Chapter 14
Energy and Resources—Regulating Oil, Gas, and Pipeline Incidents

1.0 MAIN POINTS

Oil, gas, and pipeline incidents have the potential to contaminate the air, soil, or water. They can pose a threat or risk to human health, public safety, property, and the environment, as well as domestic and wild animals. Timely action and response to incidents helps protect people and the environment, and mitigate damage caused by the incidents.

For the twelve-month period ending November 2020, industry operators reported over 500 incidents to the Ministry of Energy and Resources.[1]

By November 2020, the Ministry implemented all three recommendations made in our 2018 audit.

Since 2018, the Ministry developed a sufficient process to consistently assess the risk level of reported incidents. The Ministry followed its process when it assessed the risk of each incident. In addition, staff followed recently developed guidance and consistently documented the results of inspections completed.

Furthermore, the Ministry improved its IT system to automatically notify industry operators about the results of its inspections. Keeping industry operators informed about the status of reported incidents helps ensure industry does not leave incidents unresolved longer than necessary.

2.0 INTRODUCTION

The Ministry of Energy and Resources is responsible for licensing and regulating the oil, gas, and pipeline industries in Saskatchewan. The Ministry regulates these areas under *The Oil & Gas Conservation Act* and *The Pipeline Act, 1998*.

The Ministry has four field offices located at Lloydminster, Kindersley, Swift Current, and Estevan, and a head office in Regina. Field offices are responsible for delivering programs and enforcing the requirements specified under the legislation and related directives, including those related to regulating reported oil, gas, and pipeline incidents.

Regulating reportable incidents is one part of the Ministry's overall regulatory structure for regulating oil and gas activities in Saskatchewan.[2] A reportable incident is an event that oil, gas, and pipeline industry operators must report by law. Reported incidents generally relate to the uncontrolled release of substances (e.g., spill, release of gas, leaks), fires, and damage to, or malfunction of, equipment.

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[1] This magnitude of reported incidents is below the historical average, which is likely due to less activity during 2020 due to the COVID-19 pandemic.
[2] The Ministry's regulatory structure also includes:
  ➤ Licensing industry operators (e.g., drilling and operating wells, constructing and operating pipelines)
  ➤ Inspecting licensed operations
  ➤ Regulating that industry operators reclaim sites to original condition, once industry operations are finished

Oil, gas, and pipeline incidents have the potential to contaminate the air, soil, or water. They can pose a threat or risk to human health, public safety, property, the environment, and domestic and wild animals. Timely action and response to incidents helps protect people and the environment, and mitigate damage caused by the incidents.

Incidents of all risk levels that require reporting to the Ministry occur, on average, about once per day. The source, nature, location, frequency, and severity of incidents can vary. Historically, high-risk incidents in Saskatchewan that cause significant damage (e.g., to the environment) occur infrequently.

2.1   Focus of Follow-Up Audit

This chapter describes our first follow-up audit of management's actions on the recommendations we made in 2018.

Our *2018 Report – Volume 1*, Chapter 4, concluded that the Ministry of Energy and Resources had, other than the matters reflected in our three recommendations, effective processes to regulate that oil, gas, and pipeline industry operators resolve incidents to protect public safety and the environment.[3]

To conduct this audit engagement, we followed the standards for assurance engagements published in the *CPA Canada Handbook—Assurance* (CSAE 3001). To evaluate the Ministry's progress toward meeting our recommendations, we used the relevant criteria from the original audit. Management agreed with the criteria in the original audit.

In this follow-up audit, we interviewed Ministry staff responsible for regulating oil, gas, and pipeline incidents. We examined relevant documents including the Ministry's guidance to assess incident risk, guidance for staff responding to incidents, and directives and incident reporting expectations for industry operators. We tested a sample of reported incidents to assess whether Ministry staff appropriately assessed and responded to incidents in accordance with the Ministry's expectations.

3.0   STATUS OF RECOMMENDATIONS

This section sets out each recommendation including the date on which the Standing Committee on Public Accounts agreed to the recommendation, the status of the recommendation at November 30, 2020, and the Ministry's actions up to that date.

3.1   Guidance on Classifying Risks of Incidents Developed

> ***We recommended the Ministry of Energy and Resources document its classification of risk of reported incidents in relation to oil and gas wells, facilities, pipelines, and flowlines, and its expectations on the nature and timing of Ministry Involvement.*** *(2018 Report – Volume 1,* p. 48, Recommendation 1; Public Accounts Committee agreement October 10, 2018)
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> **Status**—Implemented

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[3] We reported this work in our *2018 Report – Volume 1* (Chapter 4. pp. 39–56).

During 2018, the Ministry of Energy and Resources developed a sufficient process and related guidance to enable consistently assessing the risk of reported incidents. We found the Ministry followed its guidance when it assessed the risk of incidents.

The Ministry's process to assess risk was consistent with other jurisdictions. As part of developing this process, the Ministry reviewed other provincial and regulatory agencies' risk assessment tools (risk matrix) for assessing incidents. The Ministry decided to make its risk matrix similar to Alberta's criteria for assessing the risk of incidents.[4]

We found the Ministry's guidance included sufficient detail, while maintaining the opportunity for Ministry staff to use their professional judgment when assessing and responding to reported incidents. **Figure 1** summarizes the Ministry's guidance to assess the risk of reported incidents (i.e., assess consequence and likelihood of incident escalating).

The Ministry classifies incidents (e.g., Alert, Level 1 emergency, Level 2 emergency, Level 3 emergency – see **Figure 1**) based on its assessment of the level of risk the incident presents. It established processes for each risk classification. For example, it expects staff to give senior management a written situational report for all incidents with an assessed risk level of 5 or higher. Furthermore, it expects staff to complete on-site inspections, based on assessed risk level.

Figure 1—Summary of Guidance for Staff to Assess the Risk of Reported Incidents

Consequence of Incident		Likelihood of Incident Escalating[A]	
Score	**Category**	**Score**	**Descriptor**
1	Minor	1	Unlikely
2	Moderate	2	Moderate
3	Major	3	Likely
4	Catastrophic	4	Almost Certain or Currently Occurring

Staff sum the consequence and likelihood of escalation score to establish the risk level and incident classification

Incident Classification			
Assessed Risk Level		**Classification**	**Proportion of Incidents in which to Complete On-site Visit Within Specified Time**
Very Low	2–3	Alert	As operational capacity allows
Low	4–5	Level-1 emergency	Based on field office discretion
Medium	6	Level-2 emergency	80% within 1 to 2 business days
High	7–8	Level-3 emergency	100% within 1 to 2 business days

Source: Adapted from information provided by the Ministry.
[A] Assess the likelihood that the incident will escalate, resulting in an increased exposure to public health, safety, or the environment.

For all 19 incidents we tested, the Ministry reasonably assessed the incident consistent with its risk matrix guidance. During our audit period, there were no reported medium or high-risk incidents (i.e., Level 2 or 3 emergencies).

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[4] *Directive 071 Emergency Preparedness and Response Requirements for the Petroleum Industry*. static.aer.ca/prd/2020-07/Directive071_0.pdf, p. 101. (09 February 2021).

For incidents we viewed to be potentially higher risk, we found the Ministry's incident classification scores reasonable.[5] This included 21 reported incidents comprised of 15 that seemed to involve hydrogen sulphide, and 6 that seemed to be at risk of liquids escaping from the producer's lease.[6]

Using a risk matrix helps staff identify and classify risks associated with reported incidents on a more consistent basis. Use of a risk matrix can aid staff with:

➤ Consistently considering the consequence(s) of an incident

➤ Assessing the likelihood that an incident will pose an increased risk to the environment, and public health and safety

➤ Taking the right action at the right time to reduce the risk that industry operators fail to resolve immediate safety risks to the public and/or environment

3.2 Expectations for Documentation of Key Regulatory Activities Developed

We recommended the Ministry of Energy and Resources set expectations for documenting key activities for regulating reported incidents of spills or other incidents relating to oil and gas wells, facilities, pipelines, and flowlines. (2018 Report – Volume 1, p. 51, Recommendation 2; Public Accounts Committee agreement October 10, 2018)

Status—Implemented

During 2018, the Ministry of Energy and Resources developed adequate guidance to help staff consistently document results of completed inspections on reported incidents. We also found that Ministry staff completed inspections in accordance with this guidance.

The guidance outlines expectations for documenting regulatory activities (e.g., inspections) with sufficient detail. The guidance expects staff to document the following:

➤ The status of the inspection (e.g., determine if the remediation work is satisfactory or unsatisfactory)

➤ The nature of the inspection (e.g., indicate whether staff conducted inspection as a result of a public landowner complaint)

➤ Additional information or materials staff find useful (e.g., photos of the site)

In addition, the Ministry developed appropriate resources to help staff track and respond to complaints from the public or landowners.

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[5] We based our view on review of reported incident data.
[6] Hydrogen sulphide, also known as sour gas, is poisonous to humans, animals, and the environment.

We found that the Ministry consistently used its IT system (IRIS) to document inspections on reported incidents in each regional office.

For 19 reported incidents we tested, Ministry staff consistently documented inspections in accordance with the Ministry's guidance. For example, staff included details of the incident, such as the status of the incident (i.e., whether outstanding reclamation work is required for operator). Staff will often include photos of the site in IRIS when completing on-site inspections.

Also, for 19 reported incidents we tested, Ministry staff consistently informed senior management, using the situational report based on the assessed level of risk of the incident, as expected.

Setting clear expectations about what key regulatory activities all field office staff are to document helps ensure the Ministry has sufficient and complete records. Recording information about key regulatory activities in a consistent way reduces the risk of lost information (e.g., corporate knowledge may be lost in the event of staff turnover) and not completing key regulatory activities (e.g., if staff need to follow up on outstanding work).

3.3 Improved Process to Notify Industry Operators when Satisfied with Incident Resolution

> **We recommended the Ministry of Energy and Resources consistently inform industry operators that the Ministry is satisfied that industry operators have resolved reported incidents of spills, or other incidents, relating to oil and gas wells, facilities, pipelines, and flowlines.** *(2018 Report – Volume 1,* p. 53, Recommendation 3; Public Accounts Committee agreement October 10, 2018)

Status—Implemented

The Ministry of Energy and Resources considered how it communicates to operators its satisfaction with the resolution of incidents and inspections it completes.

During 2018, the Ministry implemented changes in IRIS, its IT system, to improve how it communicates the status of inspections and incident resolution. For example, it modified IRIS to automatically notify operators when Ministry staff enter new inspections, or modify the results of inspections about reported incidents along with any outstanding work.

The Ministry enquired with industry about whether they would find further communication about the Ministry's resolution of incidents beneficial. Industry operators were satisfied with the existing communications.

For 19 reported incidents we tested, the Ministry communicated with operators when it was satisfied with the resolution of incidents consistent with its guidance. For 8 of these 19 incidents, staff entered inspection results into IRIS, causing IRIS to automatically notify the operator responsible for the incident.

For the remaining 11 incidents (each assessed with an "alert" risk level), the Ministry appropriately did not enter inspection results because, at the time of our testing:

➢ There was outstanding remediation work ongoing, or

➢ The Ministry had not completed an on-site inspection, as an immediate inspection was not required due to the assessed risk level of "alert"

Also, Ministry staff held other informal communications about the status of incidents with operators (e.g., phone calls, email).

Formally informing industry operators as to whether they have resolved the incident to the Ministry's satisfaction decreases the risk of unresolved incidents. Keeping industry operators informed of the status of the Ministry's regulatory activities helps ensure they do not leave incidents unresolved longer than necessary.