being reviewed. Three of them noted that some courses were rarely offered, one said that the training could be more targeted on the ministry's role as regulator, and two said some employees lacked time for training.

Why this matters

It's critical that the program has current provincial response plans. Cross-agency coordination is required for larger spill incidents and ministry staff need to connect quickly with the right people. A successful response is supported by plans that reflect current responsibilities, policies, practices and commitments.

Training is also an important part of preparing for spills. If training isn't reviewed every year, there's a risk of it not aligning with current standards, regulations and best practices. Staff may not get the training and support they need.

Recommendations

We recommend that:

- 1.** The Ministry of Environment and Climate Change Strategy work in partnership with First Nations to update the plans it uses to coordinate a provincial-level response to a major hazardous spill.
- 2.** The Ministry of Environment and Climate Change Strategy review and update its training and development requirements to ensure current standards, regulations and best practices are met.

[See the response from the auditee on page 34.](#)



Spill response

The ministry is required to ensure that people responsible for spills meet the requirements of the *Environmental Management Act* and its regulations.

The person responsible must report any spill that meets the criteria set out in the act and the Spill Reporting Regulation. If a spill occurs or is imminent, it must be reported to the province's Emergency Coordination Centre, which refers the incident to the Environmental Emergency Program. The person responsible for the spill must take the necessary actions to address the threat or hazard caused by the spill. They can hire contractors to do the work.

Response officers typically monitor or augment the responsible person's activities. They will take over and assume full responsibility if the responsible person isn't known or if the response is inadequate.

Staff provided oversight of spill response, but didn't consistently notify First Nations

What we looked for

First, we examined whether response officers followed policy and procedures to assess high-risk incidents and:

- determined the significance of the incident;
- validated the reported information;
- determined a risk score; and
- established the level of response (i.e., monitor, augment or take over the response).

Second, we examined whether response officers monitored high-risk incidents to ensure those responsible for spills met the requirements of the *Environmental Management Act* and the Spill Reporting Regulation. We looked at whether response officers had documented response activities as required and verified that the requirements of the Spill Reporting Regulation were met before they authorized the completion of the response phase.

Third, we assessed whether response officers notified nearby communities and governments, including First Nations, of high-risk incidents as set out in the program's risk-based approach. Depending on the scale, scope and nature of the incident, response officers were required to notify communities.

Fourth, we assessed whether response officers referred incidents to the Environmental Emergency Program's recovery section when required by policy and procedures.

[Learn more about the audit criteria on page 37.](#)



What we found

Response officers:

- followed policy and procedures to assess high-risk incidents;
- monitored high-risk incidents to ensure the responsible person met the requirements of the *Environmental Management Act* and Spill Reporting Regulation;
- notified nearby communities and governments according to the program's risk-based approach for high-risk incidents, but didn't consistently notify First Nations; and
- referred incidents to the recovery section when required by policy and procedures.

High-risk incidents assessed

We found that response officers followed policy and procedures to assess all seven high-risk incidents that took place between Nov. 23, 2020, and March 1, 2023. We considered these incidents high-risk because response officers assessed them as:

- a high public threat;
- an imminent risk to human health, infrastructure or the environment; and
- a high risk to the environment.

To assess these seven incidents, response officers:

- determined the significance of the incidents by categorizing them as a Code 1 or Code 2 spill (see below for description of spill categories);

Code 1 and Code 2 spills

- All spills are categorized as Code 1 unless they meet the Code 2 criteria.
 - Code 2 spills include incidents that:
 - are substantial and not readily containable;
 - pose potential or imminent danger to the public or the environment;
 - are likely to cause or have caused significant damage to fish and wildlife populations or habitat; or
 - have caused significant disruption in public use of a recreational resource (e.g., closed public beach or park).
 - Code 2 spills trigger additional notifications and spill management steps.
- validated the reported information by speaking to first responders at the scene and/or by going to the incident site;



- determined a risk score for the incident according to the level of public threat, the environmental sensitivity of the area, the status of the incident (e.g., stable or escalating in severity), the response time and the capabilities of responders who may be able to address the spill; and
- established the ministry’s level of response (i.e., monitor, augment or take over the response actions).



Motor vehicle incident

An example of a high-risk incident we looked at was a motor vehicle accident that took place in northeastern B.C. It involved a transport truck carrying corrosive chemicals that crashed and leaked its contents into an area close to a residential drinking water supply. The incident led to a neighbourhood evacuation.

Source: Environmental Emergency Program

High-risk incidents monitored

We found that for the same seven high-risk incidents described above, response officers monitored the incidents to ensure the responsible person met the requirements of the *Environmental Management Act* and Spill Reporting Regulation. Response officers had documented the response activities. They had also verified that the requirements of the regulation were met before they authorized the completion of the response phase.

Information on response activities was contained in the program’s emergency management software system (see below for spills information tracked). This information included detailed notes of what occurred, actions taken to address the spill, and reasons for the response officers’ decisions.

Tracking spill information

The Environmental Emergency Program uses an emergency management software system to record information on spills including the location, material(s) spilled, the risk level, communities and governments notified, and response and recovery actions. This information is provided on-screen in list views, maps and a dashboard. The system also includes a file library with monthly reports on spills.



Response officers verified that the requirements of the Spill Reporting Regulation were met by:

- checking that the incident command post set up for managing the incident had been disestablished;
- confirming the source of the spill was under control;
- ensuring emergency actions had been taken to stabilize, contain and remove the spill;
- establishing that waste from the site was disposed of properly;
- verifying all evacuation notices were either expired or rescinded; and
- confirming all equipment, personnel and other response resources had been removed from the site.



Fire at manufacturing facility

An example of a high-risk incident we looked at involved a fire at a hand sanitizer manufacturing facility located in southwestern B.C. The chemicals in the building and the firefighting foam used to put out the fire had the potential to leak into a nearby creek.

Source: Environmental Emergency Program

First Nations not consistently notified of high-risk incidents, new approach planned

Response officers notified nearby communities and non-First Nations governments about all 12 high-risk incidents that took place between Nov. 23, 2020, and March 1, 2023. We considered these incidents high-risk because response officers assessed them as:

- a high public threat; and
- an imminent risk to human health, infrastructure or the environment.

However, we found that in three of the 12 incidents, the response officers didn't follow procedures for notifying First Nations:

- In one incident, First Nations weren't notified when they should have been.
- In another incident, the response officer made one attempt to notify the seven First Nations affected, but only made the required second attempt for two of the seven.
- In the third incident, the response officer notified the First Nations Health Authority. The health authority said that it would notify the affected First Nations governments on behalf of the program. According to procedures, response officers should notify First Nations directly.



With over 200 distinct First Nations in the province, the Environmental Emergency Program recognized that it had difficulties consistently notifying potentially affected First Nations. It planned to pilot an automated notification system for 14 coastal First Nations. The system wasn't online at the time of the audit.

Incidents referred to the program's recovery section as required

We found that response officers referred all 328 incidents that took place between Nov. 23, 2020, and March 1, 2023 to the recovery section, as required. These incidents were referred to spill recovery staff because response officers rated their environmental sensitivity as either:

- high; or
- medium and the incident was considered an imminent risk to human health, infrastructure, or the environment.

We found that the Environmental Emergency Program had established an automated system for referring incidents based on the response officer's assessment of the incident. The system was operating as intended.

Why this matters

Response officers must properly assess incidents to determine the best approach to cleaning up spills and reducing potential impacts on the public and the environment.

Monitoring helps to ensure those responsible for spills follow legal requirements for stabilizing, containing, and cleaning up a spill. Monitoring is also important if the response officer needs to augment or takeover response activities because the responsible person is either unable or unwilling to respond.



Chemical and Styrofoam fire

An example of a high-risk incident we looked at was a chemical and Styrofoam fire in northwestern B.C. that threatened to impact a nearby river.

Source: Environmental Emergency Program



Notifying communities, local governments and First Nations about incidents increases the resources available to address the spill. Also, notifying First Nations governments recognizes self-determination and is consistent with the *Declaration on the Rights of Indigenous Peoples Act*.

Incidents that may require recovery activities need to be referred to recovery staff to help ensure that environmentally sensitive sites are restored as closely as possible to pre-spill conditions.

Recommendation

We recommend that:

3. The Ministry of Environment and Climate Change Strategy implement a process to help ensure that First Nations are notified about hazardous spills.

[See the response from the auditee on page 34.](#)



Source: Getty Images



Spill recovery

The ministry is required to ensure that those responsible for spills act to identify and evaluate the long-term impacts of the spill and protect, recover and restore the environment.

The Environmental Emergency Program's spill recovery staff have scientific knowledge and expertise in environmental impact assessments, wildlife biology, toxicology, and environmental restoration. They use their expertise to review reports and determine when recovery activities have been properly completed.

Staff provided oversight of spill recovery, with some exceptions

What we looked for

We assessed whether the Environmental Emergency Program's spill recovery staff reviewed incidents referred to them by response officers to determine whether recovery actions were required – and what role the recovery section needed to take to address the spill.

We determined whether recovery staff monitored the recovery activities of those responsible for high-risk incidents to ensure the requirements of the *Environmental Management Act* were met. We looked at whether spill recovery staff reviewed reports on recovery activities, verified that recovery activities were complete prior to authorizing the end of the recovery phase and had guidance for determining when sampling and reporting was required.

We also looked at whether the program provided guidance to staff for engaging with First Nations on spill recovery activities.

[Learn more about the audit criteria on page 37.](#)

What we found

Spill recovery staff reviewed all incidents referred to them by response officers. For most of the high-risk incidents, staff monitored recovery activities and verified completion of the recovery phase. The program only provided staff with limited guidance for engaging with First Nations on spill recovery.

Incidents were reviewed by recovery staff

There were 328 incidents referred to recovery staff between Nov. 23, 2020, and March 1, 2023. Spill recovery staff reviewed all of them to determine whether recovery actions were required, and the role the recovery section needed to take to address the spill.



Recovery was monitored for high-risk incidents, with some exceptions

We found that staff monitored most of the 16 high-risk incidents that were referred to the recovery section between Nov. 23, 2020, and March 1, 2023. We considered these incidents high-risk because response officers rated their environmental sensitivity as high.

Staff reviewed reports on recovery activities to ensure requirements were met for 15 of the 16 incidents. The report for the remaining incident was received by a response officer who had not provided it to spill recovery staff.

Of the 16 incidents, nine had a status of "recovery complete." Reviewing the nine incidents, we found recovery staff had verified that recovery activities were complete in seven of them. In one case, the file was closed in error before receiving the final report and sampling results. In the other, the file was closed despite a recommendation for further monitoring and sampling.

We also found that spill recovery staff had guidance for determining when sampling and reporting was required. The guidance explained how to collect environmental samples (e.g., water, soil, sediment or tissue), why and when sampling is conducted (including common triggers), and how to report information. We learned from interviews with recovery staff that they monitor recovery activities primarily by reviewing reports.



MV Zim Kingston container ship

An example of a high-risk incident we looked at was the MV Zim Kingston container ship that lost 109 containers overboard due to rough seas near the Strait of Juan de Fuca. The cargo included fridges, sofas, clothing, toys, industrial parts and hazardous chemicals. Days later containers and their contents washed up along the coast of northern Vancouver Island.

Source: Environmental Emergency Program



Limited guidance for engaging with First Nations on recovery activities

The Environmental Emergency Program's policies provided high-level guidance to staff to engage with First Nations on spill recovery activities. However, we found that the program's operational guidance was limited to larger incidents that involved working with other jurisdictions.

The program intends to develop guidance in collaboration with First Nations for integrating local and traditional knowledge into recovery efforts and plans.

Why this matters

Spill recovery staff need to review incidents because they have the expertise to determine what recovery actions should be taken to help reduce the risk of long-term negative impacts on the environment.

Recovery staff monitor incidents to see if the people responsible for spills meet requirements of the *Environmental Management Act*. They review recovery reports and verify the completion of recovery activities before closing the recovery phase. This helps ensure the environment has adequately recovered or has been restored.

Guidance for engaging with First Nations helps staff to be culturally sensitive in their approach and supports the program's commitment to incorporating local and traditional knowledge in recovery activities.

Recommendations

We recommend that:

- 4.** The Ministry of Environment and Climate Change Strategy implement procedures to help ensure recovery staff consistently review reports and verify that recovery activities are complete.
- 5.** The Ministry of Environment and Climate Change Strategy develop guidance to support recovery staff to engage and partner with First Nations.

[See the response from the auditee on page 35.](#)



Identifying and addressing non-compliance

The ministry is required to ensure that those responsible for spills take effective and timely action to respond, clean up, and support environmental recovery, as required by the *Environmental Management Act* and its regulations. The ministry had systems in place to identify and verify when those requirements weren't being met, and to take compliance action when necessary.

Compliance staff not consistently notified of potential non-compliance, but responded when notified

What we looked for

We assessed whether response officers had followed policies and procedures to identify instances of potential non-compliance with the *Environmental Management Act* and its regulations.

We also assessed whether staff responded to non-compliance according to policies and procedures. We determined whether compliance and enforcement staff verified instances of potential non-compliance with legislative requirements and undertook compliance actions where applicable (i.e., issued advisories or warnings, began an administrative penalty process, or referred incidents to enforcement agencies).

[Learn more about the audit criteria on page 37.](#)



Source: Environmental Emergency Program



What we found

Response officers hadn't consistently followed policies and procedures to identify instances of potential non-compliance with the *Environmental Management Act* and regulations. However, where non-compliance was identified, compliance and enforcement staff responded according to policies and procedures.

Potential non-compliance not consistently identified

Eighteen incidents with potential non-compliance were brought to the program's compliance and enforcement staff by response officers between Nov. 23, 2020, and June 13, 2023.

Four of the five senior staff we interviewed told us that response officers hadn't consistently notified the program's compliance and enforcement staff about cases of potential non-compliance. One explained that they were more concerned about working with the responsible person to make sure the spill was addressed. They didn't want to be seen as adversarial. Four others pointed to training gaps in this area.

Starting in March of 2023, the Environmental Emergency Program introduced new policies and procedures for compliance and enforcement staff to identify potential instances of non-compliance and to do inspections, including desk reviews of incident reports and site visits. This doesn't replace the need for response officers to identify instances of potential non-compliance, but it does provide an additional check for non-compliance.

Between March 1, 2023, and June 13, 2023, compliance and enforcement staff inspections identified 17 more incidents with potential non-compliance. Combined with the 18 incidents identified by response officers, staff identified 35 incidents with potential non-compliance between Nov. 23, 2020, and June 13, 2023.

Compliance actions taken where identified

Compliance and enforcement staff verified compliance with legislative requirements for all 35 incidents where a potential non-compliance was identified. Staff found non-compliance in 34 of them.

Examples of non-compliance included failing to report spill incidents in a timely manner, not providing required information and reports, and failing to take necessary actions after the spill.

Compliance and enforcement staff responded to each instance of non-compliance by undertaking a compliance action (i.e., issuing an advisory or warning, starting an administrative penalty process, and/or referring the incident to an enforcement agency).



For the 34 incidents, compliance and enforcement staff issued 32 advisories and three warnings, initiated one administrative penalty process, and referred one incident to an enforcement agency. Multiple compliance actions were taken for the incidents where an initial action did not bring the responsible person into compliance. For example, where a warning was issued, but the responsible person did not comply, an administrative penalty process was initiated.

In each instance of non-compliance, staff determined how to respond by applying the ministry's non-compliance decision matrix that establishes the compliance action to be used (depending on the environmental, health or safety impacts, and the offender's likelihood of complying). Each compliance action was consistent with the matrix criteria.

Why this matters

It's important for there to be consequences when those responsible for spills don't comply with the law. Compliance actions make it so that people who cause hazardous spills are held responsible for cleaning them up. Failure to identify non-compliance could mean that program staff can't take corrective action and people who cause spills may be less likely to respond properly.

Recommendation

We recommend that:

- 6.** The Ministry of Environment and Climate Change Strategy implement a process to help ensure that response officers notify the Environmental Emergency Program's compliance and enforcement staff of instances of potential non-compliance.

[See the response from the auditee on page 35.](#)



Cost recovery

If someone responsible for a spill is unwilling or unable to respond to it, the ministry may act on their behalf. The ministry will try to recover its costs (e.g., for staff time, equipment, and contractors) from the responsible person. This aligns with the polluter-pay principle in the *Environmental Management Act* (see below for description of this principle).

Polluter-pay principle

The polluter-pay principle is a key tenet of hazardous spills regulation. According to the Environmental Emergency Program: "...the person deemed responsible for a spill is the responsible person, and as such, must ensure all actions to address a threat or hazard caused by the spill are taken." People responsible for spills are to be held accountable for all costs associated with the clean up, including any costs incurred by the province. It aims to protect taxpayers from paying clean up costs.

Substantive costs not fully recovered

What we looked for

We assessed whether cost recovery was initiated and tracked by response officers, and if substantive costs were recovered from those responsible for hazardous spills.

First, we examined whether staff had followed a requirement for initiating cost recovery. The requirement established that response officers must initiate cost recovery if a spill is classified as Code 2, and not immediately downgraded to a Code 1 ([see page 28 for cost recovery procedure](#)).

Second, we looked at whether response officers had tracked their time and expenses related to substantive costs from spill incidents.

Third, to assess whether the Environmental Emergency Program had recovered substantive costs, we examined the program's cost recovery reports.

[Learn more about the audit criteria on page 37.](#)

What we found

The program had not initiated cost recovery as required, or recovered substantive costs from those responsible for hazardous spills. Where cost recovery had been initiated, response officers had tracked their time and expenses for most incidents.



Cost recovery not initiated as required

We found that response officers had only initiated cost recovery for 21 of the 44 Code 2 spills that took place between Nov. 23, 2020, and March 1, 2023, and were not immediately downgraded. There was a known responsible person for 15 of the 23 remaining Code 2 spills, but no documentation explaining why cost recovery wasn't initiated.

Also, three response officers said in interviews that response officers in their regions were not initiating cost recovery for all incidents that met the requirements. Two of them emphasized that cost recovery is initiated when the ministry incurs additional costs, such as hiring a contractor, but isn't being initiated when the lead response officers work 10 or more hours on an incident. One response officer indicated that the 10-hour threshold can be reached quickly on some incidents, even just with phone calls. They explained that some response officers view this as part of their job and won't seek to recover the cost of their salaries.

Further, a recent internal review of staffing needs completed by the Environmental Emergency Program identified challenges with undertaking cost recovery, and recommended reviewing and updating policy and procedures in this area (see below for cost recovery procedure).

Cost recovery procedure

The ministry's cost recovery procedure states that staff will seek to recover costs for any incident that meets one or more of the following criteria:

- The province (not the responsible person) pays spill-related costs (e.g., contractor or lab costs).
- Funding from the Ministry of Emergency Management and Climate Readiness is required for costs other than overtime.
- The spill is classified as Code 2, and not immediately downgraded to a Code 1.
- The lead response officer spends 10 or more hours working on the incident.

Staff time and expenses tracked, with some exceptions

We found that response officers tracked their time and expenses for 28 of the 36 incidents that took place between Nov. 23, 2020, and March 1, 2023, and were flagged for cost recovery. Of the eight incidents that didn't have time and expenses tracked, there was documentation of a decision not to pursue cost recovery for three incidents, and no documentation for the remaining five incidents.

Three of the four senior staff interviewed said that response officers were not tracking their time and expenses as well as they could. They said potential causes included: high workload; administrative burden; and objections to recovering costs incurred during regular work



hours, as ministry staff are paid for that time regardless of whether there's a spill.

Further, the program's internal review of staffing needs found that staff lacked the capacity to submit cost recovery documentation in a timely manner.

Substantive costs for spill incidents not fully recovered

The Environmental Emergency Program had not fully recovered substantive costs from those responsible for spills as recorded in the program's cost recovery reports between April 2016 and February 2023.

As of the end of February 2023, the program had recovered approximately \$900,000 of spill-related costs and approximately \$13.9 million remained outstanding.



Neucel pulp mill facility in Port Alice
Source: Environmental Emergency Program

The majority of unpaid costs (about \$13.5 million) was attributed to one incident – the 2019 clean up of the Neucel pulp mill in Port Alice. After Neucel was declared bankrupt in 2020, the province began legal action to recover environmental cleanup costs. The ministry is also working on a Public Interest Bonding Strategy to ensure owners of larger industrial projects, like Neucel, are bonded so that they pay the full costs of environmental cleanup if their projects are abandoned.

The outstanding spill-related costs, not including Neucel, were about \$400,000.

Two of the staff we interviewed told us the program lacks capacity for cost recovery. One explained that program staff responsible for this area don't have the time or the financial expertise to perform this work.

Why this matters

If response officers don't initiate cost recovery, accurately track time and expenses, and recover costs from those responsible for spills, the program isn't following the polluter-pay principle and taxpayers end up paying spill-related costs. When the polluter-pay principle works, it creates financial incentive for spill prevention, preparation, response and recovery.



Recommendation

We recommend that:

7. The Ministry of Environment and Climate Change Strategy develop solutions for improving the effectiveness of its cost recovery process to help ensure that substantive costs are recovered from those responsible for spills.

[See the response from the auditee on page 36.](#)

Monitoring and reporting

Monitoring and reporting contribute to program effectiveness. They help keep the ministry accountable to elected Members of the Legislative Assembly (MLAs) and the public. Monitoring information can also be used to make program decisions.

The *Environmental Management Act* requires the ministry to report annually to the Legislative Assembly on the administration and operations of its spill preparedness, response and recovery work, and the effectiveness of the spill response regime.

Spills data monitored, but not easily accessible

What we looked for

We assessed whether the Environmental Emergency Program monitored information on spills at the provincial level to inform program decisions.

[Learn more about the audit criteria on page 37.](#)

What we found

The Environmental Emergency Program monitored information on spills at a provincial level to inform program decisions. But the data system limited how staff could retrieve and use the information.

The program's emergency management data system tracks information on spills. It lists the status of spill incidents by region, and it tracks other statistics.

We found issues with how staff extracted and used the information beyond what was available through the data system (e.g., the dashboard, and the standard monthly reports). Information in the monthly reports was not organized by incident, impacting how staff could use the information for program decisions. Most staff required IT support to put the information into a useable format.



Staff developed a list of desired improvements to the system (e.g., better searching, exporting and capacity to build specific reports).

Why this matters

Staff access and use of information for monitoring spill incidents allows the ministry to track the quality of its work, prepare business cases for needed resources, respond to information requests, and make strategic program and planning decisions.

Recommendation

We recommend that:

- 8.** The Ministry of Environment and Climate Change Strategy address limitations with its emergency management software system to improve how staff members access and use it to inform program decisions.

[See the response from the auditee on page 36.](#)

Annual reports included information on operations, but not on effectiveness

What we looked for

We assessed whether the ministry reported annually to the Legislative Assembly as required by the *Environmental Management Act*. Specifically, we looked to see if it had reported on the administration and operation of its spill preparedness, response and recovery work, and on the effectiveness of the spill response regime.

[Learn more about the audit criteria on page 37.](#)

What we found

The ministry reported annually to the Legislative Assembly on the administration and operation of its spill preparedness, response and recovery work. It did not report on the effectiveness of the spill response regime.

The ministry had reported annually on its administration and operations since its first *Report to Legislature (2017-2019)*. The reports have consistently included information on program statistics (e.g., the number of spills), the location and sectors responsible for spills, and environments impacted (e.g., land, marine or inland water).

The reports didn't include information on the effectiveness of the spill response regime.



Why this matters

The ministry is required to report to the Legislative Assembly on the operation and administration of its spill preparedness, response and recovery work and the effectiveness of the spill response regime. Not including the latter means that MLAs don't know whether the ministry is meeting its mandate as the lead regulator of hazardous spills.

Recommendation

We recommend that:

9. The Ministry of Environment and Climate Change Strategy report annually to the Legislative Assembly on the effectiveness of the spill response regime.

[See the response from the auditee on page 36.](#)



Source: Getty Images



About the audit

We conducted this audit under the authority of section 11(8) of the *Auditor General Act* and in accordance with the Canadian Standard on Assurance Engagements (CSAE) 3001 – Direct Engagements, set out by the Chartered Professional Accountants of Canada (CPA Canada) in the *CPA Canada Handbook – Assurance*. These standards require that we comply with ethical requirements and conduct the audit to independently express a conclusion against the objective of the audit.

A direct audit involves understanding the subject matter to identify areas of significance and risk, and to identify relevant controls. This understanding is used as the basis for designing and performing audit procedures to obtain evidence on which to base the audit conclusion.

The audit procedures we conducted included document review, data analysis and enquiry. We also carried out file reviews of the high-risk incidents that occurred during our audit time period. All incidents examined were reportable spills as defined by the Spill Reporting Regulation which describes the conditions and quantities of material that trigger requirements for reporting spills to the ministry.

We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Our office applies the Canadian Standard on Quality Management (CSQM 1), and we have complied with the independence and other requirements of the code of ethics issued by the Chartered Professional Accountants of British Columbia that are relevant to this audit.

Audit report date: February 5, 2024



Michael A. Pickup, FCPA, FCA
Auditor General of British Columbia
Victoria, BC



Appendix A: Recommendations and auditee response

Recommendation 1: The Ministry of Environment and Climate Change Strategy work in partnership with First Nations to update the plans it uses to coordinate a provincial-level response to a major hazardous spill.

Recommendation 1 Response: The ministry accepts this recommendation.

The ministry recognizes the importance of having a current provincial hazardous material response plan. The ministry has a draft updated provincial land-based hazardous materials spill response plan that will adhere to the new planning requirements in the *Emergency and Disaster Management Act* and associated regulations. The ministry will seek financial support from the Indigenous Funding Program to conduct engagement with First Nations.

Recommendation 2: The Ministry of Environment and Climate Change Strategy review and update its training and development requirements to ensure current standards, regulations and best practices are met.

Recommendation 2 Response: The ministry accepts this recommendation.

The ministry will review and update its training and development requirements to ensure staff safety and alignment with legislation, best practices and standards. The ministry commits to reviewing the program training and development requirements every three years.

Recommendation 3: The Ministry of Environment and Climate Change Strategy implement a process to help ensure that First Nations are notified about hazardous spills.

Recommendation 3 Response: The ministry accepts this recommendation.

The ministry has taken steps to improve First Nations notifications including the launch of a pilot program using a web-based software system. The ministry will continue to review procedures for notifying First Nations and develop performance measures to audit notifications and strengthen response officer accountability.



Recommendation 4: The Ministry of Environment and Climate Change Strategy implement procedures to help ensure recovery staff consistently review reports and verify that recovery activities are complete.

Recommendation 4 Response: The ministry accepts this recommendation.

The ministry is currently developing forms and templates to standardize the review and sign-off of environmental recovery activities. Accompanying procedures and guidance will be developed to ensure recovery activities are thorough and complete.

Recommendation 5: The Ministry of Environment and Climate Change Strategy develop guidance to support recovery staff to engage and partner with First Nations.

Recommendation 5 Response: The ministry accepts this recommendation.

The ministry benefits from engagement with First Nations throughout the spill management lifecycle and will develop guidance to support staff to better engage and partner with First Nations.

Recommendation 6: The Ministry of Environment and Climate Change Strategy implement a process to help ensure that response officers notify the Environmental Emergency Program's compliance and enforcement staff of instances of potential non-compliance.

Recommendation 6 Response: The ministry accepts this recommendation.

The ministry will develop a compliance and enforcement training and education program to ensure response officers understand regulatory requirements, and internal compliance and enforcement policies and procedures are consistently followed.



Recommendation 7: The Ministry of Environment and Climate Change Strategy develop solutions for improving the effectiveness of its cost recovery process to help ensure that substantive costs are recovered from those responsible for spills.

Recommendation 7 Response: The ministry accepts this recommendation.

A review of cost recovery procedures and guidance is currently underway, and a dispute review process has been developed. The ministry will continue to advance this work to meet the recommendation.

Recommendation 8: The Ministry of Environment and Climate Change Strategy address limitations with its emergency management software system to improve how staff members access and use it to inform program decisions.

Recommendation 8 Response: The ministry accepts this recommendation.

The ministry will work with the software system provider to improve the access to spills data to better ensure decisions are evidence-based.

Recommendation 9: The Ministry of Environment and Climate Change Strategy report annually to the Legislative Assembly on the effectiveness of the spill response regime.

Recommendation 9 Response: The ministry accepts this recommendation.

The ministry will develop measures and targets for spill preparedness, response and recovery to assess effectiveness and ensure continuous improvement of the spill response regime.



Appendix B: Audit criteria

Line of enquiry 1: Preparing for Spills

- 1.1 The Environmental Emergency Program (EEP) had a current plan in place to coordinate a provincial-level response to a major hazardous spill
- 1.2 The EEP reviewed its training and development procedure on an annual basis to ensure current standards, regulations and best practices were being met

Line of enquiry 2: Oversight of Response

- 2.1 Response officers followed policy and procedures to assess high-risk incidents
 - 2.1.1 response officers determined the significance of the incident
 - 2.1.2 response officers validated the reported information
 - 2.1.3 response officers determined the risk score of the incident
 - 2.1.4 response officers determined the level of response (i.e., monitor, augment or take over the response)
- 2.2 Response officers notified impacted communities and governments, including First Nations about high-risk incidents according to its risk-based approach
- 2.3 The response officers monitored high-risk incidents to ensure the responsible person met the requirements of the *Environmental Management Act* and the Spill Reporting Regulation
 - 2.3.1 response officers documented information on response activities as required by policy and procedure
 - 2.3.2 response officers verified that the requirements of the Spill Reporting Regulation were met prior to authorizing the completion of the response phase
- 2.4 The response officers referred incidents to the Recovery Section where required by policy and procedures

Line of enquiry 3: Oversight of Recovery

- 3.1 Recovery Section staff reviewed incidents referred by the response officers
- 3.2 The EEP provided guidance to staff to engage with Indigenous Peoples on recovery activities
- 3.3 Recovery Section staff monitored recovery activities for high-risk incidents to ensure the requirements of the *Environmental Management Act* were met
 - 3.3.1 Recovery Section staff had guidance for determining when sampling and reporting is required
 - 3.3.2 Recovery Section staff reviewed reports regarding recovery activities to ensure requirements of the *Environmental Management Act* were met
 - 3.3.3 Recovery Section staff verified that recovery activities were complete prior to authorizing the completion of the recovery phase



Line of enquiry 4: Identifying and Addressing Non-Compliance

- 4.1** The EEP staff followed policies and procedures to identify instances of potential non-compliance with the *Environmental Management Act* and regulations
 - 4.1.1** Response officers notified the EEP's compliance and enforcement staff of instances of potential non-compliance
 - 4.1.2** EEP staff completed inspections to identify instances of potential non-compliance
- 4.2** The EEP responded to non-compliance according to policy and procedures
 - 4.2.1** EEP's compliance and enforcement staff verified instances of potential non-compliance with legislative requirements
 - 4.2.2** EEP's compliance and enforcement staff undertook compliance actions where applicable (i.e., issued advisories or warnings, initiated an administrative penalty process or referred incidents to enforcement agencies)

Line of enquiry 5: Cost Recovery

- 5.1** Response officers initiated cost recovery from those responsible for spills for substantive costs related to hazardous spill incidents
- 5.2** Response officers tracked their time and expenses related to substantive costs from spill incidents
- 5.3** The EEP has recovered substantive costs related to spill incidents from those responsible for spills

Line of enquiry 6: Monitoring and Reporting

- 6.1** The EEP monitored information on spill incidents at a provincial level to inform program decisions
- 6.2** The EEP reported annually to the Legislative Assembly as required by the *Environmental Management Act*
 - 6.2.1** The EEP reported annually to the Legislative Assembly on the administration and operation of spill preparedness, response, and recovery
 - 6.2.2** The EEP reported annually to the Legislative Assembly on the effectiveness of the spill response regime





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