



Canada Energy
Regulator

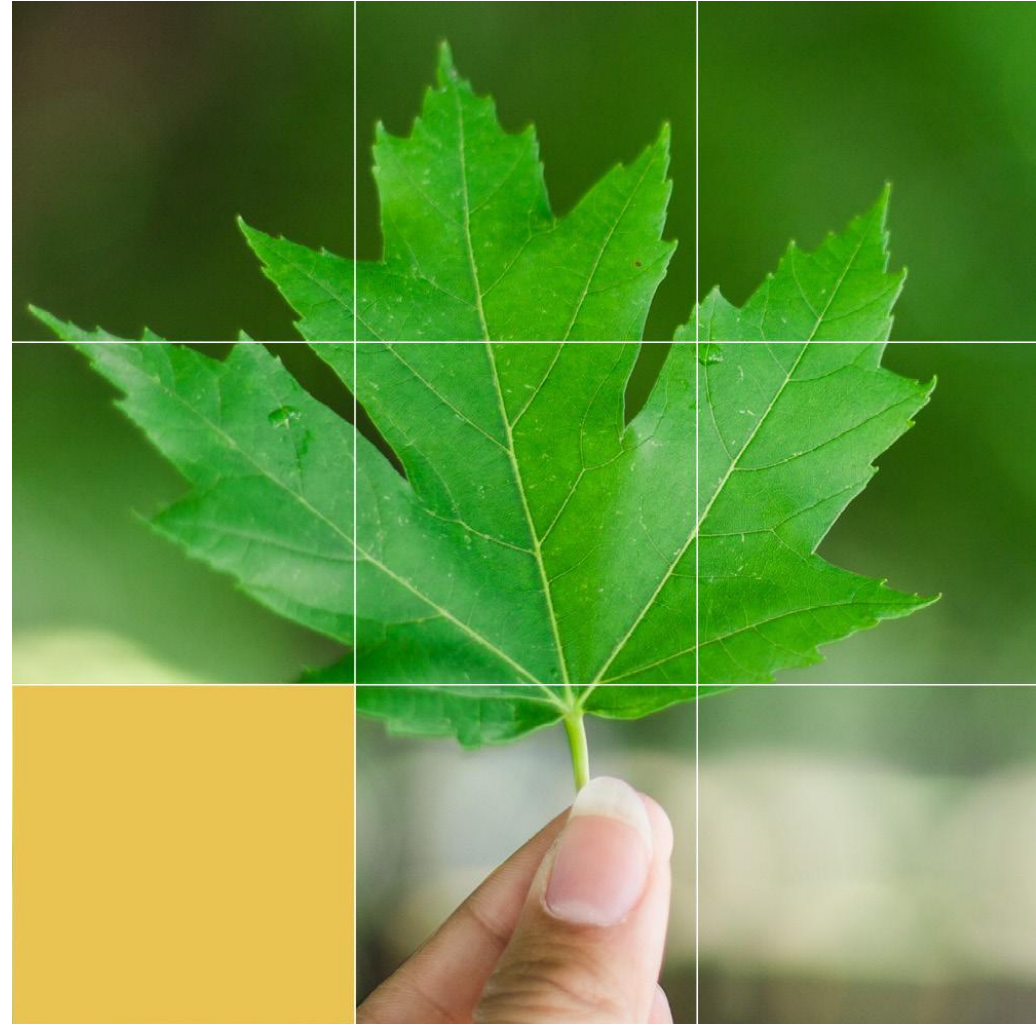
Régie de l'énergie
du Canada

CER Process Safety Management Oversight

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Content Overview

- Understanding the Canada Energy Regulator (CER)
- Understanding the OPR
- Regulatory context for PSM
- OPR requirements for safety – includes process safety
- Approaches to PSM oversight
- OPR Review and process safety



Understanding the CER

The CER is the federal regulator of pipelines and power lines that cross provincial, territorial and international boundaries. It regulates:

- ❑ The construction, operation and abandonment of inter-provincial and international pipelines.
 - >73,000 kilometres of pipelines (~70% natural gas, 30% oil)
- ❑ The construction and operation of international and designated inter-provincial power lines
 - >1400 kilometers of power lines
- ❑ The import of natural gas and export of oil, gas, natural gas liquids, and electricity.
- ❑ Related pipeline traffic, tolls and tariffs.
- ❑ Oil and gas exploration and production in Canada's North and certain offshore areas.



Understanding the CER

The CER fulfills its mandate under three Federal Acts:

- ❑ Canadian Energy Regulator Act
- ❑ Canada Oil and Gas Operations Act
- ❑ Canada Petroleum Resources Act

The CER also operates under an MOU with Employment and Social Development Canada (ESDC) and enforces the Canada Labour Code, Part II on their behalf, within the federal oil and gas sector.

Examples of regulations administered by the CER

- ❑ Canadian Energy Regulator Onshore Pipeline Regulations
 - CSA Z662 and other CSA standards incorporated by reference in the OPR (section 4)
- ❑ Canadian Energy Regulator Processing Plant Regulations
- ❑ Canadian Energy Regulator Pipeline Damage Prevention Regulations - Authorizations
- ❑ Canadian Energy Regulator Pipeline Damage Prevention Regulations - Obligations of Pipeline Companies
- ❑ Canada Occupational Health and Safety Regulations
- ❑ Oil and Gas Occupational Safety and Health Regulations
- ❑ Administrative Monetary Penalties Regulations



Understanding the OPR

- ❑ Performance-based regulation issued in 1999 under the *National Energy Board Act*
 - Provides regulatory requirements for the lifecycle of pipelines.

- ❑ Requires regulated companies to establish, implement and maintain management systems and protection programs that:
 - Manage and reduce risk, and continually improves company pipeline operations.

 - Anticipate, prevent, manage and mitigate conditions that may adversely affect the safety and security of company pipelines, employees, the public, property and the environment.

 - Apply to company programs for safety, pipeline integrity, environmental protection, emergency management, damage prevention and security.



Regulatory context for PSM - Examples

Onshore Pipeline Regulations (OPR) and CSA Z662 encompasses requirements for process safety management via:

- ❑ Section 6.5: Management system requirements for identifying and controlling hazards, managing risks and changes that affects safety, etc.
- ❑ Sections 40 & 47: Integrity & Safety Management Programs requirements for addressing conditions that have the potential to cause harm to people, property and the environment.
- ❑ CSA Z662-19 Clause 3 – Safety and loss management system



Approach to process safety oversight

- Information exchange with companies
 - Share CER approach and expectations of process safety.
 - Understand how companies develop, implement and manage process safety.
 - Understand how companies measure process safety performance.
 - Understand how companies prevent, manage and mitigate against potential high consequence incidents in their facilities.
 - Level of leadership commitment to process safety.

- Information exchange with regulators
 - Discuss regulatory tools and best practices in conducting oversight and engagement on process safety in preventing harm.



Approach to process safety oversight

Compliance verification with regulated companies - Assess development and implementation of typical PSM elements such as

- Management of Change.
- Process hazard analysis (identification, evaluation, and controls).
- Risk management.
- KPI's – monitoring continual improvement.
- Process and Asset integrity.
- Training and competency.
- Incident and near miss review process (including verification of corrective and preventive action implementation).
- Information/records on processes and equipment.



Approach to process safety oversight

- ❑ Incorporate learnings/findings from incident investigation reports of process safety related events (globally) and CER reported incidents.
 - UK Health and Safety Executive.
 - European Process Safety Center.
 - US Chemical Safety Board/National Transportation Safety Board/PHMSA/OSHA
 - Hazardous substance and energy releases on CER regulated facilities.

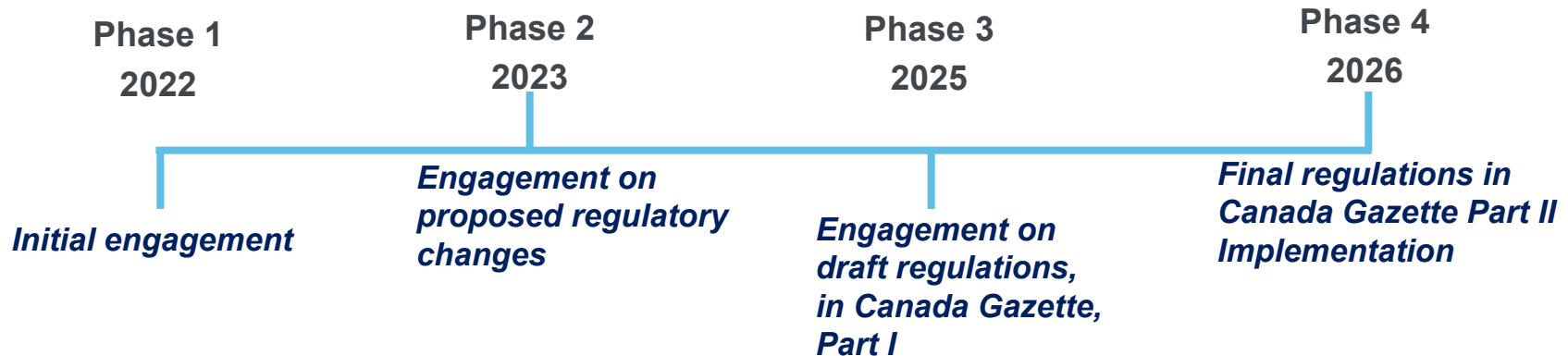
- ❑ Engagement with industry bodies, e.g., PSM division of the CSChE, Center for Chemical Process Safety (CCPS).

- ❑ CSA Z767 as guidance to inform inspectors during oversight activities.



OPR Review and process safety

- Through a Discussion Paper in Phase 1 engagement, we asked for input on how the OPR could include more explicit requirements for process safety.
 - Currently reviewing the submissions received.
 - Will be seeking feedback on proposed approaches in Phase 2 engagement





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