



Release Reporting and Response Requirements

Environment and Operational Performance Branch

November 2014

- » This presentation provides an overview of the AER's requirements; it does not replace the content of actual rules or directives.
- » Please do not distribute without the AER's written consent.

Outline

- 》 Definitions
- 》 Reporting requirements and process
- 》 Emergency response, containment, and clean up
- 》 Release prevention and common noncompliances
- 》 Conclusion

Definitions

- 》 **Adverse Effect:** impairment of or damage to the environment, human health, or safety or property.
- 》 **Director:** a person designated as a director for the purposes of *EPEA* by the minister.

- » **Environment:** the components of the earth, including
- (i) air, land, and water;
 - (ii) all layers of the atmosphere;
 - (iii) all organic and inorganic matter and living organisms; and
 - (iv) the interacting natural systems that include components referred to in subclauses (i) to (iii).

Definitions

» **Release:** to spill, discharge, dispose of, spray, inject, inoculate, abandon, deposit, leak, seep, pour, emit, empty, throw, dump, place, and exhaust.

》 Substance:

- (i) any matter that
 - (a) is capable of becoming dispersed in the environment or
 - (b) is capable of becoming transformed in the environment into matter referred to in paragraph (a).

》 **Substance:**

(ii) any sound, vibration, heat, radiation, or other form of energy, and

(iii) any combination of things referred to in subclauses (i) and (ii).

Definitions

- 》 **Owner of a Substance:** the owner of the substance immediately before or during the release of the substance.
- 》 **Person Having Control of a Substance:** the person having charge, management, or control of the substance.

- » **Regulatory Authority:** an entity having lawful authority for the regulation of oil and gas exploration, development, and operations and the abandonment of wells and facilities in a jurisdiction other than Alberta.

Release
Reporting
Requirements

- 》 *Oil and Gas Conservation Rules (OGCR)*, sections 7.040, 8.050, 8.051, 8.190, and 12.140
- 》 *Pipeline Rules*, Part 8
- 》 *Environmental Protection and Enhancement Act*, sections 107(2), 110, and 111
- 》 *Release Reporting Regulation*, section 4

What has to be Reported

- 》 Any unrefined product release of more than 2 cubic metres (m^3) on lease
- 》 Any release or pipeline break (including during pressure testing)
- 》 Pipeline hits
- 》 Any well flowing uncontrolled
- 》 Any uncontrolled gas release of more than $30 \times 10^3 \text{ m}^3$

What has to be Reported

- 》 Any unrefined product off lease
- 》 Any refined or unrefined product release that may cause, is causing, or has caused an adverse effect
- 》 Any fire that causes a loss of more than 2 m³ of oil or 30 10³ m³ of gas, or where damage to the wellhead occurs
- 》 Any burning of effluent from a well or facility

**What to
Include When
Reporting a
Release**

- » The location and time of the release
- » A description of the circumstances leading up to the release
- » The type and quantity of the substance released

**What to
Include When
Reporting a
Release**

- » Details of any actions taken and proposed to be taken at the release site
- » A description of the release location and the immediate surrounding area

How to Report a Release

- 》 Operators that release, that cause or permit the release, or that have control of the substance released are responsible for reporting.
- 》 Releases must be reported to the AER Energy and Environmental Emergency 24-Hour Response Line, **1-800-222-6514**

Adverse Effect

- Example of a release with an adverse effect:
 - Small release contained in tank secondary containment
 - Resulted in multiple waterfowl fatalities
- This is a reportable release.

- 》 Example of a release with an adverse effect:
 - An underground tank failed the integrity test.
 - The tank and contaminated soil were removed.
 - Contamination had migrated and affected a large area.
 - Groundwater may have been affected.

- 》 This is a reportable release.

OGCR,
Section 8.050(2)

- » Where oil, water, or unrefined product is spilled and
- (a) is not confined to the site of the well or facility from which the spill or release occurred,
 - (b) is on site and is in excess of 2 m³, or
 - (c) is on site and of a size that may cause, is causing, or has caused an adverse effect as defined in *EPEA*.

**Verbally
Reporting the
Release**

- » Licensees or operators must immediately report the size and location of the release to the AER by calling the 24-hour emergency line.

EPEA,
Section 110(1)

- 》 A person who releases or causes or permits the release of a substance into the environment that may cause, is causing, or has caused an adverse effect must, as soon as that person knows or ought to know of the release, report it to (continued)

EPEA,
Section 110(1)

- (a) the director,
- (b) the owner of the substance,
where the person reporting
knows or is readily able to
ascertain the identity of
the owner,
- (c) any person to whom the person
reporting reports in an
employment relationship,

EPEA,
Section 110(1)

- (d) the person having control of the substance, where the person reporting is not the person having control of the substance and knows or is readily able to ascertain the identity of the person having control, and
- (e) any other person who the person reporting knows or ought to know may be directly affected by the release.

- » Sections 110 to 112 of *EPEA* do not apply to releases of substances
- regulated by the *Dangerous Goods Transportation and Handling Act (TDGA)* or
 - classified as Class 1 dangerous goods (explosives) or Class 7 dangerous goods (radioactive materials)
 - Schedule to the *TDGA*

» However, if the release has caused, is causing, or may cause an adverse effect, sections 110 and 111 of *EPEA* would apply under the following circumstances:

Release Reporting Regulation

- Release is at or in excess of the quantities or emission levels set out for the substance (*Transportation of Dangerous Goods Regulations, Part 8, section 8.1*)
- Substance released into watercourse, groundwater, or surface water (applies regardless of levels released)

Release
Reporting:
Unrefined
Product

- 》 Report the following unrefined product releases:
- Oil, produced water, condensate liquids, oilfield waste, etc.
 - Any release that may cause or is causing an adverse effect
 - Any release more than 2 m³ on lease
 - Any release off lease

- » Report the following refined product releases:
- Diesel, gasoline, sulphur, solvents, diluent, etc.
 - Any release that has caused, is causing, or may cause an adverse effect

- » The AER uses the *TDGR* as a guideline for which releases might cause adverse effect. The table in Part 8, section 8.1 of the *TDGR* does not define what needs to be reported to the AER; rather, it indicates release volumes that might require reporting due to potentially adverse effects.

Release
Reporting:
Unrefined or
Refined

- » Regardless of whether a substance is unrefined or refined, if it might cause, has caused, or will cause an adverse effect, it must be reported to the AER.

Defining On-lease Release

- » An on-lease release occurs anywhere within the surveyed boundary of the lease.
 - Does not include AER-granted surface rights (e.g., mineral surface lease [MSL], licence of occupation [SOC], pipeline agreement [PLA], pipeline installation lease [PIL], temporary field authorization [TFA], etc.)

Defining Off-lease Release

- » An off-lease release occurs outside of the surveyed lease boundaries, including on
- pipeline rights-of-way,
 - access roads,
 - highways, and
 - gravel roads.

Release Reporting Requirements

- » The industry operator **must** notify the landowner of any release that occurs off lease, migrates off lease, or occurs on an easement or right-of-way.
- *AER Informational Letter 98-1*
 - *EPEA*, section 110(1)(e)

- » Landowners can be any of the following:
- on private land: individuals
 - on Crown land: AER
 - on reserves: First Nations
 - in provincial parks: Alberta Tourism, Parks and Recreation

Releases on
Public Lands

- » If the release is outside a public land disposition area, the licensee may conduct emergency cleanup activities without a TFA.

Releases on
Public Lands

- » Licensees must obtain a TFA from the AER for prior cleanup work once the emergency period has ended.
 - TFAs are available from the AER land-use officer for the corresponding region.

Releases on
Public Lands

- » Land dispositions are defined differently than leases:
- Dispositions refer to AER-granted surface rights under the *Public Lands Act* (e.g., MSL, LOC, PLA, PIL, TFA, etc.).

Reporting a
Release to the
AER

- » To report an energy or environmental emergency or complaint, please call the Energy and Environmental Emergency 24-Hour Response Line,
1-800-222-6514

**Reporting a
Release to the
AER**

- » Direct inquiries or regulatory questions to the Customer Contact Centre
 - 1-855-297-8311 (toll free)
 - inquiries@aer.ca

Reporting a
Release to
Federal
Agencies

- » Environment Canada (EC)
 - *Canadian Environmental Protection Act*
 - Pollution prevention provisions of the *Fisheries Act*
 - *Migratory Birds Conservation Act, 1994*
 - *Species at Risk Act*

- » Fisheries and Oceans Canada (DFO)
 - *Fisheries Act*

Reporting a
Release to
Federal
Agencies

- » The Coordination and Information Centre (CIC) receives calls from the emergency response line and coordinates the response between agencies as necessary.

Reporting a
Release to
Federal
Agencies

- » When an incident is called into the 24-hour emergency phone number CIC will notify these agencies of the release if the situation requires that these agencies be notified.

Initial Call

- » The following preliminary information is required when a release is called in to the AER:
- Licence number
 - Incident location
 - Time of release
 - Type of product released
 - Volume released
 - Description of location and surrounding environment (continued)

Initial Call

- Was the release on or off lease
- Was the release within or outside of *PLA* disposition (public land)
- What happened
- Actions taken and proposed

Emergency Response Plans

- » Requirements for emergency response plans (ERP) are found in *Directive 071: Emergency Preparedness and Response Requirements for the Petroleum Industry*

Emergency Response Plans

- » Licensees must be fully prepared for and capable of responding to any level of emergency.

Emergency Response

- » The AER and the licensee determine the level of emergency during the initial response. Levels are as follows:
- Alert
 - Level 1
 - Level 2
 - Level 3

Emergency Response

- 》 The licensee activates its ERP according to the agreed-upon level.
- 》 The licensee then informs the public of the need to
 - shelter-in-place or
 - evacuate.
- 》 The licensee should also inform the public of any plans to ignite the release.

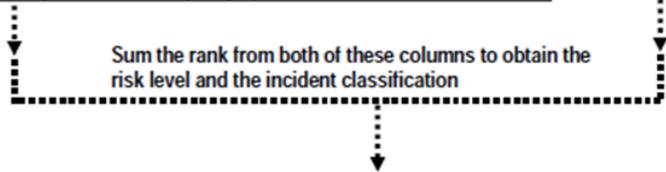
Appendix 4 Assessment Matrix for Classifying Incidents

Emergency Response: Directive 071

Rank	Category	Example of consequence in category
1	Minor	<ul style="list-style-type: none"> No worker injuries. Nil or low media interest. Liquid release contained on lease. Gas release impact on lease only.
2	Moderate	<ul style="list-style-type: none"> First aid treatment required for on-lease worker(s). Local and possible regional media interest. Liquid release not contained on lease. Gas release impact has potential to extend beyond lease.
3	Major	<ul style="list-style-type: none"> Worker(s) requires hospitalization. Regional and national media interest. Liquid release extends beyond lease—not contained. Gas release impact extends beyond lease—public health/safety could be jeopardized.
4	Catastrophic	<ul style="list-style-type: none"> Fatality. National and international media interest. Liquid release off lease not contained—potential for, or is, impacting water or sensitive terrain. Gas release impact extends beyond lease—public health/safety jeopardized.

Rank	Descriptor	Description
1	Unlikely	The incident is contained or controlled and it is unlikely that the incident will escalate. There is no chance of additional hazards. Ongoing monitoring required.
2	Moderate	Control of the incident may have deteriorated but imminent control of the hazard by the licensee is probable. It is unlikely that the incident will further escalate.
3	Likely	Imminent and/or intermittent control of the incident is possible. The licensee has the capability of using internal and/or external resources to manage and bring the hazard under control in the near term.
4	Almost certain or currently occurring	The incident is uncontrolled and there is little chance that the licensee will be able to bring the hazard under control in the near term. The licensee will require assistance from outside parties to remedy the situation.

* What is the likelihood that the incident will escalate, resulting in an increased exposure to public health, safety, or the environment?



Risk level	Assessment results
Very low 2-3	Alert
Low 4-5	Level-1 emergency
Medium 6	Level-2 emergency
High 7-8	Level-3 emergency

Emergency Response: Directive 071

Table 4. Incident Response

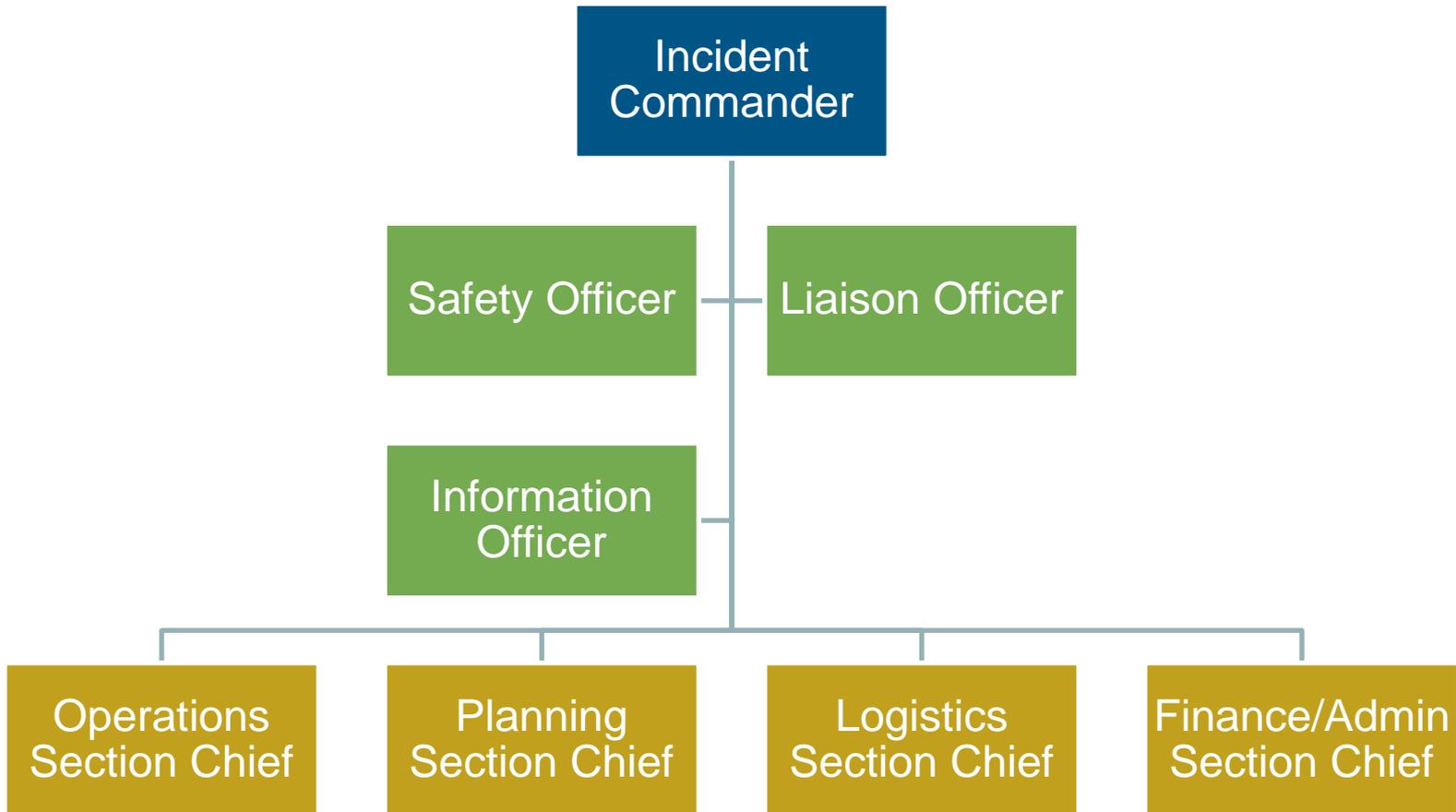
Responses	Incident Classification			
	Alert	Level-1 emergency	Level-2 emergency	Level-3 emergency
Communications				
Internal	Discretionary, depending on licensee policy.	Notification of off-site management.	Notification of off-site management.	Notification of off-site management.
External public	Courtesy, at licensee discretion.	Mandatory for individuals who have requested notification within the EPZ.	Planned and instructive in accordance with the specific ERP.	Planned and instructive in accordance with the specific ERP.
Media	Reactive, as required.	Reactive, as required.	Proactive media management to local or regional interest.	Proactive media management to national interest.
Government	Reactive, as required. Notify ERCB if public or media is contacted.	Notify local ERCB Field Centre. Call local authority and RHA if public or media is contacted.	Notify local ERCB Field Centre, local authority, and RHA.	Notify local ERCB Field Centre, local authority, and RHA.
Actions				
Internal	On site, as required by licensee.	On site, as required by licensee. Initial response undertaken in accordance with the site-specific or corporate-level ERP.	Predetermined public safety actions are under way. Corporate management team alerted and may be appropriately engaged to support on-scene responders.	Full implementation of incident management system.
External	On site, as required by licensee.	On site, as required by licensee.	Potential for multiagency (operator, municipal, provincial, or federal) response.	Immediate multiagency (operator, municipal, provincial, or federal) response.
Resources				
Internal	Immediate and local. No additional personnel required.	Establish what resources would be required.	Limited supplemental resources or personnel required.	Significant incremental resources required.
External	None.	Begin to establish resources that may be required.	Possible assistance from government agencies and external support services, as required.	Assistance from government agencies and external support services, as required.

Emergency
Response

- 》 The AER recommends using the Incident Command System (ICS) to ensure consistent command and communication among all parties.
- 》 Information and liaison officers assist communication; these positions should be filled early in any emergency.

Incident
Command
System

- » If possible, the licensee will fill the role of incident commander, and the AER will act as an assisting agency reporting to the liaison officer.



Directive 071
Requirements

- » Each licensee must be a member in good standing of an oil spill cooperative in the area where its operations are located **or** it must submit a release contingency plan to the AER for approval.

Directive 071
Requirements

- » A release contingency plan must address a liquid release onto land or water from any well, pipeline, or facility. The plan must include purchasing release cleanup equipment and conducting annual exercises.

**AER
Jurisdiction for
Releases**

- » The AER has jurisdiction to do the following:
- Contain and recover any free produced fluids
 - Approve the licensee's remediation plans
 - Delineate the extent of contaminated soils
 - Remediate contaminated soils to meet Alberta Tier 1 or Tier 2 soil remediation guidelines

- » *Directive 058: Oilfield Waste Management Requirements for the Upstream Petroleum Industry* sets out requirements for managing contaminated materials that have been excavated.

》 *Oil and Gas Conservation Rules, section 8.050(1)*

- When oil, water, or unrefined product is spilled, the licensee of the well or operator of the facility from which the spill or release occurred shall immediately take reasonable steps to contain and clean up the spill or release.
(continued)

Rules
Governing
Release
Response

- The licensee must ensure that the spilled or released material is processed in the operator's facilities, if appropriate, or is treated or disposed of, or both, in accordance with *Directive 058*.

》 *EPEA*, section 112(1)

- Where a substance that may cause, is causing, or has caused an adverse effect is released into the environment, the person responsible for the substance shall, as soon as that person becomes aware of or ought to have become aware of the release, (continued)

Rules
Governing
Release
Response

- (a) take all reasonable measures to
 - (i) repair, remedy, and confine the effects of the substance, and
 - (ii) remediate, manage, remove, or otherwise dispose of the substance in such a manner as to prevent an adverse effect or further adverse effect, and
- (b) restore the environment to a condition satisfactory to the director.

**Example 1:
Wellhead
Release**



AER field photo

**Example 1:
Wellhead
Release**

- » This release is on lease, less than 2 m³, with no adverse effect; it does not need to be reported to the AER, but it must be contained and cleaned up, and contaminated soil must be removed.

Example 2: Contained Release



AER field photo

**Example 2:
Contained
Release**

- » The tank secondary containment appears to be containing the released product as designed.

**Example 3:
Release
Containment**



AER field photo

**Example 3:
Release
Containment**

- » Temporary diking and ditching was done to contain the release.

**Storing
Contaminated
Materials**
(Directive 055)

- 》 Contaminated materials excavated during release clean up or remediation activities may be temporarily stored in a bermed and synthetically lined area.
- 》 The synthetic liner must be a minimum of 15 millimetres thick and compatible with the soil contaminants.

**Storing
Contaminated
Materials**
(Directive 055)

- » At the end of the specific operation, the stored materials must be transferred to a permanent storage facility or area or be appropriately treated, disposed of, or both.
 - Materials are typically stored no longer than 3 months.

Options for
Remediating
Contaminated
Soil

- 》 Treat on site – requires AER approval
- 》 Excavate contaminated soil for disposal or treatment:
 - store in a waste storage component at an existing facility
 - transfer contaminated soil to an approved waste management facility
(continued)

Options for Remediating Contaminated Soil

- transfer contaminated soil to an approved landfill
- remediate on site: land treatment/biopile
- remediate off site: land treatment/biopile

Properly
Constructed
Biopile

- » Biopile is bermed with a liner to control runoff and runoff



AER field photo

Note: compacted substances will have to be tilled

AER Release Reports

- » *OGCR*, section 8.050(3), and *Release Reporting Regulation*, section 4
 - Licensee completes the AER release report and e-mails it to the appropriate field centre (within 7 days of incident)
(continued)

AER Release Reports

- Licensee includes the total volume of product released and recovered, as well as the release impacts and details on remediation, including amount of contaminated soil collected and disposal location.

AER Release Reports

- Licensee ensures the comments section is filled out in detail so the reader can fully understand the incident, response, cleanup, and remediation.

Release Report



Initial verbal notification of the release to the AER is required prior to completing this release report.

General Information		
AER FIS incident no.: <input type="text"/>		
Date AER notified: <input type="text"/>	Time: <input type="text"/> pm <input type="checkbox"/> am	AER contact: <input type="text"/>
Type of report: Click here for list	Projected date for final report: <input type="text"/>	
Incident date: <input type="text"/>	Time: <input type="text"/> pm <input type="checkbox"/> am	Incident location: <input type="text"/> W
Licensee name: <input type="text"/>		
License no.: <input type="text"/>	Disposition no.: <input type="text"/>	Approval no.: <input type="text"/>
Form completed by: <input type="text"/>		Phone number: <input type="text"/>

Volume Details					
If volumes change from what was initially reported, then verbal notification to the AER is required.					
What was released?	Volume released	Fluids recovered	Shipped to (waste receiver)* &	Licensee Approval no. -	Location
<input type="text"/>	<input type="text"/> m ³	<input type="text"/> m ³	Click here for list	<input type="text"/>	<input type="text"/> W
<input type="text"/>	<input type="text"/> m ³	<input type="text"/> m ³	Click here for list	<input type="text"/>	<input type="text"/> W
Gas	<input type="text"/> 10 ³ m ³				
Excavated soil removed	<input type="text"/> m ³		Click here for list	<input type="text"/>	<input type="text"/> W
Contaminated freshwater removed	<input type="text"/> m ³		Click here for list	<input type="text"/>	<input type="text"/> W
* Refer to ST107 for the list of AER-approved oilfield waste management (WM) facilities.					
Contaminated soils storage: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> On site <input type="checkbox"/> Off site – if off site, enter location: <input type="text"/> W					
Release rate: <input type="text"/>		Duration of release: <input type="text"/>			

Release Site Details		
<input type="checkbox"/> Release off lease	<input type="checkbox"/> Release on lease	
Land jurisdiction type: Click here for list		
<input type="checkbox"/> Within disposition boundary	<input type="checkbox"/> Outside disposition boundary – TFA number: <input type="text"/>	
Environment affected: Click here for list	Area affected: <input type="text"/> m ²	
Distance to closest water body: <input type="text"/> m	Distance to nearest town: <input type="text"/> km	Name of nearest town: <input type="text"/>

Impacts		
H ₂ S concentration: <input type="text"/>	Unit of measurement: <input type="checkbox"/> % <input type="checkbox"/> ppm <input type="checkbox"/> mol/kmol	
Wildlife/livestock affected: Click here for list		Equipment loss: Click here for list
<input type="checkbox"/> Public affected	<input type="checkbox"/> Public evacuation	Number evacuated: <input type="text"/>
<input type="checkbox"/> Landowner notified*	<input type="checkbox"/> Leaseholder notified*	
Number of injuries: <input type="text"/>	Number of fatalities: <input type="text"/>	<input type="checkbox"/> WH&S notified*
* Provide details in Additional Notifications box.		

Helpful AER Documents

- » Educational materials on compliance and enforcement can be found on the AER website, www.aer.ca

Procedures for
Preventing
Releases

» From *Proactive Procedures to Prevent Spills* brochure:

- www.aer.ca/compliance-and-enforcement/compliance-assurance/educational-resources

Procedures for Preventing Releases: Facility Inspections

- 》 Verify that a facility walk-around is conducted before the operator leaves.
- 》 Ensure tank integrity assessments are done regularly and documented.
- 》 Ensure tanks and dikes are large enough to hold the production volumes during unattended hours of operation.

**Procedures for
Preventing
Releases:
Facility
Inspections**

- 》 Confirm that pop tanks are of adequate size and kept empty.
- 》 Ensure dikes and liners are adequately maintained.
- 》 Add more diking if the facility is located in an environmentally sensitive area.

**Procedures for
Preventing
Releases:
Facility
Inspections**

- 》 Check for containment around chemical storage areas.
- 》 Replace chemical drums with bulk storage, if necessary.
- 》 Check chemical pumps daily.
- 》 Confirm that “no-flow” controls are installed on recycle pumps.

**Procedures for
Preventing
Releases:
Facility
Inspections**

- » Ensure leaks and drips from recycle pumps are contained and collected.
- » Ensure all lines indicate flow direction and contents.
- » Check that all valves are tagged to prevent incorrect operation.

**Procedures for
Preventing
Releases:
Facility
Inspections**

- **Ensure release control devices are installed on truck-loading lines.**

**Procedures for
Preventing
Releases:
Well
Inspections**

- » Confirm adequate lubrication of the stuffing box on pumping oil wells. In environmentally sensitive areas, consider using a second stuffing box or canister to reduce releases if a rod breaks.

Procedures for Preventing Releases: Well Inspections

- 》 If necessary, check that the wellhead stuffing box has built-in BOP capability.
- 》 Install a secondary pressure switch, if necessary.
- 》 Ensure radigan rubbers are checked and replaced, if necessary, every time the well is serviced.

Procedures for Preventing Releases: Well Inspections

- 》 Confirm that vibration switches are installed and working on pump jacks.
- 》 Inspect bridle cables on all pump jacks for fraying and replace them, if necessary.
- 》 Ensure wellhead barricades are installed to prevent vehicle collisions.

Procedures for Preventing Releases: Well Inspections

- » Verify that the fluid is properly inhibited on wells with packers and annulus fluid to protect the well casing from corrosion.
- » Ensure the surface casing valve is open and directed away from the wellhead; monitor for flow.
- » Ensure equipment is grounded.

**Procedures for
Preventing
Releases:
Pipeline
Inspections**

- 》 Maintain an effective corrosion monitoring and mitigation plan.
- 》 Check that pipeline warning signs are in place on all road and watercourse crossings and display correct information.
- 》 Ensure company is a member of Alberta One Call.

Procedures for Preventing Releases: Pipeline Inspections

- » Ensure pipeline rights-of-way are patrolled regularly.
- » Check that all aboveground structures are adequately protected.
- » Verify that downstream pipeline pressures on lines that cross large watercourses are monitored daily.

Procedures for Preventing Releases: Pipeline Inspections

- 》 Confirm that pipelines crossing rivers and creeks are periodically inspected below the water and that isolation valves are installed.
- 》 Conduct regular visual inspections of river and creek crossings.

**Procedures for
Preventing
Releases:
Pipeline
Inspections**

- Implement a monitoring plan specifically for high risk pipelines.
- Determine if any pipeline's maximum operating pressure has ever been exceeded.

**Noncompliances
Involving
Releases**

- 》 Reportable release not reported to the AER
- 》 Release not contained or cleaned up
- 》 Contaminated materials stored directly on the ground

Noncompliances Involving Releases

- » Liquids pumped off-lease do not meet the requirements in *Directive 055*
- » The well or facility is less than 100 metres from a body of water and does not have appropriate protective measures in place

Enforcement Consequences

- » If there are noncompliances, the AER will determine, based on the situation, whether to conduct a formal investigation and what the enforcement consequences should be.

Conclusion

- » There will be spills and some will affect the environment.
- » Operators must be fully prepared for and capable of responding to any incident and must meet the AER's requirements for containment, cleanup, disposal, and reporting.

AER

Questions



AER

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