



**NORTHEAST BC  
EMERGENCY RESPONSE PLAN**

**BC Energy Regulator (BCER) /  
EMCR Incident Reporting Line  
1-800-663-3456**

**AER/AB Environment Incident Reporting Line  
1-800-222-6514**

**ARC Main 24 Hour Emergency Line  
403-292-0434**

**Development Date: March 10, 2025**

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## SECTION 0. PLAN HOLDER INFORMATION

This Emergency Response Plan will be reviewed, validated, and updated annually, or as required at the request of the ERP Coordinator.

All amendments will be distributed to each individual plan holder who will be responsible for incorporating them as they are received. A record of all amendments will be maintained utilizing the Revision Log contained in this section of the plan.



As a registered holder of this plan, you have an obligation to assist in the maintenance of accurate and up to date information. If you detect an error in the plan subsequent to its revision publication date or become aware of any changes to any information, please forward such information as soon as possible on the Revision Request Form to:

**Justin Stoppler**  
 Senior Advisor, Emergency Management & Security  
 ARC Resources Ltd.  
 Office: 403-509-7209 Fax: 403-509-6427  
 E-mail: [JStoppler@ArcResources.com](mailto:JStoppler@ArcResources.com)

**24 Hour Emergency Number**  
**403-292-0434**

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**0.1 Revision Request Form**

Please use this form to submit any updates, changes or corrections that you would like to have made to the Emergency Response Plan.

**Submitted by Name** (please print): \_\_\_\_\_

**Position:** \_\_\_\_\_

**Name of Emergency Response Plan:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Explain your change requests below. Please include the Section, Page Numbers and exact text and / or graphic that you believe should be changed. As required, copy, mark up and fax the page.

ERP Revision Requests		
Section	Page(s)	Explanation of Requested Changes

Submit to:

**Justin Stoppler**  
**Senior Advisor, Emergency Management & Security**  
**ARC Resources Ltd.**  
**Office: 403-509-7209 Fax: 403-509-6427**  
**E-mail: JStoppler@ArcResources.com**

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# ARC RESOURCES NORTHEAST BC ERP DISTRIBUTION LIST

Manual #	Type	Res Info	Branch	Title/Agency	Name
Corporate					
98203	Binder	Full	Calgary	Calgary Emergency Operations Centre (CEOC)	c/o Justin Stoppler
98204	Binder	Full	Calgary	Calgary Emergency Operations Centre (CEOC)	c/o Justin Stoppler

## 2 Hardcopy Corporate Manuals

Field					
98205	Binder	Full	Dawson Creek	Manager, Field Operations	Terry Harder
98206	Binder	Full	Dawson Creek	Ops Support Coordinator	Darryl Ireland
98207	Binder	Full	Dawson Creek	13-07-80-14 W6M Dawson Phase 3 & 4 Gas Plant	c/o Byron Hingley
98208	Binder	Full	Dawson Creek	Foreman - Parkland/Tower	Duane Halma
98209	Binder	Full	Dawson Creek	Foreman - Dawson Phase 1 & 2 & Dawson Field	Jordan Oliver
98210	Binder	Full	Dawson Creek	Field HSE Advisor	Brett Henschel
98211	Binder	Full	Sunrise	13-36-78-18 W6M Sunrise Gas Plant	c/o Byron Hingley
98212	Binder	Full	Parkland	03-09-81-16 W6M Parkland Gas Plant	c/o Duane Halma
98213	Binder	Full	Parkland	08-13-81-17 W6M Parkland Compressor Station	c/o Duane Halma
98214	Binder	Full	Dawson Creek	05-35-79-14 W6M Dawson Gas Plant	c/o Jordan Oliver
98215	Binder	Full	Dawson Creek	01-34-79-14 W6M Dawson Compressor Station	c/o Jordan Oliver
98216	Binder	Full	Sunrise	02-25-78-18 W6M Sunrise Site	c/o Byron Hingley
98217	Binder	Full	Attachie	04-20-84-24 W6M Attachie West Field	c/o Dean Gordon
98218	Binder	Full	Parkland	15-01-81-17 W6M Parkland Tower Field Office	c/o Duane Halma
98219	Binder	Full	Dawson Creek	Spare Copy	c/o Brett Henschel
98220	Binder	Full	Dawson Creek	Field HSE Advisor	c/o Michael Windling
98221	Binder	Full	Dawson Creek	Spare Copy	c/o Brett Henschel
98222	Binder	Full	Dawson Creek	Spare Copy	c/o Brett Henschel
98223	Binder	Full	Dawson Creek	Team Lead - Well Servicing	Colin Tajcna
98224	Binder	Full	Dawson Creek	Field Production Engineer	Ty Tews
98225	Binder	Full	Dawson Creek	Field Production Engineer	Orrin Berry
98226	Binder	Full	Dawson Creek	Well Servicing OSS	c/o Brett Henschel
98227	Binder	Full	Dawson Creek	Well Servicing OSS	c/o Brett Henschel
98228	Binder	Full	Dawson Creek	03-15-80-15 W6M Dawson Phase 3 & 4 Field Office	c/o Jordan Oliver
98229	Binder	Full	Dawson Creek	Foreman - Dawson Phase 3 & 4 + Sunrise	Byron Hingley
98230	Binder	Full	Dawson Creek	08-05-81-16 W6M Parkland Water Hub	c/o Duane Halma
98231	Binder	Full	Dawson Creek	Well Servicing OSS	Brett Henschel
98232	Binder	Full	Attachie	05-20-84-24 W6M Gas Plant	c/o Dean Gordon
98233	Binder	Full	Attachie	07-17-88-23 W6M Terminal	c/o Dean Gordon

## 29 Hardcopy Field Manuals

# ARC RESOURCES NORTHEAST BC ERP DISTRIBUTION LIST

Manual #	Type	Res Info	Branch	Title/Agency	Name
External					
98234	Binder	None	Calgary	Canada Energy Regulator	c/o Secretary of the Commission
98235	Digital	None	Calgary	Canada Energy Regulator	c/o Secretary of the Commission
98236	Binder	Full	Fort St. John	BC Energy Regulator	Emergency Management
98237	DDS	Full	Calgary	Alberta Energy Regulator	EPA Section
98238	Digital	None	Prince George	Ministry of Emergency Management & Climate Readiness	Heather MacRae
98239	Digital	None	Fort Nelson	Public Services and Procurement Canada	Darcy Cooper
98240	Digital	None	Dawson Creek	BC Ministry of Transportation & Transit	Hali Davenport
98241	Digital	None	Dawson Creek	Peace River Regional District	Ryan Kirkham
98242	Digital	None	Fort Nelson	Northern Rockies Regional Municipality	Erin La Vale
98243	Digital	None	Spirit River	Saddle Hills County	Brice Daly
98244	Digital	None	High Level	Alberta Health Services - Zone 5 North	Shane Hussey
98245	Digital	None	Chetwynd	Chetwynd RCMP	NCO in Charge
98246	Digital	None	Dawson Creek	Dawson Creek RCMP	NCO in Charge
98247	Digital	None	Fort Nelson	Fort Nelson / Northern Rockies RCMP	NCO in Charge
98248	Digital	None	Hudson's Hope	Hudson's Hope RCMP	NCO in Charge
98249	Digital	None	Spirit River	Spirit River RCMP	NCO in Charge
98250	E2	None	Charlie Lake	Charlie Lake Fire Department	c/o Fire Chief
98251	E2	None	Dawson Creek	Dawson Creek Fire Department	c/o Fire Chief
98252	E2	None	Fort St. John	Fort St. John Fire Department	c/o Fire Chief
98253	E2	None	Pouce Coupe	Pouce Coupe Fire Department	c/o Fire Chief
98254	E2	None	Taylor	Taylor Fire Department	c/o Fire Chief
98255	Binder	Full	Calgary	H <sub>2</sub> Safety Services Inc.	H <sub>2</sub> Safety Services Inc.

3 Hardcopy External Manuals

13 Digital External Manuals

5 E2 Manuals

# REVISION HISTORY

This Emergency Response Plan is effective March 10, 2025. ARC Resources Ltd. Manager, Health and Safety is responsible for updating this plan annually or as required. Any errors or omissions in the plan should be brought to his / her attention.

Any requested changes to the ARC Resources NEBC Emergency Response Plan must be brought to the attention of:

**Justin Stoppler**  
**Senior Advisor, Emergency Management & Security**

**Direct: 403-509-7209 Cell: 403-809-7400 Fax: 403-509-6427**  
**Email: [jstoppler@arcresources.com](mailto:jstoppler@arcresources.com)**

ARC Resources Ltd.  
Suite 1200, 308 – 4<sup>th</sup> Avenue SW Calgary Alberta T2P 0H7 Canada

**Date of Update Inserted Into ERP:**

**Signature:**

\_\_\_\_\_

\_\_\_\_\_

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
<b>March 10, 2025</b>	<b>March 10, 2025</b>	<b>Annual Update</b>	Foreword	Revision History Distribution List
			1. Activation Notification	1.6 Internal Notification Flowchart 1.7 External Emergency Notification Flowchart 1.8 Alberta Notification Matrix 1.9 Government Call Down Procedures (AB)
			3. Government Agency Roles	3.6 Lead Agencies Phone List 3.8 Government Consultation Summary
			6. Incident Specific Guidelines	6.6 Alberta Petroleum Industry Release Reporting Requirements
			9. Reference	9.9 Response Management Centres 9.12 Record Keeping 9.16 Glossary / Definitions 9.17 Acronyms
			11. Drilling & Completions (BC)	11.18 BCER Pre-Penetration Requirements 11.20 BCER Notification of a Drilling/Initial Completions ERP Review Meeting - Form M-2 M-2
<b>November 27, 2024</b>	<b>November 27, 2024</b>	<b>Administrative Update</b>	Forward	Revision History
			Section 12 Site Specific	Administrative Update For Attachie East Field: Updated Attachie 07-17 Terminal E2 Plan Update Attachie 07-17 Terminal Site Section Information Updated Attachie 07-17 Terminal Map Updated Attachie East Asset EPZ Tables
<b>June 7, 2024</b>	<b>June 7, 2024</b>	<b>Administrative Update</b>	Forward	Revision History
			3. Government Agency Roles	3.6 Government Consultation Summary
			10. Phone List	Updated Phone List
			Section 12 Site Specific	Administrative Update For Dawson Field: Update Dawson Site Section Information Updated Dawson Field Map Updated Asset EPZ Tables Additional Res Sheets and added to PID Tables
			Foreword	Revision History

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
March 10, 2024	March 10, 2024	Annual Update	1. Activation Notification	1.5 Incident Classification Matrix (AB) 1.6 Internal Emergency Notification Flowcharts 1.7 External Emergency Notification Flowchart 1.8 Provincial Notification Matrices (AB/BC) 1.9 Government Call Down Procedures (AB/BC)
			3. Government Agency Roles	3.2 AB Supporting Agency Roles, 3.4 BC Supporting Agency Roles, 3.6 Alberta Lead Agency Phone List 3.7 British Columbia Lead Agency Phone List
			4. Incident Classification	4.4 Alberta AER Incident Classification Matrix
			5. Forms	TOC Form Descriptions A10 BCER Form C Emergency Incident Form
			6. Incident Specific Guidelines	6.6 Alberta Petroleum Industry Release Reporting Requirements. 6.7 British Columbia Petroleum Industry Release Reporting Requirements. 6.19 Responding to Bomb Threats Received in Writing
			7. Public Safety Guidelines	7.6 On-site Response – Control Areas
			8. Media & Stakeholder Relations	8.6 Corporate Media Spokesperson – Contact Information
			9. References	9.3 Operational Excellence Policy – Rename and inserted updated policy 9.13 Emergency Response Training and Competency Guidelines – Rename 9.13 Addition of BCER Tabletop Exercise Evaluation Form 9.16 Updated Glossary with latest definitions 9.17 Updated Acronyms
			10. Phone List	10.1 Corporate Phone List
			Section 11 Drilling & Completions (AB / BC)	11.15 Drilling & Completions Internal Notification Flowchart (AB) 11.22 Drilling & Completions Internal Notification Flowchart (BC)
Section 12 Site Specific	All site sections: Verified contact information, refreshed EPZ Calculations, all site-specific maps revised. All applicable resident information verified including school districts and transportation. Area user notifications and landowner notifications commenced Creation of two E2 Supplements Attachie East 07-17 & Attachie West 05-20 Removed Pouce Gas Plant. Removed FSJ as all assets have been abandoned.			

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
August 17, 2023	August 17, 2023	Administrative Update	All	Any mention of Ron Toly has been replaced with Terry Harder throughout ERP.
June 7, 2023	June 7, 2023	New E2 Plan	Foreword	Table of Contents – Added Sunrise 13-36 GP Distribution List – Revised applicable copy numbers to “UP-1” Revision History
			12. Site Specific	Sunrise site sections: Verified contact information, refreshed EPZ Calculations, all site-specific maps revised. New E2 Plan created: Sunrise 13-36-78-18 W6M. Added new plot plan – Sunrise 13-36 Area user notifications and landowner notifications commenced
March 10, 2023	March 10, 2023	Annual Update	Foreword	Table of Contents Distribution List Revision History Changed references of BC Oil and Gas Commission (OGC) to BC Energy Regulator (BCER) – Name change as of February 17, 2023.
			1. Activation Notification	1.5 Incident Classification Matrix (BC) 1.6 Internal Emergency Notification Flowcharts 1.7 External Emergency Notification Flowchart 1.8 Provincial Notification Matrices (AB/BC) 1.9 Government Call Down Procedures (AB/BC) Changed reference of Emergency Management BC (EMBC) to Ministry of Emergency Management and Climate Readiness (EMCR) Changed references of OGC to BCER
			2. Roles & Responsibilities	Changed all reference of EMBC to EMCR Changed references of OGC to BCER
			3. Government Agency Roles	3.1 AB Lead Agency Roles, 3.2 AB Supporting Agency Roles, 3.3 BC Lead Agency Roles, 3.4 BC Supporting Agency Roles, 3.5 Federal Agency Roles 3.6 Alberta Lead Agency Phone List 3.7 British Columbia Lead Agency Phone List Changed reference of EMBC to EMCR Changed references of OGC to BCER
			5. Forms	Changed all reference of EMBC to EMCR Changed references of OGC to BCER

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
<b>March 10, 2023, continued</b>	<b>March 10, 2023, continued</b>	<b>Annual Update, continued</b>	6. Incident Specific Guidelines	6.6 Alberta Petroleum Industry Release Reporting Requirements. 6.7 British Columbia Petroleum Industry Release Reporting Requirements. 6.20 Gas Turbine – Section added 6.21 Electrical Emergencies – Section added Changed references of CSA Z246.1-17 to Z246.1-21 Changed all reference of EMBC to EMCR Changed references of OGC to BCER
			7. Public Safety Guidelines	Changed all reference of EMBC to EMCR Changed references of OGC to BCER
			8. Media & Stakeholder Relations	8.6 Corporate Media Spokesperson – Contact Information Changed references of OGC to BCER
			9. References	Changed all reference of EMBC to EMCR Changed references of OGC to BCER
			10. Phone List	10.1 Corporate Phone List
			11. Drilling & Completions AB	11.14 When is a Drilling & Completions ERP Required – Decision Tree 11.15 Drilling and Completions Internal Notification Flowchart
			11. Drilling & Completions BC	11.22 Drilling and Completions Internal Notification Flowchart – Added to D&C BC Changed references of OGC to BCER
			12. Site Specific	All site sections: Verified contact information, refreshed EPZ Calculations, all site-specific maps revised. All applicable resident information verified including school districts and transportation. Revised plot plan – Dawson 13-07 and Parkland 03-09 Sunrise Freshwater Storage Reservoir ERPs removed Area user notifications and landowner notifications commenced
<b>March 11, 2022</b>	<b>March 11, 2022</b>	<b>Annual Update</b>	Foreword	Distribution List Revision History
			1. Activation Notification	1.5 Incident Classification Matrix (BC) 1.8 Provincial Notification Matrices (AB/BC) 1.9 Government Call Down Procedures (AB/BC)
			2. Roles & Responsibilities	2.15 Air Monitors 2.17 Roadblocks – Roadblock Personnel Roles 2.18 Rovers - Overview paragraph

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
			3. Government Agency Roles	3.1 AB Lead Agency Roles, 3.2 AB Supporting Agency Roles, 3.3 BC Lead Agency Roles, 3.4 BC Supporting Agency Roles, 3.5 Federal Agency Roles 3.6 Government Notification Summary Consulted with required government agencies Verified and updated roles and responsibilities for applicable agencies. Added Halfway River First Nation
			6. Incident Specific Guidelines	6.5 Petroleum Spills – Added specific containment methods 6.6 Alberta Petroleum Industry Release Reporting Requirements. 6.7 British Columbia Petroleum Industry Release Reporting Requirements. 6.18 Transportation Incidents – Section added 6.19 Security Incidents – Section added
			7. Public Safety Guidelines	7.12 Public Protection Measures Flowchart -AB 7.13 Public Protection Measures Flowchart - BC
			10. Phone List	10.1 Corporate Phone List 10.2 Field Phone List
			11. Drilling & Completions AB	11.14 When is a Drilling & Completions ERP Required – Decision Tree
			12. Site Specific	All site sections: Verified contact information, refreshed EPZ Calculations, all site-specific maps revised. All applicable resident information verified including school districts and transportation. Revised plot plan – Parkland 03-09 Sunrise Freshwater Storage Reservoir ERPs revised Access maps and directions revised: Sunset, Attachie West Area user notifications and landowner notifications commenced
March 12, 2021	March 12, 2021	Annual ERP Update	Foreword	Table of Contents – Added 6.17 Mining, Section 12 Star Pouce Coupe Gas Plant 11-34 E2 plan. Distribution List revised. Revision History revised.
			1. Activation Notification	1.5 Incident Classification Matrices (AB &BC). 1.9 Government Call Down Procedures – AB/BC.
			2. Roles & Responsibilities	2.2 Key Response Personnel – Changed Area Superintendent to say, “Area Manager.” 2.16 Reception Centre Registration Log – Revised B1 Sample Form.



ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
			3. Government Agency Roles	Government Notification Summary revised. Verified and updated roles and responsibilities for applicable agencies. Added First Nation Health Authority and Public Services Procurement Canada.
			5. Forms	A7 STARS Landing Zone Card – the updated card information was obtained from: <a href="https://stars.ca/wp-content/uploads/2018/07/LZ-card-AB-and-SK-2018.pdf">https://stars.ca/wp-content/uploads/2018/07/LZ-card-AB-and-SK-2018.pdf</a>
			6. Incident Specific Guidelines	Changed all references of Environment Canada to “Environment and Climate Change Canada. 6.2 Medical Emergency – Removed #4567 as STARS does not use anymore. 6.6 Alberta Petroleum Industry Release Reporting Requirements. 6.7 British Columbia Petroleum Industry Release Reporting Requirements. 6.15 Natural Hazards – Updated links throughout. 6.17 Mining – New section added.
			7. Public Safety Guidelines	7.13 Public Protection Measures Flowchart – British Columbia. 7.14 Evacuation Guidelines and Requirements – Updated Evacuation Requirements – BC table.
			9. References	9.17 Acronyms – Alphabetized listing.
			10. Phone List	10.1 Corporate Phone List – Updated contact information. 10.2 Field Phone List – Updated contact information.
			12. Site Specific	All site sections: Verified contact information, refreshed EPZ Calculations, all site-specific maps revised. Freshwater Storage Reservoir ERPs added: Dawson SS, Sunrise SS. Revised Plot Plans: Dawson 05-35, 13-07. New E2 Plan created: Star Pouce Coupe Gas Plant 11- 34-74-12 W6M. All applicable resident information verified including school districts and transportation.
			12. Site Specific	ALL
			Foreword	Title Page
March 13, 2020	March 13, 2020	Annual ERP Update	0. Plan Holder Information	Distribution List Revision History

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
February 28, 2020	March 6, 2020	Annual ERP Update	1. Activation Notification	Internal Notification Drilling & Completions Flowchart Alberta Notification Matrix British Columbia Notification Matrix
			3. Government Agency Roles	All
			5. Forms	ICS 209
			6. Incident Specific Guidelines	Alberta Release Reporting Requirements British Columbia Release Reporting Requirements
			9. References	Acronyms
			10. Phone List	- ARC Corporate Phone List - ARC Field Phone List
			11. Drilling & Completions	- Drilling & Completions Internal Notification Flowchart
			12. Site Specific	- 0.3 Revision Log - Dawson Site Section, Dawson Site Section mapping, EPZ sour pipeline table - Dawson/Pouce NEB Pipeline Mapping - Dawson 13-07 Gas Plant Mapping - Dawson 05-35 Gas Plant Mapping - Pouce Field Mapping
			12. Site Specific	ALL

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
June 10, 2019	June 25, 2019	Regular Update	1. Activation Notification	<ul style="list-style-type: none"> <li>- 1.3 Five Step Guide – changed “Sensitive” to “Special Needs” in the 3rd bullet point in Telephoners.</li> <li>- 1.6 External Notification Flowchart - Added a mini version of the OGC Incident Reporting Procedure. It’s also located on the Gov’t Notification Matrix and Spill Chart. This is not “required” but was added due to it being in the Emergency Management Manual (EMM), added notes about Incident Commander to ensure OGC is notified for incident level increases or decreases and referring to area specific for other agency and support service contacts, added text to indicate who EMBC will notify in an emergency.</li> <li>- 1.7 Alberta Notification Matrix - Added Indian Oil &amp; Gas Canada (IOGC) to list of agencies to notify.</li> <li>- 1.8 British Columbia Notification Matrix - Added Indian Oil &amp; Gas Canada (IOGC) to list of agencies to notify, added the OGC Incident Reporting Procedure flowchart, added note about agency phone numbers being in area specific information.</li> <li>- 1.11 British Columbia Public Protection Measures Flowchart - Includes HPZ and revised H2S/SO2 table.</li> </ul>
March 29, 2019	March 29, 2019	Annual ERP Update	2. Roles & Responsibilities	<ul style="list-style-type: none"> <li>- 2.1 Field Response Team - Added point to Safety Officer saying, “Field assistants may be dispatched.”</li> <li>- 2.9 Command Staff Roles - Revised the note at the bottom of the page to include Escalation of level of emergency, added bullet to Information Officer roles about working with Communications / Media to develop a communications plan.</li> <li>- 2.10 General Staff Roles Operations Section - Revised the note at the bottom of the page to include Escalation of level of emergency.</li> <li>- 2.11 General Staff Roles Planning Section - Revised the note at the bottom of the page to include Escalation of level of emergency, added a bullet to Documentation Unit about the requirement to hold records for 5 years.</li> <li>- 2.12 General Staff Roles Logistics Section - Revised the note at the bottom of the page to include Escalation of level of emergency.</li> <li>- 2.13 General Staff Roles Finance/Admin Section - Revised the note at the bottom of the page to include Escalation of level of emergency, added a few bullets to Compensation &amp; Claims Unit on reimbursement of affected parties.</li> <li>- 2.14 Operations Section Public Safety Roles - Revised the note at the bottom of the page to include Escalation of level of emergency, changed “Sensitive” to “Special Needs” under Public Safety Group Supervisor and Telephoners columns.</li> <li>- 2.15 Air Monitors Roles - Bullet point added to Air Monitor Roles about monitoring H2S and LEL at edge of EPZ, changed wording in Regulatory Requirements box to say Critical / Special Sour Wells in 2 spots.</li> <li>- 2.19 Telephoners Roles - changed “Sensitive” to “Special Needs” under Telephoner Personnel Roles and Tips headers.</li> </ul>

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
February 28, 2019	February 28, 2019	Annual ERP Update	3. Government Agency Roles	- 3.10 Federal Agency Roles - Removed FNIH from second page of document as its now rolled into other information found in ISC, removed Indigenous and Northern Affairs Canada (INAC) and replaced with Indigenous Services Canada (ISC), Regional Operations (RO), and First Nations and Inuit Health Branch (FNIHB), and Indian Oil & Gas Canada (IOGC).
			4. Incident Classification	- 4.4 Alberta AER Incident Classification Matrix - changed "Sensitive" to "Special Needs" in the 3rd and 4th bullet points under Level-1 Emergency Responses on the back page. - 4.5 British Columbia OGC Emergency Criteria – Added Minor Incident Reporting, Escalating and Downgrading Emergencies, etc.
			5. Forms	Added short section before Form Descriptions called Documentation During and After an Incident.

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
			6. Incident Specific Guidelines	<p>- 6.6 Alberta Petroleum Industry Spill/Release Reporting Requirements - Transportation of Dangerous Goods – Reportable Spills, revised the note to include verbiage about anticipated releases as per updated TDG regulations pertaining to ERAPs from 2018, added Local Authority as an entity to report spills too as well as per updated TDG regulations pertaining to ERAPs from 2018, added IOGC to list of calls for spills on reserve lands (only reserve lands, not traditional lands, settlements, etc.</p> <p>- 6.7 British Columbia Petroleum Industry Spill/Release Reporting Requirements - EMBC/OGC – Reportable Spills - Added bullet point saying “if a spill/release occurs or is an imminent risk of occurring”, updated bullet points 4 and 7, updated the written report information for Minister of Environment, fixed formatting on bottom as it was cutting off note under Incident Reporting Process, Transportation of Dangerous Goods – Reportable Spills, revised the note to include verbiage about anticipated releases as per updated TDG regulations pertaining to ERAPs from 2018, added Local Authority as an entity to report spills too as well as per updated TDG regulations pertaining to ERAPs from 2018, added IOGC to list of calls for spills on reserve lands (only reserve lands; not traditional lands, settlements, etc., Revised Spill Chart with new Dangerous Goods Incident Report (DGIR) notes and OGC Incident Reporting Procedure, Added WCSS membership information links.</p>
			7. Public Safety Guidelines	- 7.13 British Columbia Public Protection Measures Flowchart - Includes HPZ and revised H2S/SO2 table.

ERP Revision Due Date: March 10, 2026				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages
			9. Reference	- 9.16 Glossary / Definition – Added EAZ and HPZ - 9.17 Acronyms - Alberta Health & Wellness was changed to Alberta Health, Put the B back into FNIHB.
			12. Site Specific	- Parkland/Tower East Site Section - Parkland/Tower East Map - Parkland/Tower East Sour Pipeline Table
			10.2 Field Phone List	ALL
<b>November 27, 2018</b>		<b>Addition of the Parkland Dawson Interconnect Pipeline</b>	12. Site Specific	ALL, with the exception of the Dawson 05-35-79-14 W6M Gas Plant Site Section & Fort Nelson Site Section
<b>July 23, 2018</b>		<b>Personnel Change</b>	ALL	ALL
			12. Site Specific	- NEB Pipelines Site Section - Dawson Site Section - Dawson Creek 05-35-79-14 W6M Gas Plant Site Section Dawson Creek 13-07-80-14 W6M Gas Plant Site Section

<b>ERP Revision Due Date: March 10, 2026</b>				
<b>Date of Revision</b>	<b>Date of Issue</b>	<b>Reason for Revision</b>	<b>Section</b>	<b>Affected Pages</b>
<b>February 27, 2018</b>		<b>Annual ERP Update</b>	12. Site Specific	<ul style="list-style-type: none"> <li>- Fort St. John / Buick / Flat Rock Site Section</li> <li>- Fort St. John / Buick / Flat Rock Map</li> <li>- Attachie East Site Section</li> <li style="padding-left: 100px;">Attachie West Site Section</li> </ul>
<b>October 26, 2017</b>		<b>Personnel Change</b>	Dawson	<ul style="list-style-type: none"> <li>- Dawson Site Section</li> <li>- Dawson Field Map</li> <li>- Dawson Sweet Tables</li> </ul>
<b>September 25, 2017</b>		<b>Addition of Dawson Creek 3 Gas Plant Plot Plan, Removed Attachie from Fort St. John / Buick / Flat Rock site section, Addition of Attachie East &amp; Attachie West Site Section</b>	ALL	- ALL

<b>ERP Revision Due Date: March 10, 2026</b>				
<b>Date of Revision</b>	<b>Date of Issue</b>	<b>Reason for Revision</b>	<b>Section</b>	<b>Affected Pages</b>
<b>June 22, 2017</b>		<b>Addition of two new sweet pipelines (Line #'s 23907 &amp; 24221)</b>		-
<b>April 5, 2017</b>		<b>Annual ERP Update</b>		



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## **SECTION 1. ACTIVATION NOTIFICATION**

### **1.1 ARC Notification Protocol**

The first warning of a potential emergency might come from outside sources such as members of the public, other industrial operators or government agencies. Regardless of where the notification originates, following through the Initial Notification Flowchart will prompt mobilization of personnel to fill the two primary response functions, the ARC Incident Commander and the designated Operations Sections Chief.

Notification to responders can be made via phone, email, fax or whatever method is appropriate at the time of an incident.

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**1.2 First On-Scene Actions**

<b>Evacuate</b>	<ul style="list-style-type: none"> <li>• Get to a safe area immediately.</li> <li>• Move upwind if release is downwind of you.</li> <li>• Move crosswind if a release is upwind from you.</li> <li>• Move to higher ground if possible.</li> </ul>
<b>Alarm</b>	<ul style="list-style-type: none"> <li>• Call for help (“Man Down”).</li> <li>• Sound bell, horn or whistle, or call by radio.</li> <li>• For medical emergencies, call 911.</li> </ul>
<b>Assess</b>	<ul style="list-style-type: none"> <li>• Take head count, locate any casualties. Consider all of the hazards.</li> <li>• Fill out information below to complete assessment.</li> </ul>
<b>Protect</b>	<ul style="list-style-type: none"> <li>• Put on breathing apparatus before attempting rescue.</li> </ul>
<b>Rescue</b>	<ul style="list-style-type: none"> <li>• Remove victim to a safe area.</li> </ul>
<b>First Aid</b>	<ul style="list-style-type: none"> <li>• Follow the standard first aid protocols at worksite. (CPR, etc.)</li> </ul>
<b>Medical Aid</b>	<ul style="list-style-type: none"> <li>• Arrange transport of casualties to medical aid.</li> <li>• Provide information to Emergency Medical Services (EMS).</li> </ul>

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### 1.3 A1 Initial Report Form

#### FIRST ON-SCENE ACTIONS

<b>Evacuate</b>	<input type="checkbox"/> Get to a safe area immediately. <input type="checkbox"/> Move upwind if release is downwind of you. <input type="checkbox"/> Move crosswind if a release is upwind from you. <input type="checkbox"/> Move to higher ground if possible.
<b>Alarm</b>	<input type="checkbox"/> Call for help ("Man Down"). <input type="checkbox"/> Sound bell, horn or whistle, or call by radio. <input type="checkbox"/> For medical emergencies, call 911.
<b>Assess</b>	<input type="checkbox"/> Take head count, locate any casualties. Consider all of the hazards. <input type="checkbox"/> Fill out information below to complete assessment.
<b>Protect</b>	<input type="checkbox"/> Put on breathing apparatus before attempting rescue.
<b>Rescue</b>	<input type="checkbox"/> Remove victim to a safe area.
<b>First Aid</b>	<input type="checkbox"/> Follow the standard first aid protocols at worksite. (CPR, etc.)
<b>Medical Aid</b>	<input type="checkbox"/> Arrange transport of casualties to medical aid. <input type="checkbox"/> Provide information to Emergency Medical Services (EMS).
<b>INCIDENT DETAILS</b> <i>To be completed by the person involved or notified</i>	
Report taken by	Date / Time
Name of person calling	Caller Telephone
Incident Location  (LSD / NTS)	
Event Summary	
<b>Agencies Notified</b> <input type="checkbox"/> Yes    Who? <input type="checkbox"/> No	
<b>Event Status</b> <input type="checkbox"/> Incident contained or controlled <input type="checkbox"/> Intermittent control possible <input type="checkbox"/> Imminent control possible <input type="checkbox"/> Incident is uncontrolled	
<b>Site Type</b> <input type="checkbox"/> Well <input type="checkbox"/> Pipeline <input type="checkbox"/> Tank Farm/Storage <input type="checkbox"/> Battery/Plant/Facility <input type="checkbox"/> Other _____	
<b>Incident Type</b> <input type="checkbox"/> Sour Gas Release <input type="checkbox"/> Sweet Gas Release <input type="checkbox"/> Pipeline Break <input type="checkbox"/> Security (theft, threat, terrorism) <input type="checkbox"/> Loss of Containment <input type="checkbox"/> Fire/Explosion <input type="checkbox"/> Worker Injury/Fatality <input type="checkbox"/> Vehicle/Transportation <input type="checkbox"/> Liquid Spill <input type="checkbox"/> Other _____	

IMPACTS	
<b>/PEOPLE</b>	<b>Public Health and Safety</b> <input type="checkbox"/> Could be jeopardized <input type="checkbox"/> Is jeopardized
	<b>Public Protection Measures Taken</b> <input type="checkbox"/> Notification <input type="checkbox"/> Evacuation <input type="checkbox"/> Shelter-in-place <input type="checkbox"/> Roadblocks
	<b>Worker Injuries</b> <input type="checkbox"/> First Aid <input type="checkbox"/> Hospitalized <input type="checkbox"/> Fatality <input type="checkbox"/> Other _____
	Distance to nearest surface development _____ km      Distance to nearest urban centre _____ km
	Details
<b>ENVIRONMENT</b>	<b>Release Impact</b> <input type="checkbox"/> On-Lease <input type="checkbox"/> Off-Lease      Product _____      Amount _____
	<b>Gas Readings</b> H <sub>2</sub> S _____      SO <sub>2</sub> _____      LEL _____      Other _____
	Distance to nearest watercourse _____ km      Weather Conditions <div style="text-align: right; margin-top: 10px;"> </div>
	Details
<b>ASSETS</b>	Details
<b>REPUTATION</b>	<b>Media Involvement?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Regulator Involvement?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>Public Affairs/Community Relations Issues?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No
	Details
<b>NOTES / INSTRUCTIONS PROVIDED:</b>	

**DISTRIBUTE THIS COMPLETED REPORT TO ALL KEY RESPONSE PERSONNEL**

*Note: Ensure the First On-Scene Actions have been completed before proceeding to the Five Step Initial Response Guide.*

**First On-Scene Actions**

- Evacuate
- Alarm
- Assess
- Protect
- Rescue
- First Aid
- Medical Aid
- Refer to A1 Initial Emergency Report Form


**Step 1 - Level of Emergency**

Determine Level of Emergency:

- Alert / Minor
- Level 1 Emergency
- Level 2 Emergency
- Level 3 Emergency

Use the following resources:

- Section 1.5 STEP 1: Incident Classification Matrices (AB & BC)
- The Emergency Assessment SmartPhone App. (Search H<sub>2</sub>Safety or Emergency Assessment in the App Store).



*Note: The BCER and the AER state that the licensee must use either the Incident Classification Matrix (BC) or the Assessment Matrix for Classifying Incidents (AB) to determine the Level of Emergency. If the incident overlaps more than one level, always choose the highest level.*

**Step 2 - Internal Notification**

- Follow the Internal Emergency Notification Flowchart to determine who needs to be notified.
- Relay the information in the completed **A1** Initial Emergency Report Form.
- Mobilize internal resources to the site, to the Incident Command Post (ICP), to the Corporate Emergency Operations Centre (CEOC), or place them on standby as required.

Use the following resources:

- Section 1.6 STEP 2: Initial Response (Internal Emergency Notification Flowchart)
- Section 10.1: Corporate Phone List
- Section 10.2: Field Phone List
- Section 5: FORMS (A1)

**Step 3 - External Notification**

- Follow the External Emergency Notification Flowchart to determine which external agencies need to be notified.

- 911 (police, fire, ambulance)
- Health Authority / Health Services
- Regulatory agency to confirm the Level of Emergency
- Air Monitoring (at all levels of emergency)
- Local Authority (Cities, Towns, Villages, Counties, M.D.s, R.D.s, R.M.s, Special Areas, Reserves, etc.)

Use the following resources:

- Section 1.8: Provincial Notification Matrices (AB & BC)
- Section 1.9: Government Call Down Procedures
- Section 12: ERP Map

**Step 4 - Incident Briefing**

Complete an **ICS 201** Incident Briefing Form:

- Define incident details and an operational period (page 1).
  - Establish the On-Site Command Post (OSCP) and ICP.
- Document current incident objectives, strategies and tactics (page 2).
- Prioritize objectives (page 2).
- Define initial Incident Command Structure (page 3).
- Identify required resources and when they'll be available (page 4).

Use the following resources:

- Section 5: Forms (ICS 201)

**Step 5 - Initiate Public Safety**

**Public Protection Measures**

- Determine the hazard area; start with Emergency Planning Zone (EPZ) as default.
- Identify the affected surface developments and area users. (Houses, businesses, guides/outfitters, trappers, schools, other oil and gas operators, etc.)
- Determine the appropriate public protection measure for the affected surface developments and area users. (Evacuation, shelter-in-place and/or ignition)
- Coordinate evacuation outside of the EPZ with the local authority, if required.
- Utilize broadcast media to notify public outside of the EPZ in immediate evacuation situations.

Use the following resources:

- Section 7: Public Safety Guidelines
- Section 12: ERP Map / EPZ calculation tables
- Section 2.10 On-Site Group Supervisor

**Rovers**

- Dispatch Rovers to patrol the EPZ.
- Follow safety procedures and have appropriate PPE.
- Search the EPZ for transients.
- Assist residences that require evacuation assistance.
- Investigate surface developments that are identified as vacant or those who were unable to contact.
- Post notices on all outside doors of empty surface developments, vehicles, etc.
- Record all contacts, communications and monitoring readings using the following forms: **ICS 214, A5, B3 & B5.**
- Monitor and record air quality readings using the following forms: **ICS 214 & A5.** (Smoke, plumes, wind, etc.)
- Provide status updates to the Public Safety Group Supervisor at established intervals.

Use the following resources:

- Section 12: ERP MAP
- Section 2.18: Rovers
- Section 5: FORMS

**Telephoners**

- Establish a Telephoner Team to notify residents to evacuate or shelter-in-place as required.
- Notify special needs residents at a Level 1 Emergency and provide the option to evacuate voluntarily.
- Follow-up phone calls to address resident inquiries.
- Record all phone calls and communications using the following forms: **ICS 214, B3, B6, B7, & B8.**
- Regularly provide status updates to the Public Safety Group Supervisor.

Use the following resources:

- Section 12: ERP MAP
- Section 2.19: Telephoners
- Section 5: FORMS

**Roadblocks**

- Follow safety procedures to safely establish roadblocks wherever a road intersects with the EPZ and advise vehicles to reroute.
- Record all vehicle encounters and air monitoring readings. Complete the following forms: **ICS 214, A5, B3 & B4.**
- Gain permission from the Public Safety Group Supervisor for response vehicles to enter the hazard area.
- Provide status updates to the Public Safety Group Supervisor at established intervals.

Use the following resources:

- Section 12: ERP MAP
- Section 2.17: Roadblocks
- Section 5: FORMS

**Air Monitors**

- Dispatch Air Monitoring personnel to the nearest residence / public facility downwind of the incident.
- Follow safety procedures and have appropriate PPE.
- Monitor and record air quality readings using the following forms: **ICS 214 & A5.** (Smoke, plumes, wind, etc.)
- Provide status updates to the Public Safety Group Supervisor at established intervals.

Use the following resources:

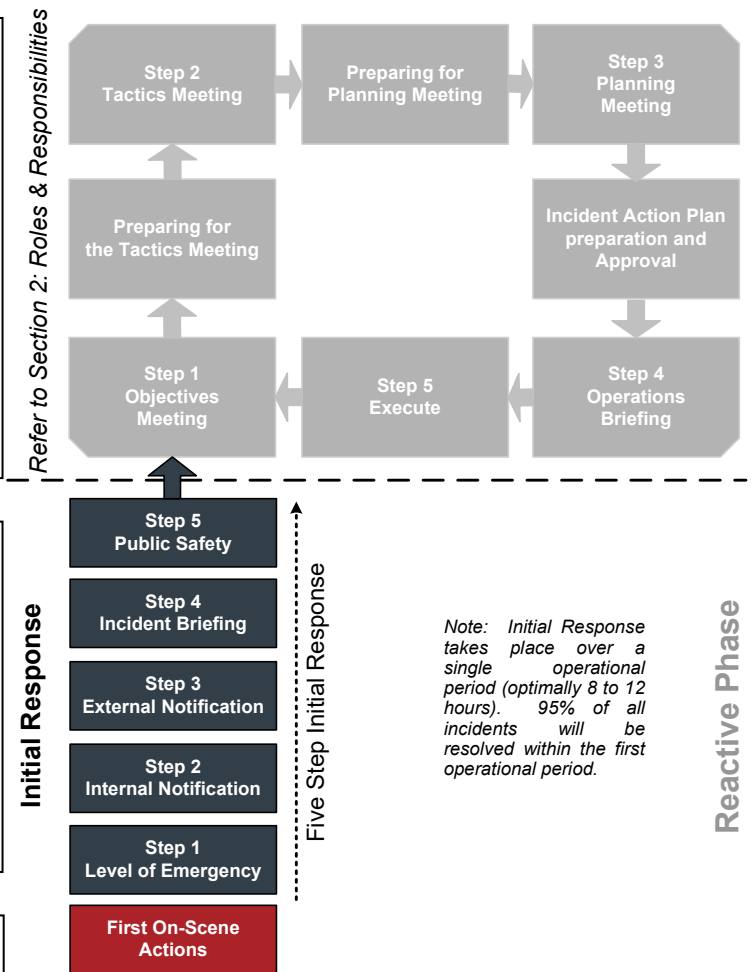
- Section 2.15: Air Monitoring
- Section 7.8: Air Quality Monitoring
- Section 5: FORMS

**Reception Centre Rep**

- If residents are evacuated, dispatch a Reception Centre Representative to the reception centre location.
- Meet and register evacuated residents.
- Record contact information for those who choose to stay elsewhere. Complete the following forms: **ICS 214, B1, B2 & C2.**
- Regularly provide status updates to the Public Safety Group Supervisor (those who have arrived and those who have not yet arrived).

Use the following resources:

- Section 2.16: Reception Centre Staff
- Section 5: FORMS



**1.4 Five Step Initial Response Guide**



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## 1.5 STEP 1: Incident Classification Matrices

### Alberta



### Assessment Matrix for Classifying Incidents

Follow these 3 steps to determine the Level of Emergency

Step 1		Table 1 – Consequence of Incident
Rank	Category	Example of Consequence in Category
1	Minor	<input type="checkbox"/> No worker injuries. <input type="checkbox"/> Nil or low media interest. <input type="checkbox"/> Liquid release contained on lease. <input type="checkbox"/> Gas release impact on lease only.
2	Moderate	<input type="checkbox"/> First Aid treatment required for on-site worker(s). <input type="checkbox"/> Local and possible regional media interest. <input type="checkbox"/> Liquid release not contained on lease. <input type="checkbox"/> Gas release impact has potential to extend beyond site.
3	Major	<input type="checkbox"/> Worker(s) requires hospitalization. <input type="checkbox"/> Regional and national media interest. <input type="checkbox"/> Liquid release extends beyond lease – not contained. <input type="checkbox"/> Gas release impact extends beyond lease – public health / safety could be jeopardized.
4	Catastrophic	<input type="checkbox"/> Fatality. <input type="checkbox"/> National and international media interest. <input type="checkbox"/> Liquid release off lease not contained – potential for, or is, affecting water or sensitive terrain. <input type="checkbox"/> Gas release impact extends beyond lease – public health / safety jeopardized.

Under “Example of Consequence in Category” column, select the box with the worst consequence that currently fits the incident. For example, if there is a fatality on site you must select the “Catastrophic” category which would give you a “Rank” of 4.

Step 2		Table 2 – Likelihood of Incident Escalating *
Rank	Descriptor	Example of Consequence in Category
1	Unlikely	The incident is contained or controlled, and is unlikely to 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 duty holder is probable. It is unlikely that the incident will escalate.
3	Likely	Imminent or intermittent control of the incident is possible. The duty holder has the capability of using internal and 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 duty holder will be able to bring the hazard under control in the near term. The duty holder 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?

#### Sum the “Rank” from Table 1 and Table 2 to obtain the Risk Level and the Incident Classification

Combine the two rankings from the above tables to obtain the “Risk Level” and “Level of Emergency”.

For example, if the “Consequence Rank” is 4 and the “Likelihood Rank” is 1 then the combined score or “Risk Level” is 5.

A “Risk Level” of 5 would be classified as a Level 1 Emergency.

Refer to the appropriate column in Table 4 (reverse of this page) for responses to the Level of Emergency that has been determined.

Note:

- In Alberta, the duty holder **must** use the Assessment Matrix for Classifying Incidents to classify an incident.
- In Alberta, the duty holder **must** contact the Alberta Energy Regulator (AER) after it has communicated and activated internal response resources to confirm the level of emergency and convey the specifics of the incident.
- After contacting the Alberta Energy Regulator (AER), the duty holder in Alberta, must notify the local authority, the RCMP/police and the local health authority if the hazardous release goes off lease and has the potential to impact the public or if the duty holder has contacted members of the public or the media.
- Once the situation improves, the duty holder must make the decision to downgrade or stand down an emergency in consultation with the government regulator.

Step 3	Table 3 – Incident Classification
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

The H<sub>2</sub>Safety Services Inc. Emergency Assessment Smart Phone app is the preferred method for determining the level of emergency. Search H<sub>2</sub>Safety or Emergency Assessment in the Apple or Android app store.



Step 4		Table 4 – Incident Response – Incident Classification			
Responses	Alert	Level – 1 Emergency	Level – 2 Emergency	Level – 3 Emergency	
<b>Communications</b>					
<b>Internal</b>	Discretionary, depending on the duty holder policy.	Notification of off-site management.	Notification of off-site management.	Notification of off-site management.	
<b>Public</b>	Courtesy, at duty holder's discretion.	Mandatory for individuals in the EPZ who have requested notification.	Planned and instructive in accordance with the specific ERP.	Planned and instructive in accordance with the specific ERP.	
<b>Media</b>	Reactive	Reactive, as required.	Proactive media management to local or regional interest.	Proactive media management to national interest.	
<b>Government</b>	Reactive. Notify AER if public or media is contacted.	Notify local AER field centre. Call local authority and health authority if public or media is contacted.	Notify local AER field centre, local authority & health authority.	Notify local AER field centre, local authority & health authority.	
<b>Actions</b>					
<b>Internal</b>	On site, as required by duty holder.	On site, as required by the duty holder. Initial response is in accordance with the AER-approved ERP or corporate ERP.	Predetermined public safety actions are under way. Corporate management team alerted and may be engaged to support on-scene responders.	Full implementation of incident command system.	
<b>External</b>	On site, as required by the duty holder.	On site, as required by the duty holder.	Potential for multiagency response (i.e., operator, municipal, provincial, federal).	Immediate multiagency response (i.e., operator, municipal, provincial, federal).	
<b>Resources</b>					
<b>Internal</b>	Immediate and local. No additional personnel required.	Establish what resources are required.	Limited supplemental resources or personnel are required.	Significant resources are required.	
<b>External</b>	None.	Begin to establish resources that may be required.	Possible assistance from government agencies and external support services.	Assistance from government agencies and external support services are required.	
Responses	Alert	Level – 1 Emergency	Level – 2 Emergency	Level – 3 Emergency	
<b>Definition</b>	An incident that can be handled on site by the duty holder through normal operating procedures and is deemed a very low risk to the public.	The incident presents no danger outside the duty holder's property or threat to the public and has a minimal environmental impact. Duty-holder personnel can manage the incident themselves with immediate control of the hazard. There is little or no media interest.	The incident presents no immediate danger outside the duty holder's property but could potentially extend beyond the duty holder's property. Outside agencies must be notified. Imminent control of the hazard is probable, but there is a moderate threat to the public or the environment or both. There may be local and regional media interest in the event.	The safety of the public is in jeopardy from a major uncontrolled hazard. There are likely significant and ongoing environmental impacts. Immediate multiagency municipal and provincial government involvement is required.	
<b>Responses</b>	Investigate and escalate level if required initiate control procedures	In addition to Alert level responses: <ul style="list-style-type: none"> <li>- Isolate the hazard area</li> <li>- Activate the ERP</li> <li>- Conduct public safety actions for special needs residents</li> <li>- If special needs residents decide to voluntarily evacuate, activate a reception centre</li> <li>- Notify appropriate internal personnel and government agencies</li> <li>- Have air monitoring conducted at the site if necessary</li> </ul>	In addition to Level-1 responses: <ul style="list-style-type: none"> <li>- Fully activate emergency response procedures with command centres established or on standby</li> <li>- Inform government agencies of situation and incorporate support (government regulator, local authority, health authority, RCMP)</li> <li>- Identify the hazard and emergency operating areas and take any required action to protect the public through shelter or evacuation.</li> <li>- Prepare ignition team (butane gas related)</li> <li>- Respond to media, company and public questions</li> <li>- Prepare for the potential of the situation to escalate to a Level-3</li> <li>- Record activities and keep government and municipal agencies advised, if applicable</li> <li>- Establish roadblocks</li> <li>- Activate the EOC, if it has not already been established at a Level-1 emergency</li> </ul>	In addition to Level-2 responses: <ul style="list-style-type: none"> <li>- Emergency response plan and command centres are fully activated</li> <li>- Company Management has been notified and all internal support positions staffed</li> <li>- Continue to monitor and adjust hazard and emergency operating areas (maintain security)</li> <li>- Mobilize additional people and resources</li> <li>- Ignite a gas release if ignition criteria are met</li> <li>- Continue to advise company and government</li> <li>- Activate the reception centre, if it has not already been established at a Level-1 or Level-2 emergency</li> <li>- Continue to maintain the EOC, once it is activated</li> </ul>	

## British Columbia



### Incident Classification Matrix

**Instructions:** Start at the top and continue down until you check off any one box in both consequence and probability to determine the incident classification. *This matrix is required as an attachment upon submission of an incident through the [Online Minor Incident Reporting System](#).*

**Table 1. Consequence Ranking**

Rank	Consequence (any one of the following)
4	<input type="checkbox"/> Major on site equipment or infrastructure loss <input type="checkbox"/> Major act of violence, sabotage, or terrorism which impacts permit holder assets <input type="checkbox"/> Reportable liquid spill beyond site, uncontained and affecting environment <input type="checkbox"/> Gas release beyond site affecting public safety
3	<input type="checkbox"/> Threats of violence, sabotage, or terrorism <input type="checkbox"/> Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property <input type="checkbox"/> HAZMAT worker exposure exceeding allowable <input type="checkbox"/> Major on site equipment failure
2	<input type="checkbox"/> Major on site equipment damage <input type="checkbox"/> A security breach that has potential to impact people, property or the environment <input type="checkbox"/> Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property
1	<input type="checkbox"/> Moderate on site equipment damage <input type="checkbox"/> A security breach that impacts oil and gas assets <input type="checkbox"/> Reportable liquid spill or gas release on location <input type="checkbox"/> **Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations
0	<input type="checkbox"/> No consequential impacts

\*\* For this consequence criteria, a probability score of 2 or higher must be used.

**Table 2. Probability Ranking**

Rank	Probability (any one of the following)
4	<input type="checkbox"/> Uncontrolled, with control unlikely in near term
3	<input type="checkbox"/> Escalation possible; under or imminent control
2	<input type="checkbox"/> Escalation unlikely; controlled or likely imminent control
1	<input type="checkbox"/> Escalation highly unlikely; controlled or imminent control
0	<input type="checkbox"/> Will not escalate; no hazard; no monitoring required

**Table 3. Incident Risk Score and Classification**

Consequence \_\_\_\_\_ + Probability \_\_\_\_\_ = Risk Score \_\_\_\_\_ (this must be completed)

Risk Score	Assessment Result
Minor (1-2)	<b>Notification Only;</b> permit holder must notify the BCER online within 24 hours using the <a href="https://bc-er.ca/node/11188">Form A: Minor Incident Notification Form (https://bc-er.ca/node/11188)</a> . In addition to Form A, spills must also be reported to EMCR.
Moderate (3-4)	<b>Level-1 Emergency;</b> immediate notification (call EMCR)
Major (5-6)	<b>Level-2 Emergency;</b> immediate notification (call EMCR)
Serious (7-8)	<b>Level-3 Emergency;</b> immediate notification (call EMCR)



The H<sub>2</sub>Safety Services Inc. Emergency Assessment Smart Phone app is the preferred method for determining the level of emergency. Search H<sub>2</sub>Safety or Emergency Assessment in the Apple or Android app store.

### Spill Reporting Criteria

Where the permit holder holds or maintains rights, the permit holder must report to the BC Energy Regulator, all spills of materials as identified below:

- A spill or release of any amount of materials which impacts water ways
- Hydrocarbons; 100 litres where the hydrocarbon contains no toxic materials and does not impact water ways
- Produced/salt water; 200 litres where the fluid contains no toxic materials
- Fresh water; 10,000 litres
- Drilling or invert mud; 100 litres
- Sour Natural gas; 10 kg or 15 m<sup>3</sup> by volume where operating pressure is >100 PSI
- Condensate; 100 litres
- Any fluid including hydrocarbons, drilling fluids, invert mud, effluent, emulsions, etc. which contain toxic substances; 25 litres

Please refer to the BC Environmental Management Act; [Spill Reporting Regulation](#), Schedule "Reporting Levels for Certain Substances" for determining reportable spillage amounts of other substances:

### Other Reportable Incidents

The BCERs Incident Risk Classification Matrix is designed to assist permit holders in determining which incidents must be reported. However, some incidents, which do occur, may not meet the criteria outlined in the Incident Classification Matrix but still require notification to the BCER as a minor notification. These include the following:

- Spills or release of hazardous substances which are not provincially regulated, such as radioactive substances;
- Major damage to oil and gas roads or road structures;
- Drilling kicks when any one of the following occur:
  - pit gain of 3 m<sup>3</sup> or greater
  - casing pressure 85% of MA
  - 50% out of hole when kicked
  - well taking fluid (LC)
  - associated spill
  - general situation deterioration, i.e. leaks, equipment failure, unable to circulate, etc
- All pipeline incidents, such as spills during construction phase, exposed pipe caused by flooding, pipeline over pressure, failure (without release) of any pressure control or ESD device during operations
- Security related issues which are relatively minor; such information may be required for tracking and monitoring purposes only

### Sour Gas

When a sour gas product is released, any measurement of 10 ppm or greater measured at 1 metre from the source of the leak requires reporting as an incident.

### Releases Near Airports

If the emergency involves the release of flammable vapour at the site of an oil and gas activity that is located within 2 kilometres of an airport, immediately notify the operator of the airport.

BCER Incident Classification Matrix		Probability					
		4	3	2	1	0	
		Uncontrolled, with control unlikely in near term	Escalation possible; under or imminent control	Escalation unlikely; controlled or likely imminent control	Escalation highly unlikely; controlled or imminent control	Will not escalate; no hazard; no monitoring required	
Consequence	4	<input type="checkbox"/> Major on site equipment or infrastructure loss <input type="checkbox"/> Major act of violence, sabotage, or terrorism which impacts permit holder assets <input type="checkbox"/> Reportable liquid spill beyond site, uncontained and affecting environment <input type="checkbox"/> Gas release beyond site affecting public safety	Level 3	Level 3	Level 2	Level 2	Level 1
	3	<input type="checkbox"/> Threats of violence, sabotage, or terrorism <input type="checkbox"/> Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property <input type="checkbox"/> HAZMAT worker exposure exceeding allowable <input type="checkbox"/> Major on site equipment failure	Level 3	Level 2	Level 2	Level 1	Level 1
	2	<input type="checkbox"/> Major on site equipment damage <input type="checkbox"/> A security breach that has potential to impact people, property or the environment <input type="checkbox"/> Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property	Level 2	Level 2	Level 1	Level 1	Minor Notification Form
	1	<input type="checkbox"/> Moderate on site equipment damage <input type="checkbox"/> A security breach that impacts oil and gas assets <input type="checkbox"/> Reportable liquid spill or gas release on location <input type="checkbox"/> ** Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations	Level 2	Level 1	Level 1	Minor Notification Form	Minor Notification Form
	0	<input type="checkbox"/> No consequential impacts	Level 1	Level 1	Minor Notification Form	Minor Notification Form	No Notification Required
<b>Minor Incidents</b> <ul style="list-style-type: none"> <li>The permit holder must report the minor incident to the BCER within 24 hours by electronic submission through the Online Minor Incident Reporting System, opened through KERMIT.</li> <li>If the minor incident involves a leak or a spill, EMCR must also be called at 1-800-663-3456 so that a Dangerous Goods Incident Report (DGIR) number may be issued.</li> </ul>		<b>Escalating, Downgrading or Standing-Down of Emergency</b> <ul style="list-style-type: none"> <li>The BCER must be notified as soon as possible of any change to the emergency status.</li> <li>The permit holder must consult with the BCER for escalating, downgrading or the standing-down of an incident.</li> </ul>					
<b>Level 1, 2, or 3 Emergency</b> <ul style="list-style-type: none"> <li>If the incident receives a score of Level 1, 2, or 3, it must be <b>reported immediately (within 1 hour)</b> to the BCERs incident reporting line (EMCR 1-800-663-3456).</li> </ul>		<b>Permit Holders Post-Incident Report</b> The <a href="https://bc-er.ca/node/5771">Form D: Permit Holder Post Incident Report Form</a> ( <a href="https://bc-er.ca/node/5771">https://bc-er.ca/node/5771</a> ) must be submitted by the permit holder to the BCER within 60 days for: <ol style="list-style-type: none"> <li>Any Level 1, 2 or 3 emergency incident: complete Part A-P; or</li> <li>Any pipeline incident (including minor notification): complete Part A-U; or</li> <li>Upon request by the BCER</li> </ol> This report and accompanying documentation can be found on the BCERs website under Emergency Response and Planning and must be emailed electronically to <a href="mailto:EMP@bc-er.ca">EMP@bc-er.ca</a> .					

\*\* For this consequence criteria, a probability score of 2 or higher must be used.



**Oil and Gas Road Closures**

In emergency situations, permit holders must phone the BCERs 24 hour Incident Reporting line to notify the BCER of needed emergency oil and gas road closures.

**Special Sour Wells**

During an emergency involving a special sour well, a permit holder must do all of the following:

1. Ensure that a person certified in accordance with subsection (4) is available and equipped to ignite the well within the time limits set out in the plan in respect of which the emergency planning zone was determined;
2. Ensure that a dual ignition system is on site during:
  - a. Drilling or completion operations, or
  - b. Workover operations being carried out at any time when the wellhead is not in place;
3. Ensure that a person authorized to ignite flammable liquids or ignitable vapours released from the well is on site.

For the purposes of subsection (2), a sour well is special if either of the following applies:

1. The hydrogen sulphide release rate from the well is equal to or greater than 2.0 m<sup>3</sup>/s;
2. The hydrogen sulphide release rate from the well is less than 2.0 m<sup>3</sup>/s but greater than 0.5 m<sup>3</sup>/s and the well is located within a distance that is twice the hazard planning distance from the corporate boundaries of an urban centre.

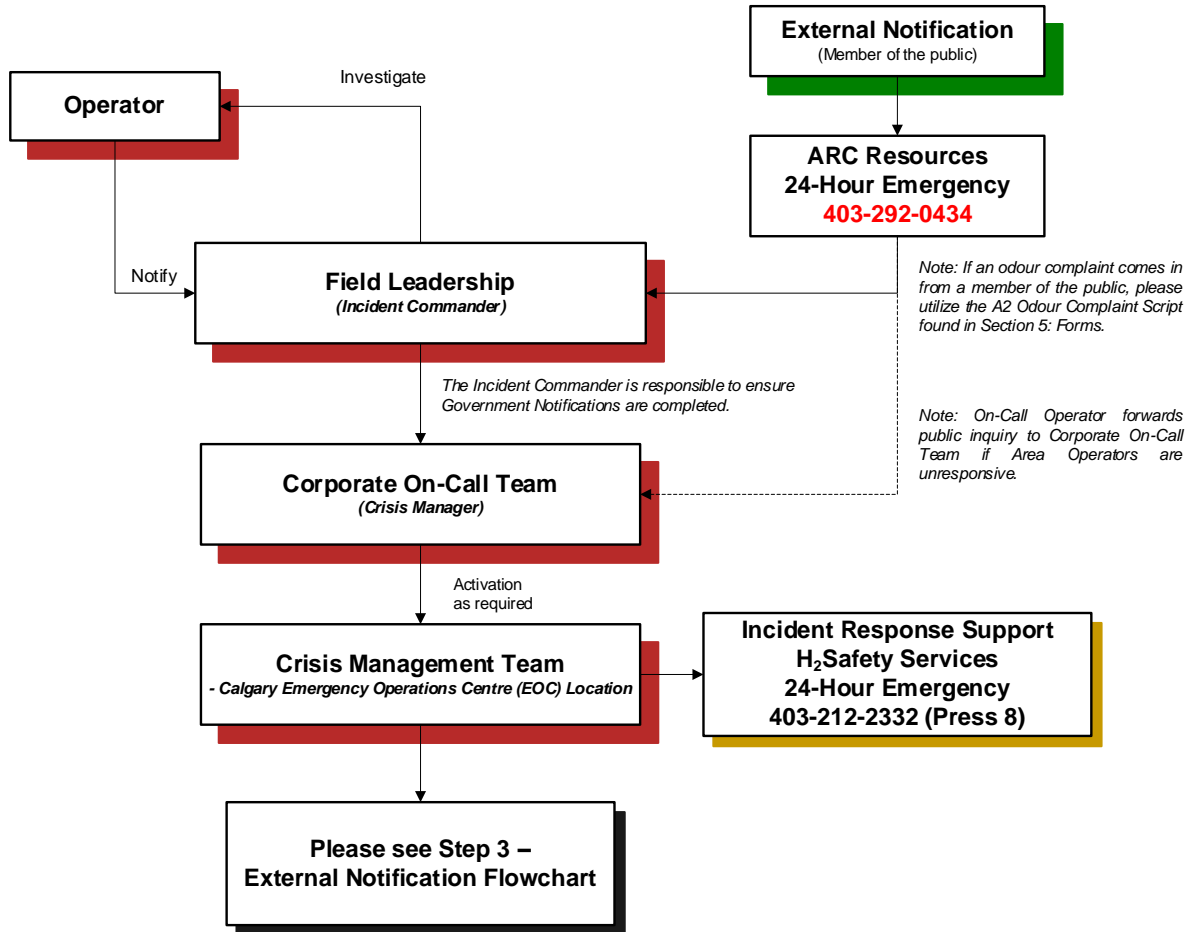
For the purposes of subsection (2) (a), the person must have vapour plume ignition certificate issued by a training association.

**Note:** Refer to the *Petroleum Industry Spill / Release Reporting Requirements in Section 4: Emergency Response Procedures* for further spill reporting criteria and the *Government Notification Matrix in Section 5: External Agencies* for other reportable incidents.

## 1.6 STEP 2: Internal Emergency Notification Flowcharts

### Base Operations

Communications are to be made by cell phone or radio.

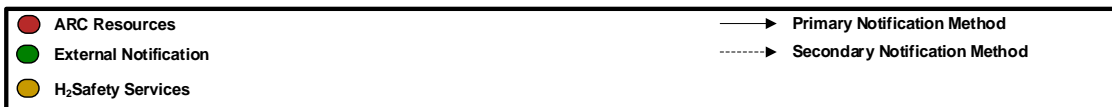


#### Investigation of Complaints

Company representatives will be dispatched to investigate complaints received by outside sources (member of the public, 3<sup>rd</sup> party company etc.). If H<sub>2</sub>S is suspected, personnel should be dispatched in teams of two. Any company representative who is to investigate a complaint must be trained and prepared to assume the role of Incident Commander if any of the emergency conditions are met.

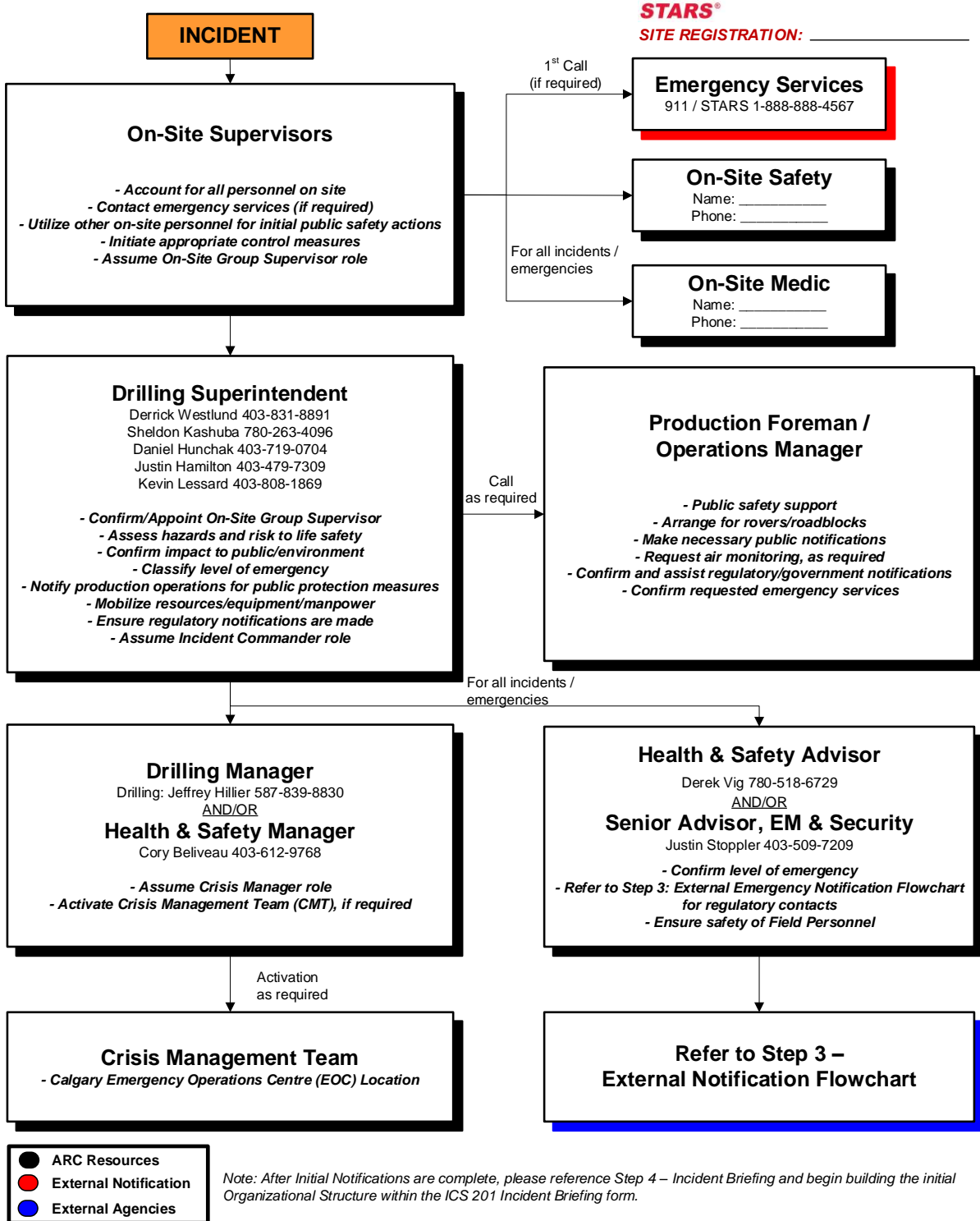
Once a complaint has been investigated, the company must report the results of the investigation to the outside source who alerted the company about the situation.

*Note: After Initial Notifications are complete, please reference Step 4 – Incident Briefing and begin building the initial Organizational Structure (pg 3) within the ICS 201 Incident Briefing form.*



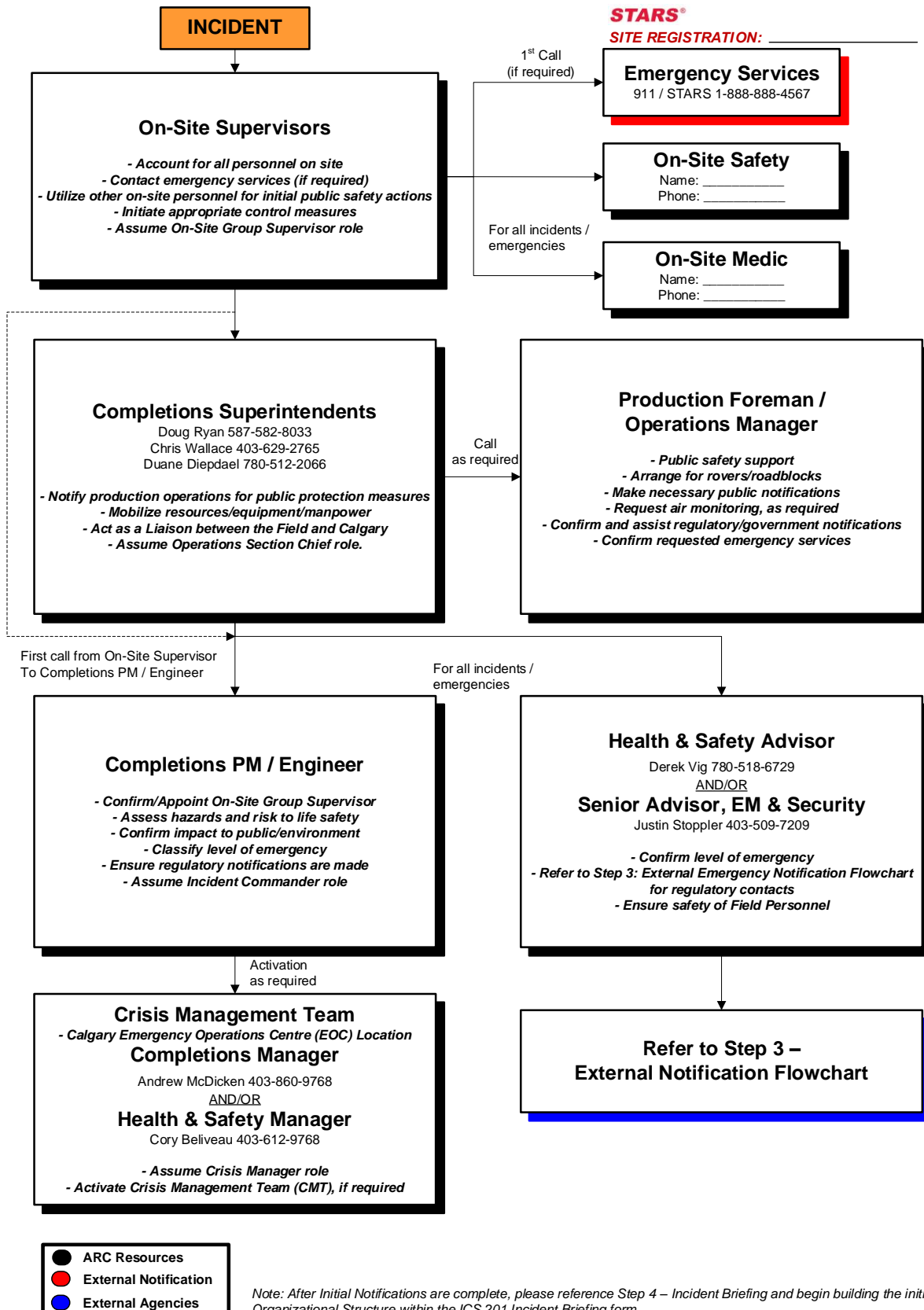
**Drilling & Completions Internal Notification Flowchart**

**Drilling Emergency Notification Flowchart**

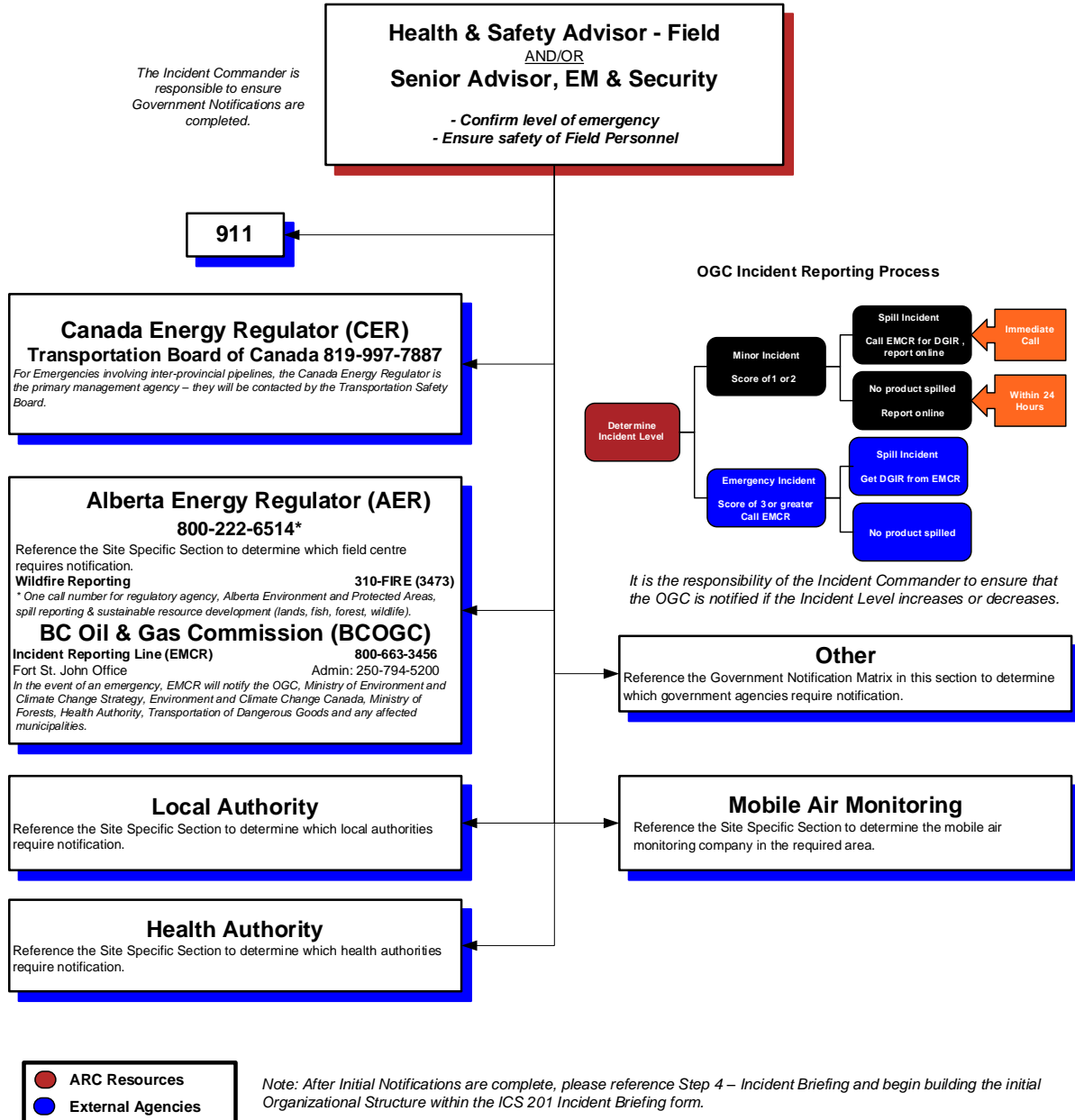




**Completions Emergency Notification Flowchart**



### 1.7 STEP 3: External Emergency Notification Flowchart



# Alberta

## Notification Requirements for Key Government Agencies

Incident Type	Agency or Resource										Supporting Agencies & Other Government Contacts									
	Local Fire Department	RCMP - Royal Canadian Mounted Police	AER - Alberta Energy Regulator	Local Authorities	AHS - Alberta Health Services	AEMA - Alberta Emergency Management Agency	CER - Canada Energy Regulator	OHS - Occupational Health & Safety	ABSA - Alberta Boilers Safety Association	Alberta Safety Services - Electrical Branch	Workers' Compensation Board	ECCC - Environment & Climate Change Canada	CANUTEC	Emergency Response Assistance Canada	DFO - Department of Fisheries and Oceans	IOGC - Indian Oil & Gas Canada	Local AER Field Centre	Emergency Response Services	Provincial Emergency Coordination Centre (PECC)	Initial SitRep
Sour Gas / HVP Release (Uncontrolled)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Chlorine Gas Release	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sweet Combustible Gas Release	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spill / Transportation Incident (Unrefined Products)**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Spill / Rail or Trucking Incident (Refined Products)**	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Serious Injury or Death (Including Vehicle Accidents)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Missing Person	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fire / Explosion / B.L.E.V.E.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pressure Vessel or Piping Incident	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Electrical Incident	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Motor Vehicle Accident (No Injuries)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Security Incident	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
On-Site Incident Involving E2 Regulated Substance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

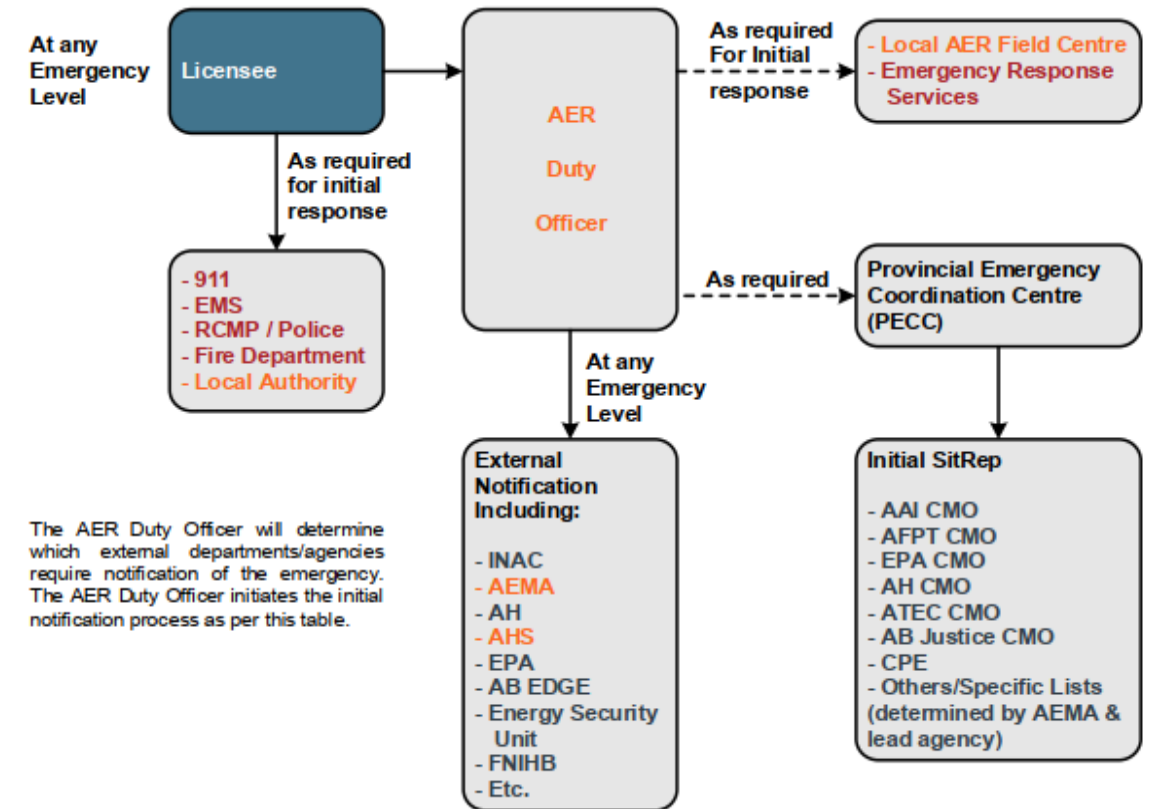
✓ Compulsory contact

\* CER is a compulsory contact only for emergencies and near-misses involving CER regulated sites and inter-provincial pipelines.

\*\* Refer to the Alberta Petroleum Industry Release Reporting Requirements chart included in the ERP.

- Contact the local fire department if there is potential for secondary fires resulting from the ignition of spilled liquids or escaping gases.
  - Contact Alberta Health Services (AHS) if the incident has the potential to impact public health (e.g., contaminated drinking water).
  - Contact Occupational Health & Safety and report when: an injury or accident results in death; an injury results in a worker being admitted to a hospital; a potentially serious incident (PSI) where a reasonable and informed person would determine that under slightly different circumstances, there would be a high likelihood for a serious injury to a person; there is an unplanned or uncontrolled explosion, fire or flood that causes a serious injury or that has the potential to cause a serious injury; there is a collapse or upset of a crane derrick or hoist or; there is a collapse or failure of any component of a building or structure necessary for its structural integrity.
  - Alberta EDGE (Environmental and Dangerous Goods Emergencies) is the first call for all transportation related spills/incidents. If spill is contained on-site, Alberta EDGE will contact the AER. If the spill moves off-site or into a waterbody, Alberta EDGE will contact Alberta Environment and Protected Areas (EPA) and/or Environment & Climate Change Canada (ECCC). Contact Alberta EDGE or the RCMP if an oil & gas emergency affects a highway designated by 1, 2, or 3 digits (e.g., Hwy 2, Hwy 47, Hwy 837). Alberta EDGE and RCMP have the authority to shut down highways.
  - Contact the Workers' Compensation Board within 72 hours of being notified of an injury/illness that results in or will likely result in: Lost time or the need to temporarily or permanently modify work beyond the date of accident, death or permanent disability, a disabling or potentially disabling condition caused by occupational exposure or activity, the need for medical treatment beyond first aid, or medical aid expenses.
  - ECCC will be notified by AER as required for incidents involving regulated substances at E2 registered facilities, incidents involving PCBs or any spills on first nations lands, in National Parks, into river or lake systems containing fish, or onto railway right-of-way.
  - Contact the Canadian Transport Emergency Centre (CANUTEC) when a highway is shut down, there is an injury or fatality, there is lost, stolen or unlawfully interfered with dangerous goods (except Class 9), the incident involves infectious substances, there is an accidental release from a cylinder that has suffered a catastrophic failure, where the shipping documents display CANUTEC's telephone number, where a railway vehicle, ship, aircraft aerodrome or an air cargo facility is involved, when a facility is closed, evacuation/shelter-in-place procedures take place as a result of the transportation of dangerous goods, containment has been damaged and integrity compromised, or the centre/stub sill of a tank car is broken or there is a crack in the metal  $\geq 15\text{cm}(6")$ . CANUTEC can also provide guidance on handling procedures for toxic material releases.
  - Emergency Response Assistance Canada will only respond to incidents that involve the following UN numbers: 1075 (Propane, Butane, etc.) and 1010 (Butadiene); with a tank storage capacity of 450 litres or greater. Advisory assistance will be provided to incidents involving tank storage capacities less than 450 litres.
  - Contact the Department of Fisheries and Oceans Canada to report an oil spill that occurs in or around fresh and marine waters.
  - Indian Oil & Gas (IOGC), the First Nation and the provincial authority must be notified immediately in the event of any health or environment-threatening emergency or off-lease spills on First Nation reserve lands. On-lease spills greater than  $1\text{m}^3$  must be reported to IOGC immediately.
- In the event of a fatality, request that the RCMP contact the Medical Examiner. The RCMP must be notified in the case of lost, stolen or misplaced explosives, radioactive materials or infectious substances.
  - Alberta Energy Regulator is designated as the lead agency (single window approach) to implement the Gov't of Alberta Emergency Response Support Plan for a Petroleum Industry Incident.
  - Local Authorities include: cities, towns, villages, counties, municipal districts, improvement districts, special areas, Métis settlements, and first nations reserves.
  - Request that Alberta Emergency Management Agency identify the affected local authorities and implement Emergency Services. The Emergency Management Field Officer may provide assistance in contacting some or all of the local authorities.
  - Contact the Canada Energy Regulator (via the Transportation Safety Board of Canada) for emergencies and near-misses involving CER regulated sites and inter-provincial pipelines.
  - Occupational Health and Safety - see c) for further details on this agency's role.

March 2025



# 1.8 Alberta Notification Matrix

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# British Columbia

## Notification Requirements for Key Government Agencies

Incident Type	Initial Responders								Lead Agencies				Supporting Agencies & Other Government Contacts						
	Agency of Resource	Ambulance Services	Local Fire Department	RCMP - Royal Canadian Mounted Police 1	EMCR - Ministry of Emergency Management & Climate Readiness 2	BCER - BC Energy Regulator 3	Local Authorities 4	Northern Health Authority	CER - Canada Energy Regulator 5	WorkSafe BC 6	MOE - Ministry of Environment 7	Technical Safety BC 8	ECCC - Environment & Climate Change Canada	MOTT - Ministry of Transportation & Transit	PSPC - Public Services and Procurement Canada	CANUTEC	ERAC - Emergency Response Assistance Canada	DFO - Department of Fisheries and Oceans	IOGC - Indian Oil & Gas Canada
Sour Gas / HVP Release (Uncontrolled)	a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	c	d						g
Chlorine Gas Release	a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	c	d	e					g
Sweet Combustible Gas Release	a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	c	d						g
Spills / Transportation Incidents (Unrefined Products)**	a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	c	d	e					g
Spills / Rail or Trucking Incidents (Refined Products)**	a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	c	d	e	f				g
Serious Injury or Death as a Result of Oil & Gas Activity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
Missing Person		✓					✓												
Fire / Explosion / B.L.E.V.E.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	c	d						g
Pressure Vessel or Piping Incident		✓			✓		✓		✓	✓									
Electrical Incident		✓			✓		✓		✓	✓									
Motor Vehicle Accident (Serious Injury or Death)	✓		✓					✓						d					
Motor Vehicle Accident (No injuries)		✓																	
Security Incidents																			
On - Site Incident Involving E2 Regulated Substance	a	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								g

Phone numbers for the agencies listed above are located in the Area Specific Information March 2025

✓ Compulsory contact

\* CER is a compulsory contact only for emergencies and near-misses involving CER regulated sites and inter-provincial pipelines.

\*\* Refer to the British Columbia Petroleum Release Reporting Requirements chart included in the ERP.

\_ Technical Safety BC only requires reporting of rail related accidents, incidents and spills. No other transportation related emergencies need to be reported.

EMCR to notify the BCER for all incident types including fire/explosion incidents, pressure vessel incidents, spills and releases, or electrical incidents occurring at facilities approved by the BCER.

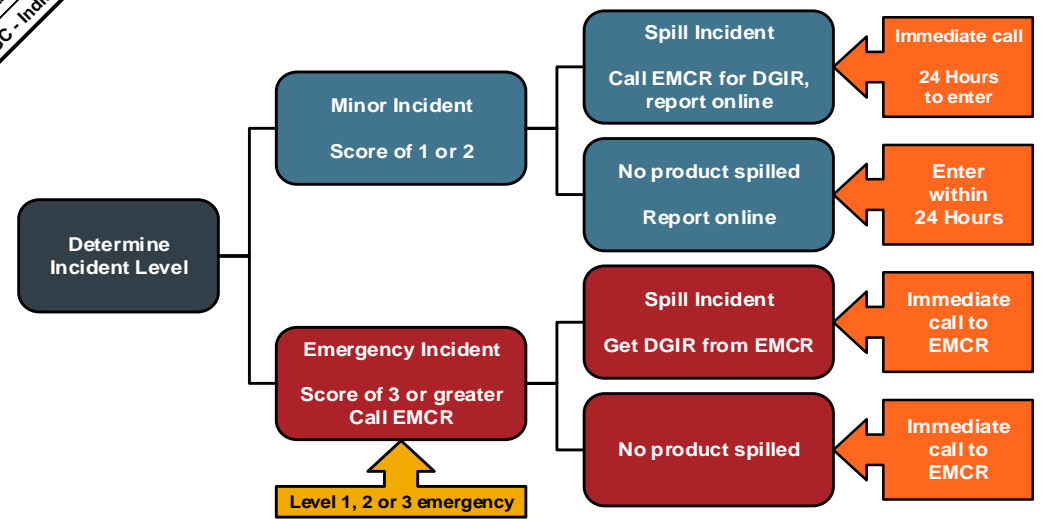
EMCR to notify the Ministry of Environment and Climate Change Strategy for any incident which affects the water, air, or land environment, or any white or green space in the province.

EMCR to notify Environment & Climate Change Canada (ECCC) of all oil and gas incidents in time, but immediately as required for incidents involving regulated substances at E2 registered facilities, incidents involving PCBs or any spills on First Nations lands, in National Parks, into river or lake systems containing fish, or onto railway right-of-way.

EMCR to notify Ministry of Forests, Northern Health Authority, affected municipalities and all other level of government and industry; depending on the ECC code level in their SOPs.

- a) Contact the local fire department if there is potential for secondary fires resulting from the ignition of spilled liquids or escaping gases.
- b) Contact the Northern Health Authority if the incident affects public health, e.g., contaminated drinking water.
- c) Contact the Ministry of Transportation and Transit (MOTT) and the RCMP if the emergency intersects with a 1, 2 or 3 digit Provincial or Secondary highway (e.g., Hwy 2, Hwy 47, Hwy 837). MOTT and RCMP have the authority to shut down highways.
- d) Contact Public Services and Procurement Canada (PSPC) and the RCMP if the emergency intersects with the Alaska Highway (97) north of mile 83.5 all the way to the Yukon border. PSPC and RCMP have the authority to shut down this portion of the Alaska highway.
- e) Contact the Canadian Transport Emergency Centre (CANUTEC) when a highway is shut down, there is an injury or fatality, there is lost, stolen or unlawfully interfered with dangerous goods (except Class 9), the incident involves infectious substances, there is an accidental release from a cylinder that has suffered a catastrophic failure, where the shipping documents display CANUTEC's telephone number, where a railway vehicle, ship, aircraft aerodrome or an air cargo facility is involved, when a facility is closed, evacuation/shelter-in-place procedures take place as a result of the transportation of dangerous goods, containment has been damaged and integrity compromised, or the centre/stub sill of a tank car is broken or there is a crack in the metal ≥ 15cm(6"). CANUTEC can also provide guidance on handling procedures for toxic material releases.
- f) Emergency Response Assistance Canada will only respond to transportation incidents and only incidents that involve the following UN numbers: 1075 (Propane, Butane, etc.) and 1010 (Butadiene); and those products have tank storage capacity of 450 litres or greater.
- g) Indian Oil & Gas (IOGC), the First Nation and the provincial authority must be notified immediately in the event of any health or environment-threatening emergency or off-lease spills on First Nation reserve lands. On-lease spills greater than 1m3 must be reported to IOGC immediately.
- 1 In the event of a fatality, request that the RCMP contact the Medical Examiner. The RCMP must be notified in the case of lost, stolen or misplaced explosives, radioactive materials or infectious substances.
- 2 Notify Ministry of Emergency Management and Climate Readiness (EMCR) for all spill and non-spill incidents to receive a Dangerous Goods Incident Report (DGIR) number. EMCR will notify the BCER, Ministry of Environment & Climate Change Strategy, and will provide a representative to coordinate the provincial response.
- 3 Contact the BCER for any spills or release of hazardous substances that are not provincially regulated (such as radioactive materials), pipeline incidents such as spills during construction phase, exposed pipe caused by flooding, pipeline over pressure, failure (without release) of any pressure control or ESD device during operations, drilling kicks when any of the following occur: pit gain of 3m<sup>3</sup> or greater, casing pressure 85% of MA, 50% out of hole when kicked, well taking fluid (LC), associated spill or general situation deterioration such as leaks, equipment failure or unable to circulate etc., major damage to oil and gas roads or road structures and security related issues which are relatively minor; such information may be required for tracking and monitoring purposes only. The BCER must also be notified of needed emergency oil and gas road closures. The BCER may request a NOTAM order upon request from operator.
- 4 Local authorities include regional district disaster services, national park authorities and the local police.
- 5 Contact the Canada Energy Regulator (via the Transportation Safety Board of Canada) for all emergencies and near misses involving CER regulated sites and inter-provincial pipelines. The CER regulates all inter-provincial pipelines and other facilities and sites located in Frontier lands (Northern Canada).
- 6 Ensure any workplace conditions that present an immediate hazard to other workers are addressed, ensure first aid and medical treatment for the worker, and then notify WorkSafeBC of the incident. The requirement to immediately report a serious injury or fatality is separate from the requirement to report injuries for claims purposes. Failure to immediately notify WorkSafeBC will be considered a breach of section 172 of the Workers Compensation Act. The employer must immediately report the following incidents, injury or not: Any incident that kills, causes risk of death, or seriously diving incident or decompression sickness, a major leak or release of a dangerous substance, a major structural failure or collapse of a structure, equipment, construction support system or excavation, or any serious mishap. Must also report incidents that requires the employee to seek medical attention or cause time-loss from work.
- 7 Ministry of Environment and Climate Change Strategy was formerly known as Ministry of Water, Land and Air Protection.
- 8 Technical Safety BC is to be notified immediately in cases of Boilers, Pressure Vessels, Piping and Fittings, Electrical & Gas incidents resulting in a moderate, major and fatal injury or moderate, major or severe property damage. All other incidents must be reported within 24 hours (or as soon as practical). Rail accidents where a person sustains a serious injury or is killed as a result of being on board or getting on or off the rolling stock, or coming into contact with any part of the rolling stock or its contents, or the rolling stock is involved in a grade crossing collision or a derailment, sustains damage that affects its safe operations, or causes or sustains a fire or explosion, or causes damage to the railway, that poses a threat to the safety of any person, property or the environment, or any dangerous good is released.

### BCER Incident Reporting Process



# 1.8 British Columbia Notification Matrix



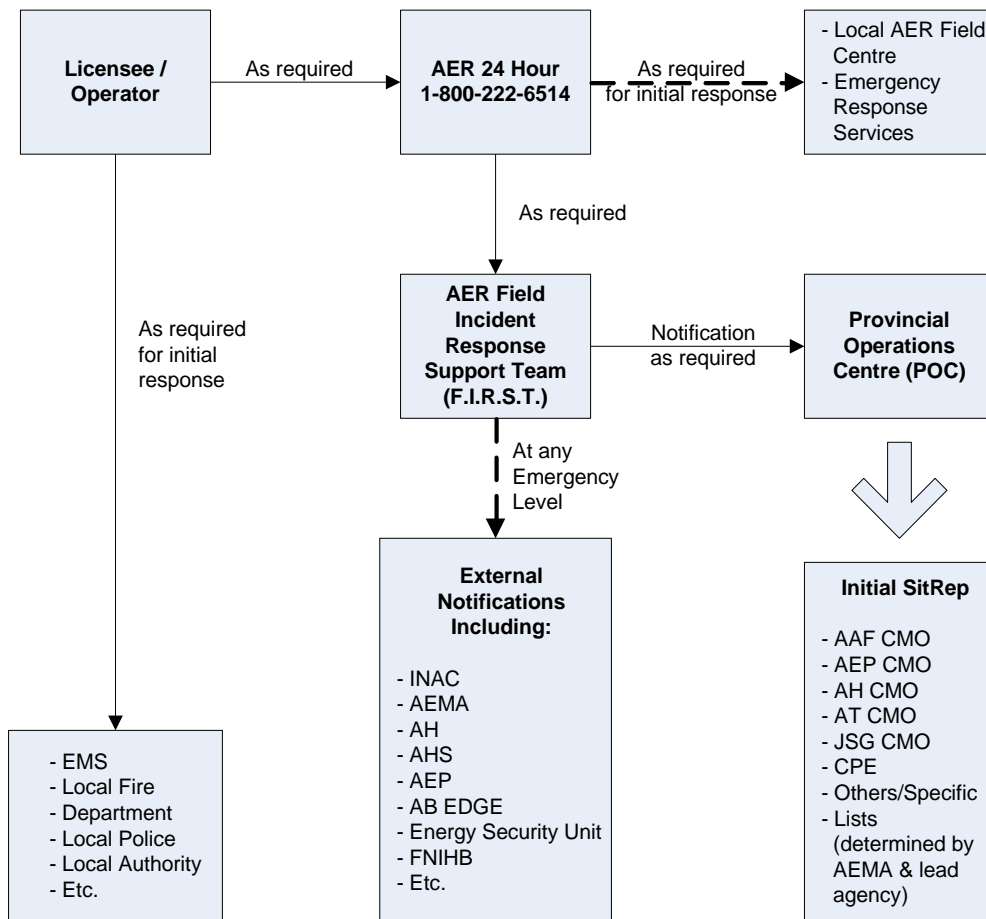
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## 1.9 Government Call Down Procedures - AB

### Alberta

The Petroleum Industry Incident Support Plan (PIISP) is the provincial-level plan which directs Government of Alberta (GoA) operations in supporting a local authority, a licensee or an operator during an emergency. The Alberta Energy Regulator is the default lead agency for this plan as they are the regulator for the petroleum industry. The Alberta Energy Regulator will engage the expertise, assistance and cooperation of other departments / agencies as determined by the individual incident. The Alberta Emergency Management Agency (AEMA), as the coordinating agency, will assist the Alberta Energy Regulator and coordinate the Government’s response, engaging GoA departments / agencies as appropriate.

#### Alberta PIISP Incident Notification Process



**REMEMBER:**  
Although the Alberta Government has set up this notification process, ARC Resources remains responsible and accountable for ensuring all proper agencies are notified. Therefore, ARC Resources views this above Government Incident Notification Process as a backup to ARC Resources notification process.

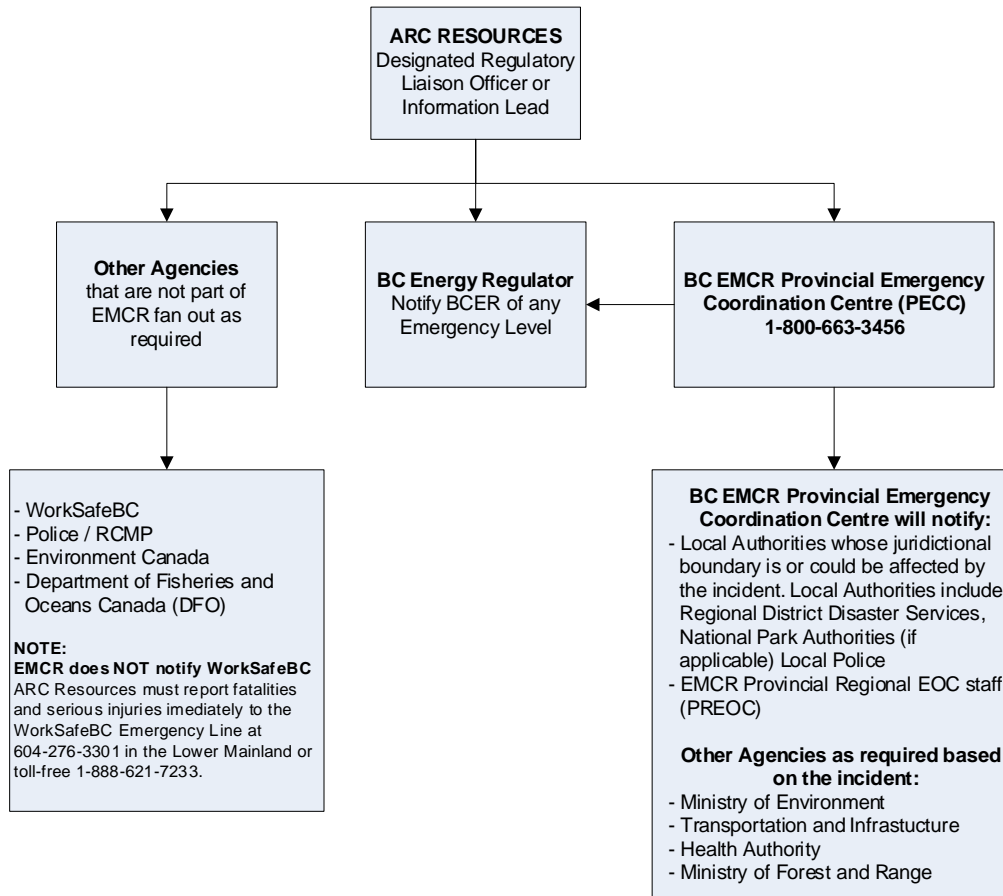


**British Columbia**


To report an emergency within the province of British Columbia, immediately call the toll-free BC Ministry of Emergency Management and Climate Readiness (EMCR) 24-hour emergency number at **1-800-663-3456**.

This number puts the caller in contact with the Emergency Coordination Centre, which is run by BC Ministry of Emergency Management and Climate Readiness (EMCR). The dispatcher will notify the appropriate agencies with the BC Energy Regulator (BCER) likely taking the lead agency role. Together the BCER and EMCR will engage the expertise, assistance and cooperation of other departments / agencies as determined by the individual incident. BC Ministry of Emergency Management and Climate Readiness (EMCR) will assist the BC Energy Regulator and coordinate the Government’s response, engaging other agencies as appropriate

**Emergency Management British Columbia Incident Notification Process**



**REMEMBER:**



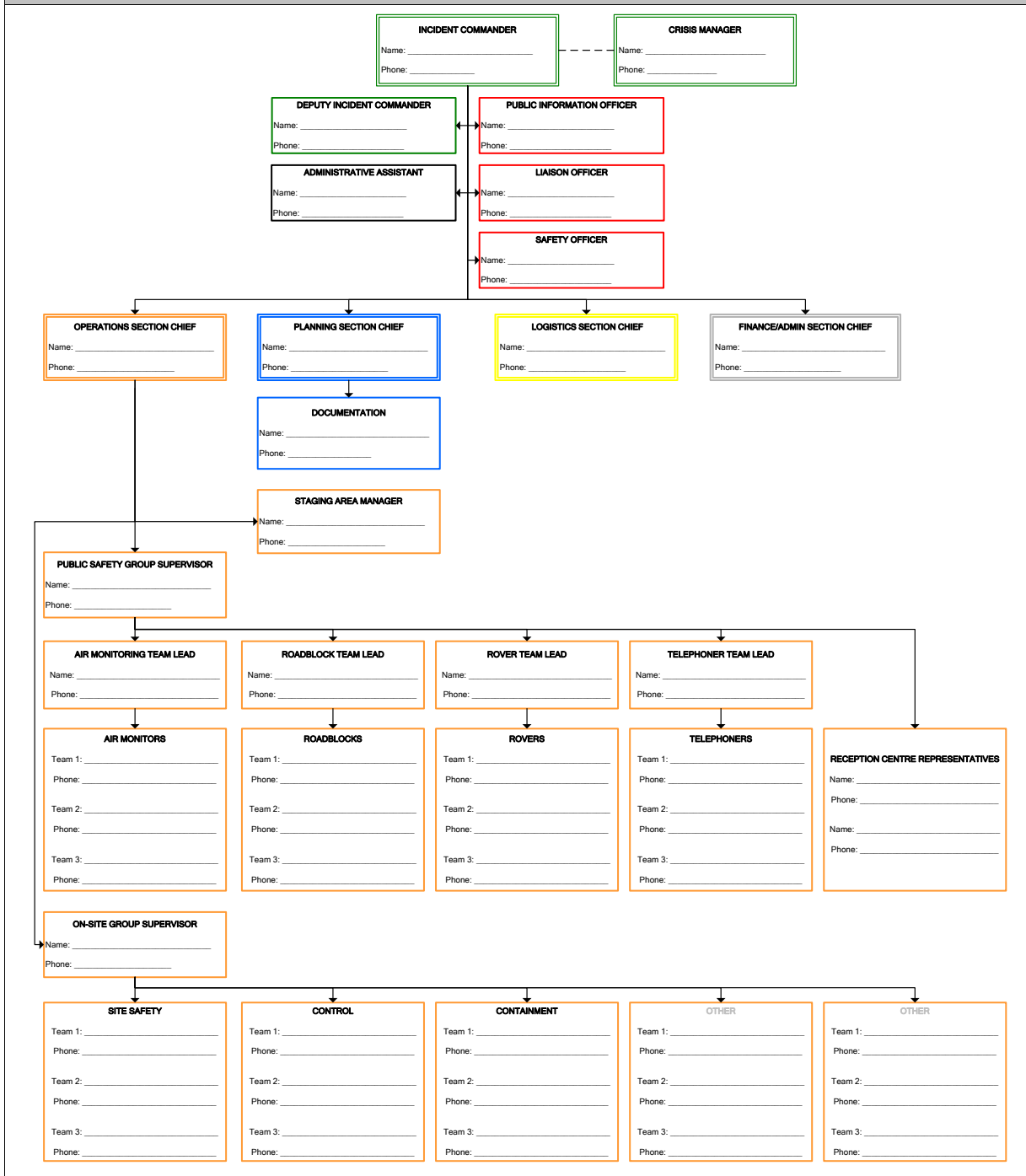
Although the BC Government has set up this notification process, ARC Resources remains responsible and accountable for ensuring all proper agencies are notified. Therefore, ARC Resources views this above BC EMCR Incident Notification Process as a backup to ARC Resources notification process.





Summary of Current Actions	
Impacts (P E A R )	
<b>People</b> Workers / Responder Priority	
<b>Priority Public Protection</b>	
<b>Environment</b>	
<b>Asset Integrity</b>	
<b>Reputation</b>	
Objectives (Non-prioritized )	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	
Current Actions (Strategies & Tactics)	
Planned Actions (Strategies & Tactics)	

**Current Organizational Structure: (draw in current response structure)\***



**Resource Summary: A=Assigned (In Service) AV=Available (Staged) O=Out of Service**

Supplier/Company/Agency	Resource Type	Date/Time Ordered	ETA	Status (See Legend Above)	Notes (Location/Assignment/Status/Date/Time)

**External Notifications: (Government)**

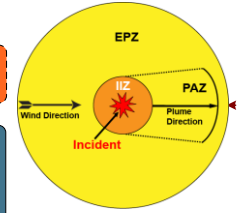
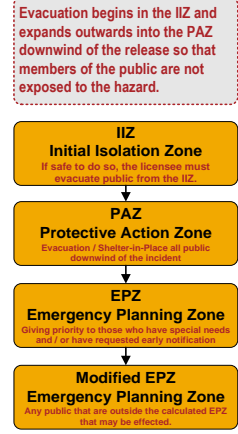
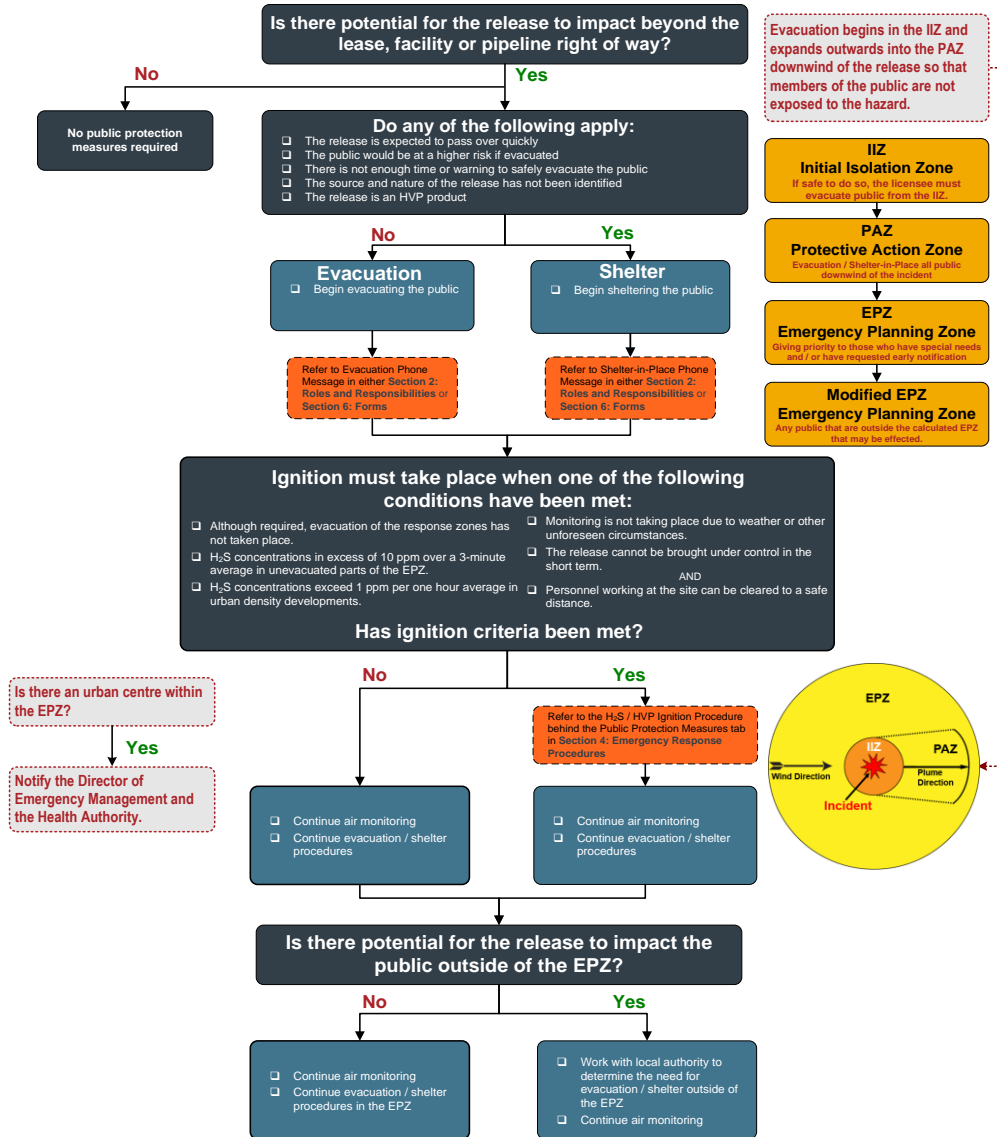
Agency	Time Called	Notes

<b>Site Type: (Select only 1)</b>			
<input type="checkbox"/> Well (Active)	<input type="checkbox"/> Well (Abandoned/Suspended)	<input type="checkbox"/> Remote Sump	
<input type="checkbox"/> Well (Drilling & Completions): Rig Name:			
<input type="checkbox"/> Battery/Plant/Facility	<input type="checkbox"/> Tank Farm/Storage	<input type="checkbox"/> Pipeline	
<input type="checkbox"/> Other – Specify:			
<b>Incident Type: (Check all that apply)</b>			
<input type="checkbox"/> Sour Gas Release	<input type="checkbox"/> Sweet Gas Release	<input type="checkbox"/> Liquid Spills	
<input type="checkbox"/> Natural Disaster/Weather	<input type="checkbox"/> Fire/Explosion	<input type="checkbox"/> Drilling Kick	
<input type="checkbox"/> Worker Injury/Fatality	<input type="checkbox"/> Security (theft, threat, terrorism)	<input type="checkbox"/> Induced Seismicity	
<input type="checkbox"/> Well Bore Communication	<input type="checkbox"/> Pipeline Boring	<input type="checkbox"/> Vehicle/Transportation	
<input type="checkbox"/> Equipment/Structural Damage	<input type="checkbox"/> Pipeline Break	<input type="checkbox"/> Well Control	
<input type="checkbox"/> Other – Specify:			
<b>Activity: (Check all that apply)</b>			
<input type="checkbox"/> Construction (Road, Lease, Pipe)	<input type="checkbox"/> Drilling/Exploration	<input type="checkbox"/> Waste Management	
<input type="checkbox"/> Processing	<input type="checkbox"/> Well Fracturing	<input type="checkbox"/> Servicing	
<input type="checkbox"/> Repair	<input type="checkbox"/> Flaring (Emergency)	<input type="checkbox"/> Well Testing	
<input type="checkbox"/> Pressure Testing	<input type="checkbox"/> Transportation		
<input type="checkbox"/> Other – Specify:			
<b>Material Information:</b>			
Is spill off lease? <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Liquid Hydrogen (Crude, Oil, Diesel, Fuel)	
<input type="checkbox"/> Acid	<input type="checkbox"/> Emulsion (Oil, Gas, Water)	<input type="checkbox"/> Non-Toxic Gases (Nitrogen, Carbon Dioxide, Inert Gases)	
<input type="checkbox"/> Methanol	<input type="checkbox"/> Non-Toxic Liquids	<input type="checkbox"/> Fresh Water	<input type="checkbox"/> Salt Water
<input type="checkbox"/> Sour Natural Gas	<input type="checkbox"/> Sour Liquids (<1% H <sub>2</sub> S)	<input type="checkbox"/> Sweet Natural Gas	
<input type="checkbox"/> Toxic Gas Liquid (>1% Different Toxins)		<input type="checkbox"/> Other – Specify:	
<b>Area Information:</b>			
Land Type: <input type="checkbox"/> Private Land <input type="checkbox"/> Crown Land		Field Name:	
Area Type: <input type="checkbox"/> Forest <input type="checkbox"/> Muskeg <input type="checkbox"/> Farmland <input type="checkbox"/> Residential <input type="checkbox"/> Other			
Access: <input type="checkbox"/> Helicopter <input type="checkbox"/> ATV <input type="checkbox"/> 4WD <input type="checkbox"/> 2WD <input type="checkbox"/> Unknown			
Name of road the asset is located on:			
KM where the incident occurred:			
Distance to nearest residence/public facility:			
Nearest City/Town/Open Camp:			
<b>Weather Conditions:</b>			
Weather Conditions <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Other:			
Wind Direction	N    NE    NW    E    SE    S    SW    W	Temp: °C	
Wind Strength	<input type="checkbox"/> Calm <input type="checkbox"/> Moderate <input type="checkbox"/> Strong <input type="checkbox"/> Gusty		
<b>Medical:</b>			
Public Health and Safety:		Worker Injuries:	
<input type="checkbox"/> Could be jeopardized	<input type="checkbox"/> Is jeopardized	<input type="checkbox"/> First Aid	<input type="checkbox"/> Fatality <input type="checkbox"/> Hospitalization

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# 1.11 STEP 5: Public Protection Measures Flowchart (AB & BC)

## Alberta



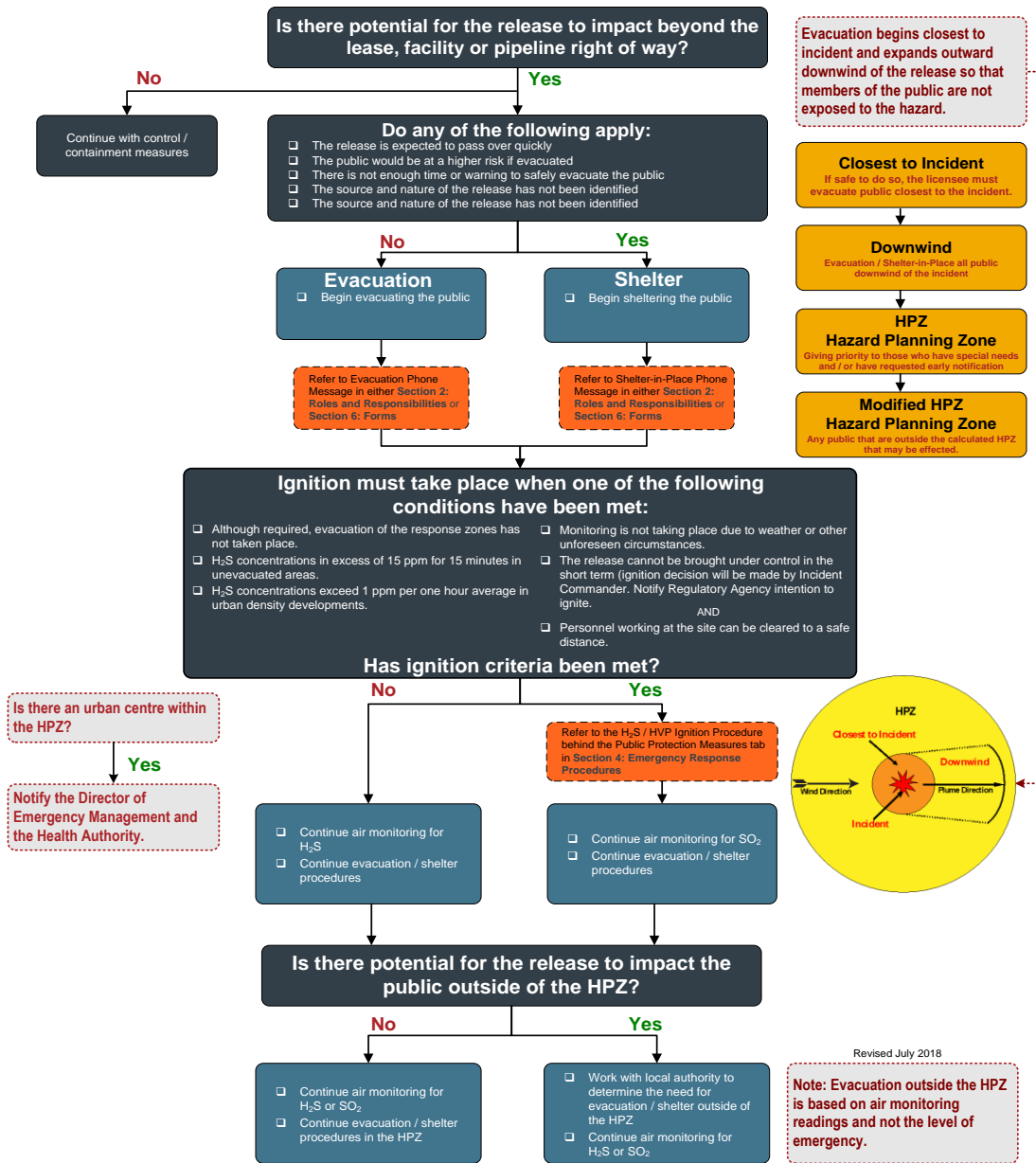
Is there an urban centre within the EPZ?  
**Yes**  
 Notify the Director of Emergency Management and the Health Authority.

**Evacuation Requirements** Revised June 2018  
 For a sour gas release, the licensee must continuously assess and act on the need to expand the evacuation area based on the monitored levels of H<sub>2</sub>S and SO<sub>2</sub>. In the absence of monitored readings, responders should advise the residents to Shelter-in-Place.

H <sub>2</sub> S Requirements	
1 to 10 ppm (3 minute average)	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S must be notified.
Above 10 ppm (3 minute average)	Local conditions must be assessed and all persons must be advised to evacuate and/or shelter
* If monitored levels over the 3 minute interval are declining (i.e., three readings show a decline from 15 ppm to 10 ppm to 8 ppm over 3 minutes), evacuation may not be necessary even though the average over the 3 minute interval would be 11 ppm. Licensees should use proper judgement in determining if evacuation is required.	

SO <sub>2</sub> Requirements	
0.3 ppm (24-hour average)	Immediate evacuation of the area must take place.
1 ppm (3-hour average)	
5 ppm (15-minute average)	

British Columbia



Notification and Evacuation Requirements Outside of the HPZ

For a sour gas release, the licensee must continuously assess and act on the need to expand the evacuation area based on the monitored levels of H<sub>2</sub>S and SO<sub>2</sub>. In the absence of monitored readings, responders should advise the residents to Shelter-in-Place.

H <sub>2</sub> S Requirements		SO <sub>2</sub> Requirements	
1-10 ppm	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S or SO <sub>2</sub> ust be notified.	1-5 ppm	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S or SO <sub>2</sub> ust be notified.
10 ppm and above (1-hour average)	Local conditions must be assessed and all persons must be advised to evacuate and/or shelter.	5 ppm and above	Local conditions must be assessed and all persons must be advised to evacuate and/or shelter.
<p><i>Note: H<sub>2</sub>S Evacuation Level – when downwind monitoring at the nearest unevacuated residence, outside the Hazard Planning Zone, indicates a level of 10 ppm, evacuation procedures will be initiated if safe to do so.</i></p>			

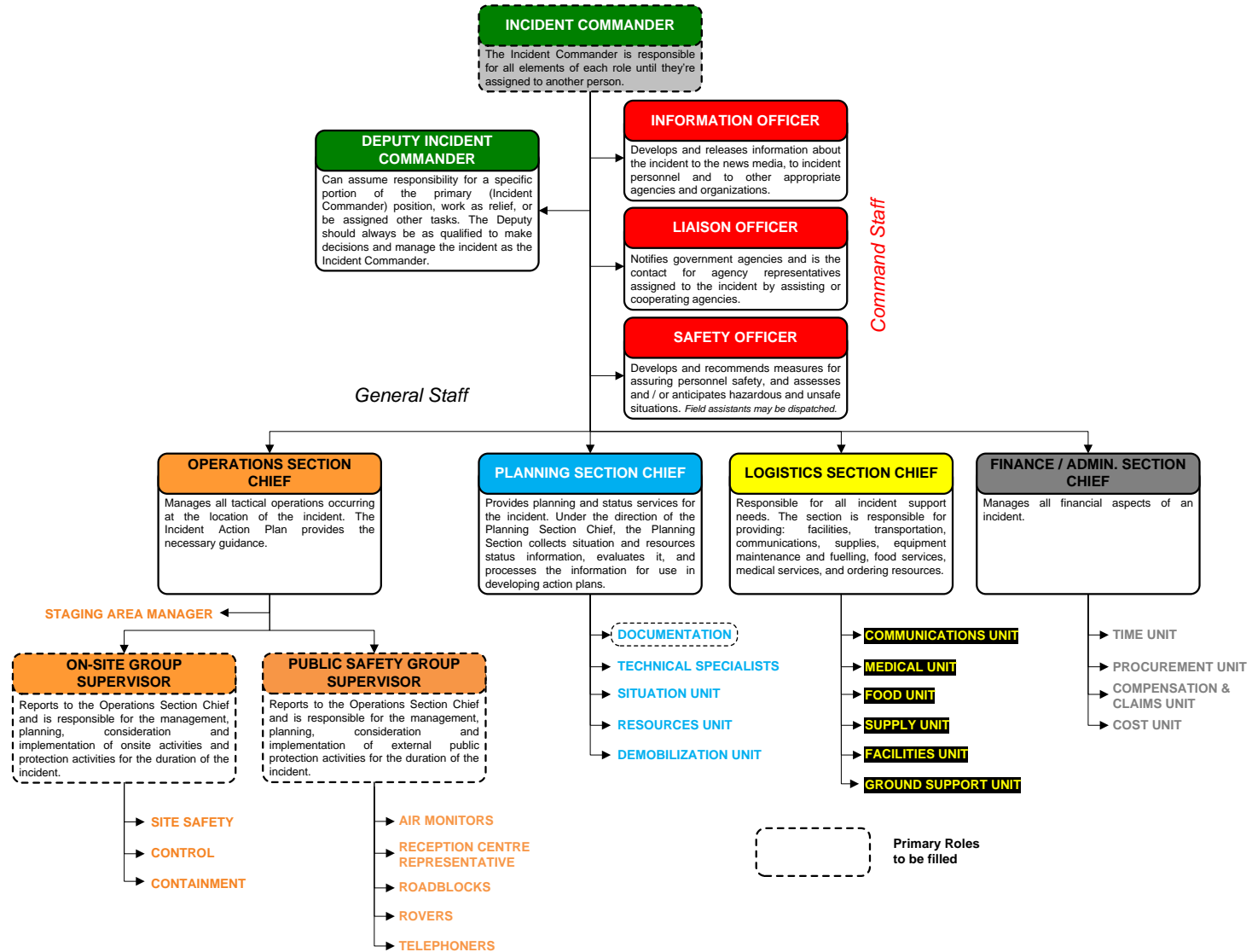


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**SECTION 2. ROLES & RESPONSIBILITIES**

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## 2.1 Field Response Team



## 2.2 Key Response Personnel

The following individuals are likely to fill the key response roles identified:

<b>COMMAND STAFF</b>	<b>Incident Commander</b>	Area Manager Area Foreman (Alternate Incident Commander)
	<b>On-Site Group Supervisor</b>	Lead Operators Please see the SECTION 10: PHONE LIST or SECTION 12: SITE SPECIFIC (white tabs) for a list of Lead Operators.
<b>ON-SITE</b>	<b>Trained in Ignition (H<sub>2</sub>S &amp; HVP)</b>	Lead Operator Lead Operator
	<b>Public Safety Group Supervisor</b>	Area Foreman Area Manager
<b>PUBLIC SAFETY</b>	<b>Air Monitors / Roadblock / Rovers</b>	Area Operators Please see the SECTION 10: PHONE LIST for a list of Area Operators.
	<b>Telephoners</b>	Operations Technician
	<b>Reception Centre Representative</b>	Area Operators Please see the SECTION 10: PHONE LIST for a list of Area Operators.
	<b>Crisis Manager</b>	Manager / Executive Level
<b>CRISIS MANAGEMENT TEAM</b>	<b>Information Lead</b>	Manager / Executive Level

*Please refer to SECTION 10. PHONE LIST or SECTION 12. SITE SPECIFIC (Red information pages) for the full list of personnel and their contact information.*

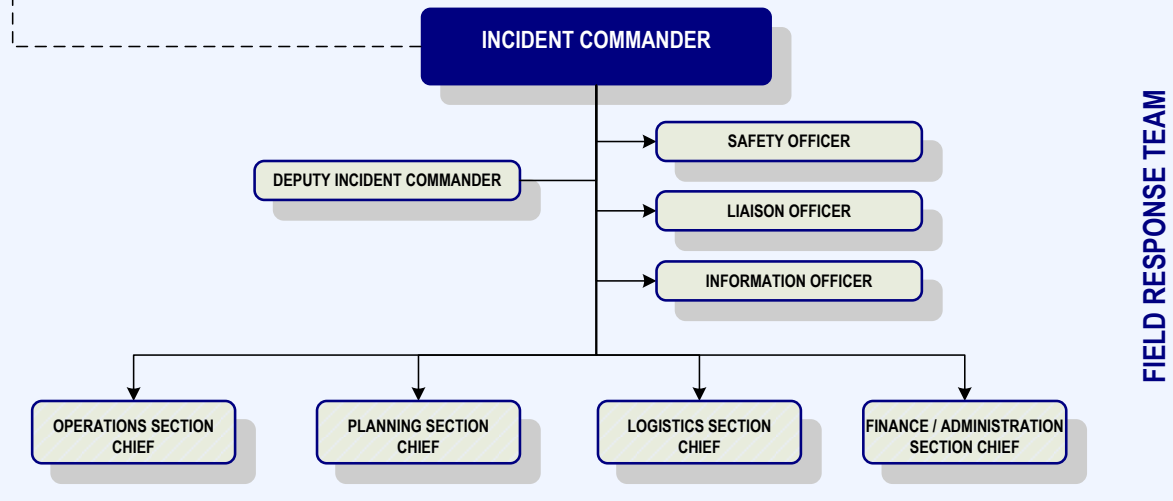
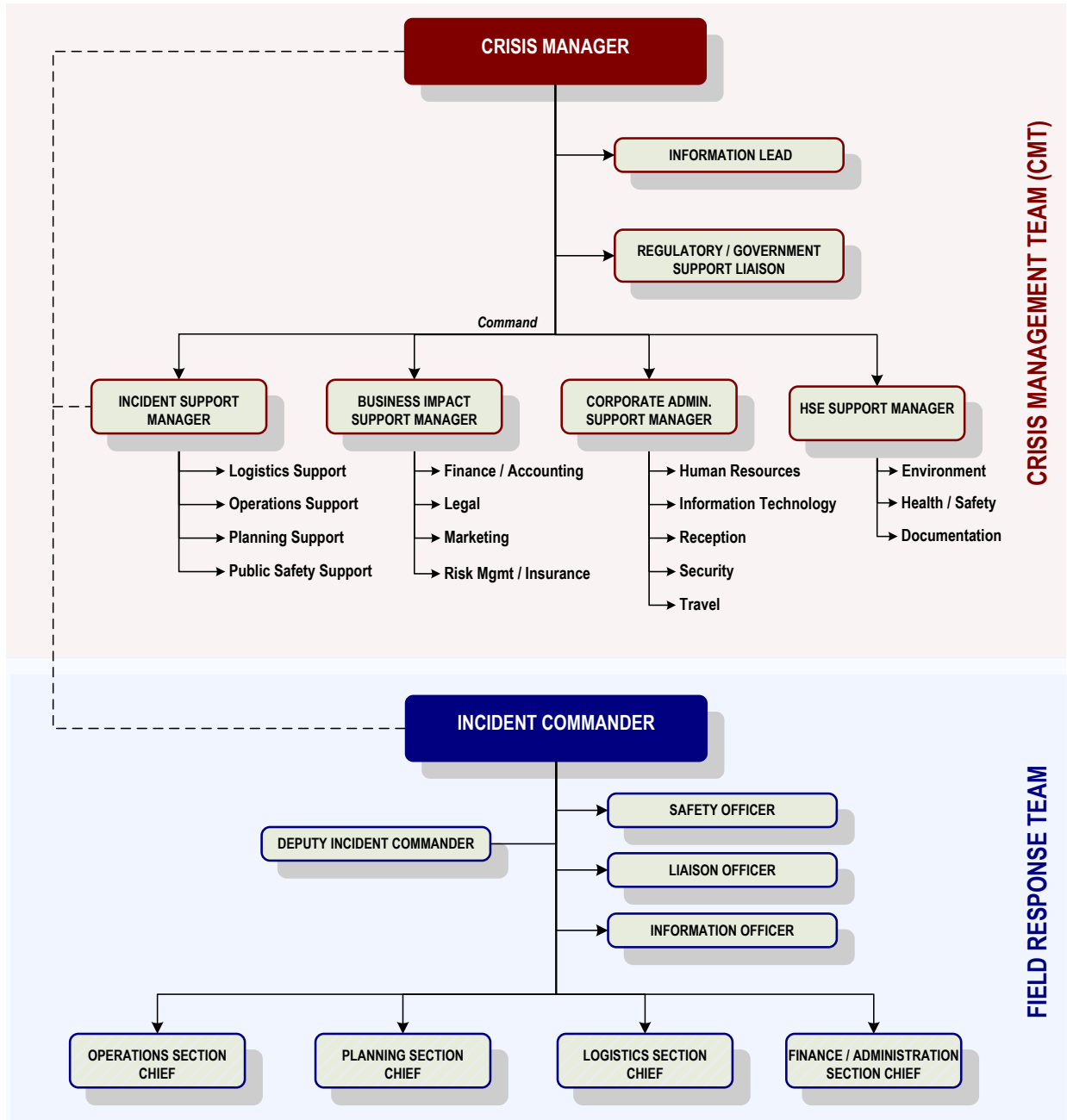
## **2.3 General Safety Equipment and Resource Lists**

### **Operator, Truck & Other Safety Equipment**

Each operator is required to drive a suitable vehicle (4x4 truck) for their service areas and should carry the following equipment: 20-30lb fire extinguisher, vehicle emergency roadside kit, cell phone and a 4 head monitor.

Refer to SECTION 12: SITE SPECIFIC (*Red information pages*) for further details on specific air monitoring equipment, back-up communication methods, ignition and roadblock kit contents as well as their locations, specialty fire-fighting equipment and/or service companies and their contact information for if the aforementioned equipment is not available

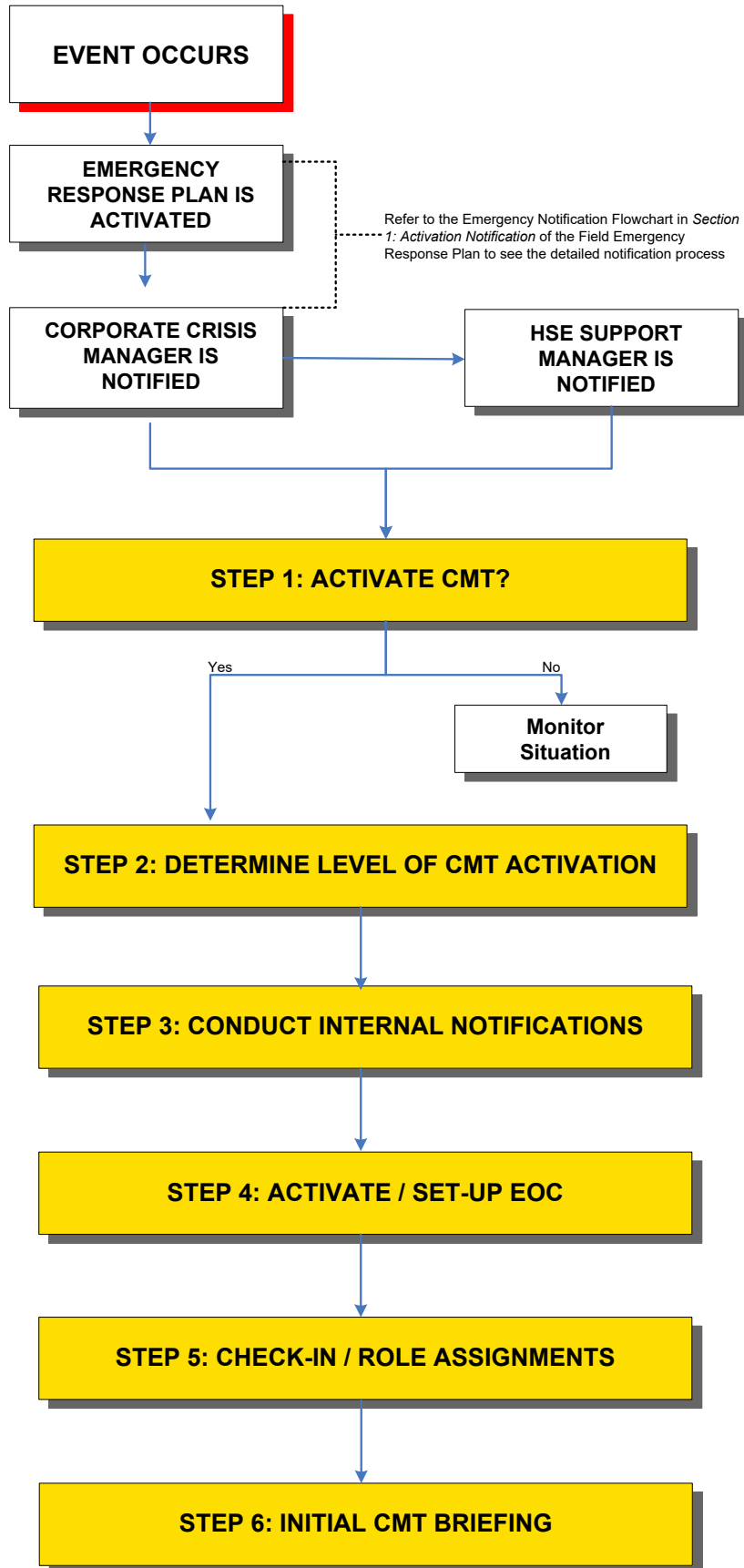
## 2.4 Response Team Structure



**Legend**

- Communication
- Command

# CMT ACTIVATION FLOWCHART



## STEP 1: CMT ACTIVATION (YES / NO)

If the answer to any of the following questions is “Yes”, consider activating the CMT. Does the incident:

- Involve evacuation of company employees or contractor personnel beyond the facility?
- Involve a fatality or multiple serious injuries / illnesses?
- Involve a spill or gas release that is impacting the public (evacuation / shelter / ignition), major roadway, watercourse or sensitive terrain?
- Have the potential to cause significant damage to the company’s reputation?
- Have the potential to be an insurable incident?
- Have the potential to escalate beyond the capabilities / resources of the Field Response Team (FRT)?
- Involve the coordination of multiple agencies?
- Have the potential to attract significant media interest?

If the answer to the questions above are “No”, continue to monitor the situation via regular updates received from the **Incident Commander**. Continually reassess the need to activate the CMT.

## STEP 2: LEVEL OF CMT ACTIVATION

If activating the CMT, refer to the CMT Organizational Chart in Section 2: Roles and Responsibilities. Consider the following guidelines when determining the level of activation required for positions on the org chart:

- The **Crisis Manager** is responsible for all CMT roles and responsibilities until the associated position is assigned to someone else. Assign people to fill positions on your team as you become unable to complete all of the duties yourself.
- Once assigned by the **Crisis Manager**, each **Support Manager** is responsible for the CMT roles and responsibilities for all positions on their team until the associated positions are assigned to someone else. Assign people to fill positions on your team as you become unable to complete all of the duties yourself.
- Not all positions need to be assigned; only assign positions as needed for the specific incident.
- Most incidents can be managed by a handful of people. One person can fill multiple roles. Only in the largest of incidents would you need a fully assembled team.
- Personnel can be assigned to positions based on their areas of expertise (i.e. if the HR position is required, someone from the HR department should be assigned).
- Only mobilize required personnel to the EOC. Having unnecessary personnel in the EOC adds confusion / crowding / distraction / unnecessary noise.

## STEP 3: INTERNAL NOTIFICATION

- 1) Refer to the Internal Callout List located in Section 11: Phone List.
- 2) Mobilize those individuals that are currently being activated for positions on the CMT:
  - Notify them that the company is having an incident and that their assistance is required.
  - Notify them as to where you want them to mobilize at this time (i.e. report to the EOC, stay in their offices, etc.).
  - Document the estimated time of arrival of each person.
  - Find replacements for the individuals that are unavailable at this time.
- 3) Place the rest on standby:
  - Direct those on standby to stay near their phone as they could be mobilized if the incident increases in severity or as shift replacement if the incident is of a longer duration.
- 4) Notify higher levels of management / company executives of the incident as required.

*Note: Do not waste time providing a detailed briefing to each individual at this time. CMT members will be briefed upon arrival at the EOC and a detailed briefing can be e-mailed out at a more convenient time for those not at the EOC.*

## STEP 4: ACTIVATE / SET-UP THE EOC

If you are activating the CMT you will likely need to activate the Emergency Operations Centre (EOC) so that the CMT has somewhere to assemble.

- Determine and communicate access requirements so that CMT personnel can get into the EOC (i.e. keys, pass codes, swipe cards, after hours access, etc.).
- Ensure the CMT Organizational Chart and CMT Emergency Status Board are up on the wall. Fill out information on the Emergency Status Board as it becomes available.
- Have an EOC Check-In / Check-Out sheet available.
- Print off applicable role checklists from Section 2: Roles and Responsibilities for CMT roles that are being filled.
- Ensure copies of the applicable Field Emergency Response Plan (ERP) are available.

## STEP 5: CHECK-IN / ROLE ASSIGNMENTS

As people arrive at the EOC:

- Check them in using an EOC Check-in / Check-Out form.
- Add their name to the applicable role(s) on the CMT Organizational Chart on the wall.
- Provide them with a short briefing to ensure they know their role and associated responsibilities.
- Provide them with copies of the role checklists for their CMT Team from Section 2: Roles and Responsibilities.
- Direct them to their work stations and have them review the CMT Organizational Chart and Emergency Status Board on the wall as well as the provided forms and checklists.

## STEP 6: INITIAL BRIEFING

1) This CMT meeting should begin with the **Crisis Manager** (and **HSE Support Manager**) providing an initial briefing to the CMT members. The briefing should include the following information:

- An orientation on the EOC facility, equipment, processes, security, etc.
- Company priorities (People, Environment, Assets, Reputation).
- The current situation.
- Current unmet needs / assistance requirements / of the Field Response Team (FRT).
- Upcoming meeting schedules and formats:
  - Time / Agenda / Expectations around conferences with the Field Response Team (FRT)
  - Time / Agenda / Expectations around CMT Individual Team Meetings (see Ongoing CMT Maintenance on reverse side of this page).

2) Ask if anyone requires clarification on their role.

3) The meeting should conclude with the CMT working together to establish objectives for the CMT (based on the current field Incident Action Plan (IAP)). For more information on Objectives see Ongoing CMT Maintenance on reverse side of this page).

# CMT MAINTENANCE CYCLE

## TIME FRAMES

1. Determine the time frame for next Operational Period (box 8).

2. Schedule tasks, meeting times and meeting lengths to ensure they can all be completed prior to the next Operational Period (boxes 1-7).

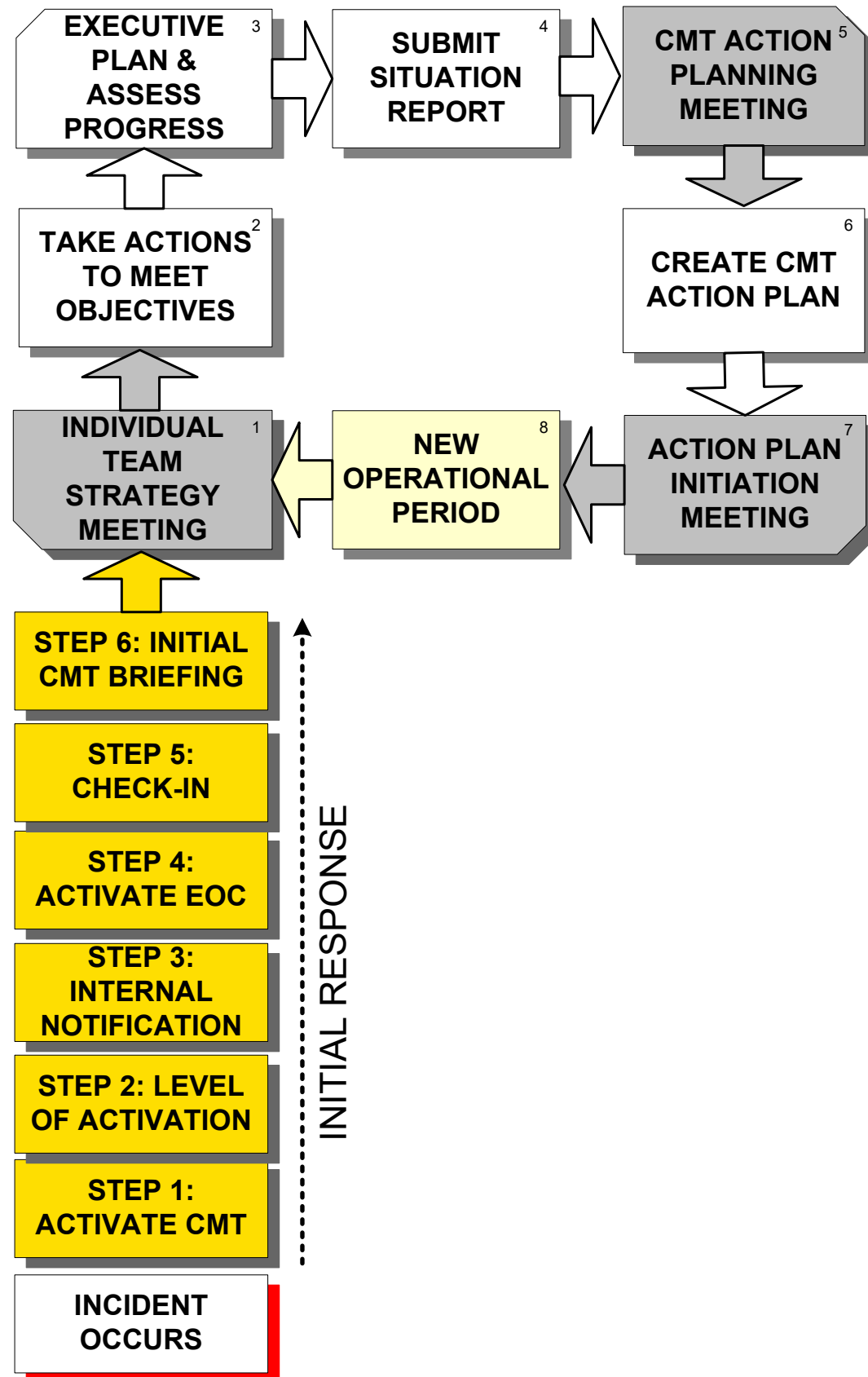
*The length of this cycle will change throughout the incident. You will likely need to meet more frequently early on during an incident.*

15 Minutes

Business Hours:  
10 Minutes

Non-Business  
Hours: 60 Minutes

10 Minutes



## INDIVIDUAL TEAM STRATEGY MEETING

Attendees: Support Manager / Team Lead meets with their own team

Following the Initial CMT Briefing and after receiving a new CMT Action Plan at the start of each operational period, each Support Manager or Team Lead meets briefly with his / her team to review their new objectives and to discuss the strategies for achieving them. This should take approximately 10 minutes.

## SITUATION REPORT

The Situation Report is a written status briefing. Situation Reports are to be completed by each Support Manager / Team Lead and submitted to the **HSE Support Manager**. The **HSE Support Manager** will combine all of the individual Situation Reports into one comprehensive Situation Report.

## CMT ACTION PLANNING MEETING

Attendees: Crisis Manager, Support Managers, Team Leads

The **HSE Support Manager** will:

- Prepare an agenda for the CMT Action Planning Meeting.
- Post and make copies of the CMT Situation Report (created from the individual Situation Reports submitted by each Support Manager or Lead Position) for the meeting.
- Chair the CMT Action Planning Meetings and take notes.
- Utilize the information provided at the meeting to create the CMT Action Plan.

During the CMT Action Planning Meeting:

- Each Support Manager or Lead Position will provide a status update on their teams / areas.
- Objectives for the next operational period will be determined for the CMT and for each team. See Objectives box at the bottom of this page for more information.

## CREATE CMT ACTION PLAN

The **HSE Support Manager** will utilize the information provided at the CMT Action Planning Meeting to create the CMT Action Plan for the next operational period. The CMT Action Plan must be approved by the **Crisis Manager** prior to distribution.

## CMT ACTION PLAN INITIATION MEETING

Attendees: Crisis Manager, Support Managers, Team Leads

The purpose of the CMT Action Plan Initiation Meeting is to roll out the Action Plan and discuss the objectives for the next operational period. The timeframe for the next operational period should be communicated at this meeting.

## NEW OPERATIONAL PERIOD

An operational period is the timeframe to complete the objectives in each CMT Action Plan.

## OBJECTIVES

**OBJECTIVES:** Objectives are specific statements of intent related to the overall incident (i.e. what you want to accomplish). They are organized in order of priority and provide a common focus for the Crisis Management Team (CMT).

Objectives will be determined:

- 1) In Step 6 of Initial Response during the Initial CMT Briefing
- 2) During each CMT Action Planning Meeting as part of the creation of the CMT Action Plan .
- 3) By the Support Manager / Leads and approved by the Crisis Manager

Objectives must be SMART:

- 1) Specific
- 2) Measurable
- 3) Attainable
- 4) Realistic
- 5) Timely



## 2.7 Crisis Management Team Staff Roles

### (LOCATED AT THE CORPORATE EMERGENCY OPERATIONS CENTRE)

The **Crisis Manager (CM)** is responsible for all elements of each role until they're assigned to another person. Below are brief descriptions of each of the key roles that the CM might choose to assign right away.





<b>Crisis Manager</b>	The Crisis Manager (CM) is responsible for coordination of response efforts from corporate to support the Field Response Team (FRT) and for efforts to ensure business continuity during the incident. The CM determines the level of activation of the Crisis Management Team (CMT) and assigns all positions to meet the required level of activation.
<b>Information Lead</b>	Serves as the coordination point for all public information, media relations and internal information sources. The Information Lead is responsible for preparing the FRT and the CMT to deal successfully with internal and external communication.
<b>Regulatory / Government Support Liaison</b>	Provides regulatory guidance and advice to the CMT as well as to be a liaison between responding government agencies and the company. The Regulatory / Government Support Liaison is responsible for providing support to the field Liaison Officer.
<b>Incident Support Manager</b>	The Incident Support Manager is the main link between the FRT and the CMT and is the main informant for the CMT. The Incident Support Manager speaks directly with the field Deputy Incident Commander, if assigned, or the field Incident Commander. The Incident Support Manager provides operational, public safety, planning and logistics advice and support to assist the FRT with developing an effective field Incident Action Plan (IAP).
<b>Business Impact Support Manager</b>	The role of business impact is to identify and work to mitigate all of the negative impacts of the incident on the business as well as to provide business advice and support. The Business Impact Support Manager provides support to the company in the areas of finance / accounting, legal, marketing, risk management and insurance.
<b>Corporate Admin Support Manager</b>	The Corporate Admin Support Manager provides administrative and technical support to the company in the areas of human resources, information technology, travel, security and reception.
<b>Health, Safety &amp; Environment Support Manager</b>	The Health, Safety & Environment Support Manager is responsible for providing Health, Safety & Environmental support to the FRT. The Health, Safety & Environment Support Manager is also responsible for managing the health / safety / environmental / planning / documentation activities of the CMT.

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# 2.8 CRISIS MANAGEMENT TEAM ROLES







CRISIS MANAGER	INFORMATION LEAD
<p><b>ROLE DESCRIPTION</b></p> <p>The <b>Crisis Manager</b> will be notified of the incident via the <b>Incident Commander</b>. The <b>Crisis Manager</b> is responsible for coordination of response efforts from corporate to support the field Field Response Team (FRT) and for efforts to ensure business continuity during the incident. The <b>Crisis Manager</b> determines the level of activation of the Crisis Management Team (CMT) and assigns all positions to meet the required level of activation. The <b>Crisis Manager</b> needs to clearly understand the roles and principles of the Incident Command System (ICS) and know how to utilize the field Emergency Response Plan (ERP).</p>	<p><b>ROLE DESCRIPTION</b></p> <p>Serves as the coordination point for all public information, media relations and internal information sources. The <b>Information Lead</b> is responsible for preparing the Field Response Team (FRT) and the Crisis Management Team (CMT) to deal successfully with internal and external communication. The <b>Information Lead</b> should have formal media training, needs to clearly understand the role of the field <b>Information Officer</b>, the applicable field Emergency Response Plan (ERP) and how the Incident Command System (ICS) works.</p>
<p><b>INITIAL TASKS (ACTIVATION)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain a full briefing on the situation from the <b>Incident Commander</b>. Determine the severity of the incident, the potential for the incident to escalate, actions taken and next steps.</li> <li><input type="checkbox"/> Determine the level of support the FRT requires and the corresponding level of activation required of the corporate CMT to provide that support.</li> <li><input type="checkbox"/> Activate the corporate Emergency Operations Centre (EOC) if required.</li> <li><input type="checkbox"/> As personnel arrive at the EOC, check them in and assign them to positions on the CMT. <ul style="list-style-type: none"> <li>• You are responsible for all of the duties of the CMT unless you have assembled a team and assigned these positions to other personnel.</li> <li>• Only assign people to fill positions on your team as you become unable to complete all of the duties yourself. Most incidents can be managed by a handful of people. Only in the largest of incidents would you need a fully assembled team.</li> <li>• Information can flow anywhere throughout the organizational structure; however, decisions must flow up the chain of command.</li> </ul> </li> <li><input type="checkbox"/> Establish initial priorities for the CMT based on current status and information from the FRT.</li> </ul> <p><b>ONGOING TASKS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a position log that chronologically describes all actions taken, decisions made and events that occur during your shift. Ensure each member of your team is maintaining their own log. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. <span style="float: right; border: 1px solid black; padding: 2px;">FORM ICS 214</span></li> <li><input type="checkbox"/> Communicate directly with (or assign someone to <b>Incident Support Manager</b> to communicate directly with) the field <b>Incident Commander</b>, or if assigned, <b>Deputy Incident Commander</b>. Schedule regular status update meetings or if possible, conference in (video or phone) to attend each FRT meeting.</li> <li><input type="checkbox"/> Working closely with the other CMT members, review the field Incident Action Plan (IAP), look at all potential outcomes and create plan(s) to mediate the impact of any negative outcomes. (NOTE: FRT manages the incident response. Any CMT members providing direct assistance to FRT should be assigned to the FRT until their duties have been completed. It is possible to be on both teams simultaneously).</li> <li><input type="checkbox"/> Ensure CMT Action Planning Meetings are taking place and are regularly scheduled. Attend the CMT Action Planning Meetings and approve the objectives for each operational period. Set priorities for response efforts.</li> <li><input type="checkbox"/> Ensure business continuity throughout the duration of the incident.</li> <li><input type="checkbox"/> Coordinate next-of-kin notifications with <b>Corporate Admin (Human Resources)</b>, if required.</li> <li><input type="checkbox"/> Provide guidance, support, expertise and advice to the FRT and CMT.</li> <li><input type="checkbox"/> Approve the issuance of press releases and other public information materials prepared by the <b>Information Lead</b> as required. Refer to Section 8: Media &amp; Stakeholder Relations.</li> </ul> <p><b>POST INCIDENT</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Approve <b>Incident Commander's</b> decision to downgrade the level of emergency.</li> <li><input type="checkbox"/> Ensure that members of the public and government agencies are notified when the incident is over.</li> <li><input type="checkbox"/> Ensure a Demobilization Plan for the EOC is completed, approved by the <b>Crisis Manager</b> and distributed to all <b>Support Teams</b>.</li> <li><input type="checkbox"/> Ensure all EOC documentation is forwarded to and compiled by the <b>Documentation Unit</b>.</li> <li><input type="checkbox"/> Ensure that a Post Incident Report is prepared in consultation with the FRT and CMT Team. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS. <span style="float: right; border: 1px solid black; padding: 2px;">FORM A9</span></li> <li><input type="checkbox"/> Terminate emergency response and proceed with recovery operations as required.</li> <li><input type="checkbox"/> Deactivate the EOC when it is no longer required. Ensure the deactivation is communicated.</li> </ul>	<p><b>INITIAL TASKS (ACTIVATION)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check in with the <b>Crisis Manager (or HSE Support Manager)</b> upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> <li><input type="checkbox"/> Based on your review of the incident briefing, assemble the <b>Information Team (Community Relations, Joint Information Centre)</b>. <ul style="list-style-type: none"> <li>• You are responsible for the duties of <b>Community Relations and Joint Information Centre</b> unless you have assembled a team and assigned these positions to other personnel.</li> <li>• Only assign people to fill positions on your team as you become unable to complete all of the duties yourself. Only in the largest of incidents would you need a fully assembled team.</li> <li>• Information can flow anywhere throughout the organizational structure; however, decisions must flow up the chain of command.</li> </ul> </li> <li><input type="checkbox"/> Determine current level of media interest / involvement and any messages that have been given to the media.</li> <li><input type="checkbox"/> Review Section 8: Media &amp; Stakeholder Relations.</li> </ul> <p><b>ONGOING TASKS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a position log that chronologically describes all actions taken, decisions made and events that occur during your shift. Ensure each member of your team is maintaining their own log. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. <span style="float: right; border: 1px solid black; padding: 2px;">FORM ICS 214</span></li> <li><input type="checkbox"/> Determine whether there is a need for an <b>Information Officer</b> on the Field Response Team / confirm if one has already been established. If one has not been established work with the <b>Incident Commander</b> to appoint one or make arrangements for someone from corporate to travel to the field and fulfill that role.</li> <li><input type="checkbox"/> Work with the <b>Crisis Manager</b> to identify a Corporate Media Spokesperson for the incident to deliver messages to the media on behalf of the company.</li> <li><input type="checkbox"/> Develop media statements, press releases, public alerts, warnings and public information materials, and provide them to the <b>Information Officer</b> for the FRT once they have been approved by the <b>Crisis Manager</b> and <b>Business Impact (Risk Management / Insurance)</b>. Coach and direct the <b>Information Officer</b> on proper protocol and policies for releasing information to the media.</li> <li><input type="checkbox"/> Ensure that the company's office receptionist / answering service are aware of the incident, knows how to deal with calls from the media or public and where to direct calls.</li> <li><input type="checkbox"/> Work with the <b>Regulatory / Government Support Liaison</b> to ensure that media releases are coordinated with the regulatory agency and other applicable government agencies.</li> <li><input type="checkbox"/> Prepare internal information releases to keep company personnel updated on the incident.</li> <li><input type="checkbox"/> Prepare and present an <b>Information</b> status briefing at each of the CMT Action Planning Meetings. Determine objectives for the <b>Information Team</b> for each operational period.</li> </ul> <p><b>POST INCIDENT</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Deactivate your assigned position and close out logs when authorized by the <b>Crisis Manager</b>.</li> <li><input type="checkbox"/> Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS. <span style="float: right; border: 1px solid black; padding: 2px;">FORM A9</span></li> <li><input type="checkbox"/> Follow EOC checkout procedures. Sign out accordingly.</li> <li><input type="checkbox"/> Be prepared to provide input to the post incident debrief.</li> </ul>

# 2.8 CRISIS MANAGEMENT TEAM ROLES

REGULATORY / GOVERNMENT SUPPORT LIAISON	INCIDENT SUPPORT MANAGER
<p><b>ROLE DESCRIPTION</b> The role of the <b>Regulatory / Government Support Liaison</b> is to provide regulatory guidance and advice to the Crisis Management Team (CMT) as well as to be a liaison between responding government agencies and the company. The <b>Regulatory / Government Support Liaison</b> is responsible for providing <b>support</b> to the field <b>Liaison Officer</b>.</p>	<p><b>ROLE DESCRIPTION</b> The <b>Incident Support Manager</b> is the main link between the Field Response Team (FRT) and the Crisis Management Team (CMT) and is the main informant for the CMT. The <b>Incident Support Manager</b> speaks directly with the field <b>Deputy Incident Commander</b>, if assigned, or the field <b>Incident Commander</b>. The <b>Incident Support Manager</b> provides operational, public safety, planning and logistics advice and support to assist the FRT with developing an effective field Incident Action Plan (IAP). The <b>Incident Support Manager</b> needs to clearly understand the roles of each <b>Section Chief</b> and the <b>Incident Commander</b>, the applicable field Emergency Response Plan (ERP) and how the Incident Command System (ICS) works.</p>
<p><b>INITIAL TASKS (ACTIVATION)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check in with the <b>Crisis Manager (or HSE Support Manager)</b> upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> <li><input type="checkbox"/> Obtain current status of the incident and coordinate with the field <b>Liaison Officer</b> to determine what regulatory / government agency notifications have already been made. (<i>Government agencies should be contacted early in any emergency and discussions should occur around their response capabilities at the time</i>).</li> </ul> <p><b>ONGOING TASKS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a position log that chronologically describes all actions taken, decisions made and events that occur during your shift. Ensure the log identifies each agency contacted, the time they were contacted, the contact person's name and phone number, the assistance that each agency can provide, the response time of each agency, a callback time for each agency, etc. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. </li> <li><input type="checkbox"/> Review regulatory and government agency notification requirements based on the type of incident and coordinate with the field <b>Liaison Officer</b> to ensure they are completed. Depending upon the resources available, the field may complete all regulatory / government notifications, some of the regulatory / government notifications and ask for assistance from you to complete the rest of the notifications, or they may request that you complete all required notifications on their behalf.</li> <li><input type="checkbox"/> Work with the <b>Liaison Officer</b> to ensure that the company's response is coordinated with local government agency response (i.e. evacuation / shelter of the public, location and management of reception centres, location and establishment of roadblocks, ignition, media releases, etc.).</li> <li><input type="checkbox"/> If requested, prepare to travel to and act as a company liaison at, any government established Emergency Operations Centre(s) (<i>It is encouraged to combine industry and municipal responses into a single REOC if possible</i>).</li> <li><input type="checkbox"/> Provide regulatory guidance and support to the FRT and the CMT. Coordinate with government agencies to clarify requirements and ensure all are met.</li> <li><input type="checkbox"/> Prepare and present a <b>Regulatory / Government</b> status briefing at each of the CMT Action Planning Meetings. Determine objectives for <b>Regulatory / Government</b> for each operational period.</li> </ul> <p><b>POST INCIDENT</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Deactivate your assigned position and close out logs when authorized by the <b>Crisis Manager</b>.</li> <li><input type="checkbox"/> Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS. </li> <li><input type="checkbox"/> If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation.</li> <li><input type="checkbox"/> Clean up your work area before you leave. Return any communications equipment or materials specifically issued for your use.</li> <li><input type="checkbox"/> Leave a forwarding phone number you can be reached at.</li> <li><input type="checkbox"/> Follow EOC checkout procedures. Sign out accordingly.</li> <li><input type="checkbox"/> Be prepared to provide input to the post incident debrief.</li> </ul>	<p><b>INITIAL TASKS (ACTIVATION)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check in with the <b>Crisis Manager (or HSE Support Manager)</b> upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> <li><input type="checkbox"/> Based on your review of the incident briefing, assemble the <b>Incident Support Team (Operations Support, Public Safety Support, Logistics Support, Planning Support)</b>. <ul style="list-style-type: none"> <li>• You are responsible for the duties of <i>Operations Support, Public Safety Support, Logistics Support, Planning Support</i>.</li> <li>• Only assign people to fill positions on your team as you become unable to complete all of the duties yourself.</li> <li>• Information can flow anywhere throughout the organizational structure; however, decisions must flow up the chain of command.</li> </ul> </li> </ul> <p><b>ONGOING TASKS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a position log that chronologically describes all actions taken, decisions made and events that occur during your shift. Ensure each member of your team is maintaining their own log. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. </li> <li><input type="checkbox"/> Establish communication with the field <b>Deputy Incident Commander</b>, if assigned, or <b>Incident Commander</b>. If possible, conference in (phone or video) to attend each field <b>Operations Section</b> meeting. (<i>Your role is to listen and support, not to direct activities.</i>)</li> <li><input type="checkbox"/> Provide support, expertise and advice to the <b>Deputy Incident Commander</b>, if assigned, or <b>Incident Commander</b> regarding control / containment methods.</li> <li><input type="checkbox"/> Provide support, expertise and advice to the <b>Deputy Incident Commander</b>, if assigned, or <b>Incident Commander</b> to ensure the safety of the public (evacuation, shelter-in-place, ignition, roadblocks, rovers, air monitoring, etc.).</li> <li><input type="checkbox"/> Provide support, expertise and advice to the <b>Deputy Incident Commander</b>, if assigned, or <b>Incident Commander</b> to ensure the principles of ICS are being followed correctly (i.e. establishment and transfer of command, span of control, chain of command, unity of command, unified command, organizational flexibility, common terminology and clear text, etc.). Are objectives in the IAP consistent with the goals of the company and prioritized properly? Are strategies properly aligned to the objectives? Are the strategies SMART (Specific, Measureable, Attainable, Realistic, Timely)? Can all of the objectives be met by the strategies outlined in the IAP? Are the strategies safe? Etc.</li> <li><input type="checkbox"/> Prepare and present an <b>Incident Support</b> status briefing at each of the CMT Action Planning Meetings. Determine objectives for the <b>Incident Support Team</b> for each operational period.</li> </ul> <p><b>POST INCIDENT</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Deactivate your assigned position and close out logs when authorized by the <b>Crisis Manager</b>.</li> <li><input type="checkbox"/> Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS. </li> <li><input type="checkbox"/> If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation.</li> <li><input type="checkbox"/> Clean up your work area before you leave. Return any communications equipment or materials specifically issued for your use.</li> <li><input type="checkbox"/> Leave a forwarding phone number you can be reached at.</li> <li><input type="checkbox"/> Follow EOC checkout procedures. Sign out accordingly.</li> <li><input type="checkbox"/> Be prepared to provide input to the post incident debrief.</li> </ul>



# 2.8 CRISIS MANAGEMENT TEAM ROLES

BUSINESS IMPACT SUPPORT MANAGER	CORPORATE ADMIN SUPPORT MANAGER	HEALTH, SAFETY & ENVIRONMENT SUPPORT MANAGER
<p><b>ROLE DESCRIPTION</b></p> <p>The role of business impact is to identify and work to mitigate all of the negative impacts of the incident on the business as well as to provide business advice and support. The <b>Business Impact Support Manager</b> provides support to the company in the areas of finance / accounting, legal, marketing, risk management and insurance.</p>	<p><b>ROLE DESCRIPTION</b></p> <p>The <b>Corporate Admin Support Manager</b> provides administrative and technical support to the company in the areas of human resources, information technology, travel, security and reception.</p>	<p><b>ROLE DESCRIPTION</b></p> <p>The <b>Health, Safety &amp; Environment Support Manager</b> is responsible for providing Health, Safety &amp; Environmental support to the roles of the <b>Safety Officer</b> and <b>Site Safety</b> within the Field Response Team.</p>
<p><b>INITIAL TASKS (ACTIVATION)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check in with the <b>Crisis Manager (or HSE Support Manager)</b> upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> </ul> <p><b>ONGOING TASKS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a position log that chronologically describes all actions taken, decisions made and events that occur during your shift. Ensure each member of your team is maintaining their own log. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. </li> <li><input type="checkbox"/> Consult with the <b>Crisis Manager</b> as required to determine spending limits.</li> <li><input type="checkbox"/> With direction from the <b>Crisis Manager</b> develop plans for increased spending, negative financial impact on the company, potential share value loss and a long term financial plan on the impacts of the incident post response.</li> <li><input type="checkbox"/> Identify and provide the <b>Crisis Manager</b> with evaluations regarding possible exposures to the company, liability implications and recommended courses of action.</li> <li><input type="checkbox"/> Communicate with the <b>Crisis Manager</b> and determine the expected purchases to ensure finance / accounting are prepared and do not cause a bottleneck.</li> <li><input type="checkbox"/> Continually monitor the operational impacts to the marketing divisions sales of oil and gas assets.</li> <li><input type="checkbox"/> Advise the <b>Crisis Manager</b> of any conditions and actions that might result in liability (e.g. oversights, improper response actions, etc.).</li> <li><input type="checkbox"/> Advise on actions to reduce loss and suffering and, where appropriate, proactively support response and recover objectives.</li> <li><input type="checkbox"/> Prepare and present a <b>Business Impact</b> status briefing, including cost estimates, at each of the CMT Action Planning Meetings.</li> </ul> <p><b>POST INCIDENT</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Deactivate your assigned position and close out logs when authorized by the <b>Crisis Manager</b>.</li> <li><input type="checkbox"/> Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS. </li> <li><input type="checkbox"/> If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation.</li> <li><input type="checkbox"/> Clean up your work area before you leave. Return any communications equipment or materials specifically issued for your use.</li> <li><input type="checkbox"/> Leave a forwarding phone number you can be reached at.</li> <li><input type="checkbox"/> Follow EOC checkout procedures. Sign out accordingly.</li> <li><input type="checkbox"/> Be prepared to provide input to the post incident debrief.</li> </ul>	<p><b>INITIAL TASKS (ACTIVATION)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check in with the <b>Crisis Manager (or HSE Support Manager)</b> upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> </ul> <p><b>ONGOING TASKS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a position log that chronologically describes all actions taken, decisions made and events that occur during your shift. Ensure each member of your team is maintaining their own log. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. </li> <li><input type="checkbox"/> Establish security guidelines and standards according to an assessment of potential loss, threats, or vulnerabilities to the company (i.e. no unauthorized personnel are to be allowed on-site, personnel must sign in and out, etc.). Work with <b>Security</b> to have them implemented / communicated. Communicate this to <b>Reception</b>.</li> <li><input type="checkbox"/> Work with <b>HSE Support (Health / Safety) and Human Resources</b> to ensure that all labour regulations, employee contracts and corporate human resource policies are strictly followed throughout the emergency response.</li> <li><input type="checkbox"/> Work with <b>Human Resources</b> to arrange for next-of-kin notifications for injured / deceased employees.</li> <li><input type="checkbox"/> Work with the <b>Information Lead</b> to determine the appropriate messages to be providing to the public and media, the appropriate methods to be recording the information and the appropriate people to be directing the callers / visitors to. Communicate this to <b>Reception</b>.</li> <li><input type="checkbox"/> Create effective travel plans for CMT personnel to and from the incident site. Coordinate travel for CMT members within Calgary. Work with <b>Travel</b> to have the plans implemented.</li> <li><input type="checkbox"/> Establish communication methods and protocols for communication between the various command posts. Work with <b>Information Technology</b> to ensure the CMT has adequate information technology and telecommunications equipment and processes.</li> <li><input type="checkbox"/> Prepare and present a <b>Corporate Admin</b> status briefing, including cost estimates, at each of the CMT Action Planning Meetings.</li> </ul> <p><b>POST INCIDENT</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Deactivate your assigned position and close out logs when authorized by the <b>Crisis Manager</b>.</li> <li><input type="checkbox"/> Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS. </li> <li><input type="checkbox"/> If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation.</li> <li><input type="checkbox"/> Clean up your work area before you leave. Return any communications equipment or materials specifically issued for your use.</li> <li><input type="checkbox"/> Leave a forwarding phone number you can be reached at.</li> <li><input type="checkbox"/> Follow EOC checkout procedures. Sign out accordingly.</li> <li><input type="checkbox"/> Be prepared to provide input to the post incident debrief.</li> </ul>	<p><b>INITIAL TASKS (ACTIVATION)</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Check in with the <b>Crisis Manager</b> upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> <li><input type="checkbox"/> Identify any immediate health / safety / environmental concerns that need to be addressed.</li> </ul> <p><b>ONGOING TASKS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a position log that chronologically describes all actions taken, decisions made and events that occur during your shift. Ensure each member of your team is maintaining their own log. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. </li> <li><input type="checkbox"/> Ensure that all maps, status boards and other displays are maintained and contain current and accurate information. Update roles charts as members of the CMT check-in or check-out of their roles at the EOC.</li> <li><input type="checkbox"/> Ensure all occupational health &amp; safety regulations are being followed at all times (AB OH&amp;S, WorkSafeBC, WCB, etc.). Provide advice and support to the Field Response Team (FRT) and the Crisis Management Team (CMT) regarding the regulations.</li> <li><input type="checkbox"/> Determine what facility / safety orientations are required at the field level and at the corporate level and work with the field <b>Safety Officer</b> and <b>Health / Safety</b> to ensure they are being completed.</li> <li><input type="checkbox"/> Assist the field <b>Safety Officer</b> with the review of the field Incident Action Plan (IAP) to identify and address any potential health / safety concerns. Ensure the <b>Safety Officer</b> puts an immediate stop to any unsafe activities, develops safer alternatives, identifies required PPE, identifies required training, etc.</li> <li><input type="checkbox"/> Provide advice, support and recommendations regarding any environmental issues resulting from the incident.</li> </ul> <p><b>POST INCIDENT</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Deactivate your assigned position and close out logs when authorized by the <b>Crisis Manager</b>.</li> <li><input type="checkbox"/> Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS. </li> <li><input type="checkbox"/> If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation.</li> <li><input type="checkbox"/> Clean up your work area before you leave. Return any communications equipment or materials specifically issued for your use.</li> <li><input type="checkbox"/> Leave a forwarding phone number you can be reached at.</li> <li><input type="checkbox"/> Follow EOC checkout procedures. Sign out accordingly.</li> <li><input type="checkbox"/> Be prepared to provide input to the post incident debrief.</li> </ul>



# 2.9 COMMAND STAFF ROLES

INCIDENT COMMANDER	DEPUTY INCIDENT COMMANDER	INFORMATION OFFICER	LIAISON OFFICER	SAFETY OFFICER
<p>The <b>Incident Commander</b> is in charge of overall management of the incident and must be fully qualified to manage the incident. As incidents grow in size or complexity, a more highly qualified <b>Incident Commander</b> may be assigned by the company.</p> <p><b>Note:</b> The highest ranking authority arriving at the site of the incident (first on-scene) becomes the <b>Incident Commander</b> and establishes command and control. The first on-scene will remain the <b>Incident Commander</b> until there is formal transfer of command to a more senior company employee and / or qualified personnel.</p> <p><b>INITIAL RESPONSE - *Refer to the 5 Step Initial Response Guide in SECTION 1: ACTIVATION NOTIFICATION*</b></p> <p><b>STEP 1: LEVEL OF EMERGENCY</b></p> <ul style="list-style-type: none"> <li>If necessary, investigate and confirm the emergency. If the incident involves a release of sour product, the investigation should be conducted in teams of two. Take appropriate safety precautions (PPE, SCBA, etc.). Ensure personal safety at all times.</li> <li>Determine the Level of Emergency using the BCER Incident Classification Matrix for BC or AER's Assessment Matrix for Classifying Incidents for all other provinces (e.g. Alert/Minor, Level 1, 2, 3) found in SECTION 1: ACTIVATION NOTIFICATION or using the Emergency Assessment SmartPhone App. (Search H<sub>2</sub>Safety or Emergency Assessment in the App Store).</li> </ul> <p><b>STEP 2: INTERNAL NOTIFICATION</b></p> <ul style="list-style-type: none"> <li>Follow the Internal Emergency Notification Flowchart outlined in SECTION 1: ACTIVATION NOTIFICATION to contact required field resources. Refer to the SECTION 10: PHONE LIST. Relay the information from the A1 Initial Notification Form. Mobilize internal resources to the site, to the Incident Command Post (ICP) or place them on standby as required.</li> <li>Contact required company resources and communicate the level of emergency. Refer to SECTION 10: PHONE LIST.</li> </ul> <p><b>STEP 3: EXTERNAL NOTIFICATION</b></p> <ul style="list-style-type: none"> <li>Follow the External Emergency Notification Flowchart in SECTION 1: ACTIVATION NOTIFICATION for communication structure and the Provincial Notification Matrix in SECTION 4: INCIDENT CLASSIFICATION to determine which external agencies need to be notified. Reference SECTION 3: GOVERNMENT AGENCY ROLES and SECTION 12: SITE SPECIFIC for the location of the incident.</li> </ul> <p><b>STEP 4: INCIDENT BRIEFING</b></p> <ul style="list-style-type: none"> <li>The following positions are always filled regardless of the size of the incident: <b>Incident Commander, On-Site Group Supervisor</b> and <b>Documentation</b>.</li> <li>Assess the situation, identify the incident source, and consider how to stop the source. Carry out a site assessment that includes the following: identify hazardous materials, evaluate risk to workers and the public, determine the potential for the incident to escalate, identify safety concerns, determine which other company's facilities are involved.</li> <li>Detail and prioritize the objectives for the next operational period taking into consideration the <b>PEAR priorities (People, Environment, Assets &amp; Reputation)</b> using the ICS 201 Incident Briefing Form.</li> <li>Assign other positions as required to meet the identified objectives. Review and complete the ICS 207 Incident Organization Chart in SECTION 5: FORMS. Depending on the scale of emergency, all positions may not be assigned. The <b>Incident Commander</b> assumes responsibility for all unassigned roles until personnel have been assigned to them.</li> <li>Conduct a role review with each of the positions above to ensure they clearly understand their roles and responsibilities.</li> <li>Develop detailed plans of action (strategies) to achieve the objectives and determine what tactics and resources are required to implement the strategies (oil spill services, safety services, etc.).</li> <li>Ensure the <b>Planning Section</b> posts and updates the status board with incident details.</li> </ul> <p><b>STEP 5: PUBLIC SAFETY</b></p> <ul style="list-style-type: none"> <li>Determine the size of the Emergency Planning and Response Zones around the incident. Refer to the EPZ calculation tables and map in SECTION 12: SITE SPECIFIC.</li> <li>Use the Public Protection Measures Flowchart located in SECTION 7: PUBLIC SAFETY GUIDELINES to assist with determining if evacuation / shelter / ignition are required.</li> <li>Ensure the affected public are contacted and advised to shelter or evacuate as required.</li> <li>Establish <b>Air Monitoring, Reception Centre Representatives, Roadblocks, Rovers, and Telephoners</b> as required.</li> </ul> <p><b>ONGOING RESPONSE - *Refer to the Five Step Ongoing Response Guide in SECTION 2: ROLES &amp; RESPONSIBILITIES*</b></p> <ul style="list-style-type: none"> <li>Establish a method to track responders and resources to ensure they are accounted for at all times.</li> <li>Monitor implementation of IAP and revise as the situation dictates. Prepare for next operational period.</li> <li>Support the <b>Operations Section Chief</b> in the preparation of an incident control and containment action plan.</li> <li>Ensure each section chief has adequate staff, is not violating span of control and clearly understands the roles and responsibilities.</li> <li>Conduct frequent Command Staff and General Staff meetings and regularly update the Crisis Management Team.</li> <li>If transfer of command occurs, an incident status briefing must take place. Provide all documentation and review situation status, objectives and priorities, current organization and resources, facilities, communications plan, concerns and introductions to staff.</li> <li>As the emergency is brought under control, the decision to downgrade the level and/or stand down the emergency will be based on air monitoring readings in consultation with the <b>Incident Commander</b> and the applicable government regulator.</li> <li>The <b>Demobilization Unit</b> will develop and implement objectives/strategies for demobilization.</li> </ul>	<p>The <b>Deputy Incident Commander</b> may assume responsibility for a specific portion of the primary position, work as relief, or be assigned other tasks. The <b>Deputy</b> should always be as qualified to make decisions and manage the incident as the <b>Incident Commander</b>.</p> <ul style="list-style-type: none"> <li>If no scribe has been assigned to the <b>Incident Commander</b>, support the <b>Incident Commander</b> by documenting details of the emergency, focusing on activities and decisions made.</li> <li>Record, update and maintain a chronological summary of the incident including:             <ul style="list-style-type: none"> <li>Names of personnel in each assigned position and their location</li> <li>Control and containment measures</li> <li>Environmental monitoring information</li> <li>Injuries / deaths / missing persons</li> <li>Phone calls</li> <li>Actions and decisions</li> <li>Status of the public protection actions</li> </ul> </li> <li>Manage the flow of traffic to and communication with the <b>Incident Commander</b> so that he can focus on managing the incident.</li> <li>Conduct status update meetings.</li> <li>Provide status to head office.</li> <li>Deal with some day-to-day decision making.</li> <li>Assume duties of the <b>Incident Commander</b>, if required.</li> <li>Maintain communication with the <b>Incident Commander</b>.</li> </ul> <div style="border: 2px solid red; padding: 5px; margin-top: 10px;"> <p style="text-align: center; color: red; font-weight: bold;">IMPORTANT</p> <p>Prior to beginning any activities, each person in a role must:</p> <ul style="list-style-type: none"> <li>Obtain a completed ICS 201 Incident Briefing and ICS 207 Incident Organization Chart from the <b>Incident Commander</b>.</li> </ul> <p>Throughout the duration of the incident, each person in a role must:</p> <ul style="list-style-type: none"> <li>Chronologically document all actions, decisions, contacts and requests on an ICS 214 Activity Log. Copies can be found in SECTION 5: FORMS.</li> </ul> <p>After the incident is over, each person in a role must:</p> <ul style="list-style-type: none"> <li>Assist with post-incident activities.</li> </ul> <p style="text-align: center; color: red; font-weight: bold;">ALL FORMS REFERENCED CAN BE FOUND IN SECTION 5: FORMS</p> </div>	<p>The <b>Information Officer</b> works with the <b>Information Lead</b> to develop and release information about the incident to the news media, to incident personnel and to other appropriate agencies and organizations.</p> <ul style="list-style-type: none"> <li>Receive incident briefing from the <b>Incident Commander</b> before contacting external agencies.</li> <li>Prepare regular status updates that will be provided to internal company personnel to keep them apprised of the situation.</li> <li>Identify and document any media involvement that has already taken place</li> <li>If the media statement hasn't yet been prepared ensure that the generic media statement from the ERP is communicated and being used in the field.</li> <li>Assist head office with the preparation of a preliminary media statement if required using the Preliminary Media Statement form.</li> <li>Document all communications with the media using the Media Contact Log.</li> <li>Designate and prepare media briefing rooms away from the Incident Command Post.</li> <li>Organize tours and photo opportunities if required.</li> <li>Maintain communication with the <b>Incident Commander</b>.</li> <li>Media releases must be coordinated with applicable regulatory agency.</li> <li>If necessary, coordinate with and use broadcast media to notify residents in the hazard area.</li> <li>Work with Communications / Media to develop a communications plan that includes establishing protocols for responders and all company personnel as required to ensure incident information remains confidential (i.e. restriction on cell phone usage for photography, social media, speaking to the media, etc.).</li> </ul>	<p>The <b>Liaison Officer</b> is responsible for notifying government agencies and is the contact for agency representatives assigned to the incident by assisting or cooperating agencies.</p> <ul style="list-style-type: none"> <li>Complete Regulatory First Call Communication Form.</li> <li>Refer to SECTION 4: INCIDENT CLASSIFICATION for the Government Notification Matrix. Notify as soon as possible and provide status updates at agreed upon intervals to:             <ul style="list-style-type: none"> <li>Government regulator</li> <li>Local authorities (counties, cities, towns, MDs, RDs, First Nations Reserves, etc.)</li> <li>Health authority</li> <li>Environment</li> <li>Provincial emergency management organization</li> <li>Other agencies</li> </ul> </li> <li>Keep track of all government correspondence using the Government Agency Contact Log.</li> <li>Obtain cooperating and assisting agency information that includes: contact information, radio frequencies, cooperative agreements, equipment type, number of personnel, condition of equipment and personnel, agency constraints, etc.</li> <li>Conduct appropriate periodic briefings to keep agencies informed of planning actions.</li> <li>Coordinate with any government agency representatives attending the ICP or REOC.</li> <li>Coordinate with mutual aid groups.</li> </ul> <div style="border: 2px solid red; padding: 5px; margin-top: 10px;"> <p style="text-align: center; color: red; font-weight: bold;">POST INCIDENT GUIDELINES</p> <ul style="list-style-type: none"> <li>Notify all responders of the stand down.</li> <li>Establish an incident investigation team.</li> <li>Conduct an incident response debriefing with key responders.</li> <li>Complete Post Incident Learning Form (see Section 5: Forms).</li> <li>Collect/consolidate all incident documentation from responders.</li> <li>Collect/process any public expense claims.</li> </ul> </div>	<p>The <b>Safety Officer</b> develops and recommends measures for assuring personnel safety, and assesses and / or anticipates hazardous and unsafe situations.</p> <ul style="list-style-type: none"> <li>Ensure the site is evacuated if unsafe.</li> <li>Initiate rescue plans if safe to do so.</li> <li>Review the Incident Action Plan to identify and correct any potential occupational and health hazards.</li> <li>Ensure work / rest guidelines are followed.</li> <li>Continuously monitor workers for exposure to ensure they are wearing the required PPE.</li> <li>Take appropriate action to mitigate or eliminate unsafe conditions, operations, or hazards.</li> <li>Immediately stop any unsafe practices.</li> <li>Conduct a general inspection of the facilities, food services and sanitation services soon after they become operational and follow up on a periodic basis throughout the incident for compliance to all health and safety standards. Provide a report of deficiencies.</li> <li>Document both safe and unsafe acts, corrective actions taken on the scene, accidents or injuries, and ways to improve safety on future incidents.</li> <li>Investigate accidents that have occurred within the incident area.</li> <li>Identify "Hot Zone" and declare when responders may enter it.</li> <li>Ensure that responders inside the "Hot Zone" are accounted for and initiate search if required.</li> <li>Prepare a site-specific health and safety plan.</li> </ul>
All team members are located at the Incident Command Post (ICP), unless otherwise noted.				
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**ESCALATE, DOWNGRADE OR STAND-DOWN LEVELS OF EMERGENCY:** As the emergency is brought under control, the decision to downgrade the level and/or stand down the emergency will be based on air monitoring readings in consultation with the **Incident Commander** and the applicable government regulator. All affected persons and the media must be kept informed of the status of an emergency. **EMERGENCY FOLLOW-UP:** Once the emergency is over, the area residents, transients, industrial users, involved government agencies, and any individual notified will be informed of the stand-down by the **Information Officer** or **Public Safety Group Supervisor**.





# 2.10 GENERAL STAFF ROLES – OPERATIONS SECTION

OPERATIONS SECTION CHIEF	ON-SITE GROUP SUPERVISOR	STAGING AREA MANAGER	SITE SAFETY	CONTROL	CONTAINMENT
<p>The <b>Operations Section Chief</b> is responsible for managing all tactical operations occurring at the location of the incident. The Incident Action Plan provides the necessary guidance. The need to expand the <b>Operations Section</b> is generally dictated by the number of tactical resources involved and is influenced by span of control considerations.</p>	<p><b>On-Site Group Supervisor</b> is responsible for coordinating all activities of <b>Control</b>, <b>Containment</b> and <b>Site Safety</b> at the scene of the emergency / incident.</p>	<p>The <b>Staging Area Manager</b> is responsible for managing all activities within a Staging Area.</p>	<p><b>Site Safety</b> is responsible for responder safety and safety advice at all times at the scene of the emergency / incident.</p>	<p><b>Control</b> is responsible for implementing measures designed to bring the incident under control or stop the incident.</p>	<p><b>Containment</b> is responsible for implementing measures designed to reduce the impact of the incident on and prevent the spread of the incident to the surrounding areas.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Identify and confirm communication links.</li> <li><input type="checkbox"/> Ensure the On-Site Command Post (OSCP) is established.</li> <li><input type="checkbox"/> Manage the following positions, as required: <b>On-Site Group Supervisor</b>, <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> In conjunction with the <b>Incident Commander</b>, the <b>Planning Section Chief</b>, and the <b>Public Safety Group Supervisor</b>, develop and implement an Incident Action Plan (IAP)</li> <li><input type="checkbox"/> Ensure responder safety at all times.</li> <li><input type="checkbox"/> Oversee control / containment procedures; ensure the hazard is isolated.</li> <li><input type="checkbox"/> Determine the current and potential environmental impact of product released, response activities, or waste disposal.</li> <li><input type="checkbox"/> Ensure that all environmental laws and regulations are complied with during emergency response operations.</li> <li><input type="checkbox"/> Provide technical advice to <b>Incident Commander</b> and with the <b>Public Safety Group Supervisor</b> determine public protection measures.</li> <li><input type="checkbox"/> Assess the requirements for on-site safety supervision, personnel, equipment, and other contract services. Coordinate with <b>Logistics</b> to obtain equipment and resources.</li> <li><input type="checkbox"/> Assist the <b>On-Site Group Supervisor</b> in determining whether ignition is appropriate. If at all possible, input is to be obtained from the <b>Incident Commander</b>, the <b>Crisis Manager</b> and the applicable government regulator.</li> <li><input type="checkbox"/> Maintain continuous communications with the <b>Incident Commander</b>.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure all personnel are accounted for. Release nonessential personnel from the site</li> <li><input type="checkbox"/> Oversee and maintain control of all on-site personnel.</li> <li><input type="checkbox"/> Establish On-Site Command Post (OSCP).</li> <li><input type="checkbox"/> Obtain incident briefing and environmental impact information.</li> <li><input type="checkbox"/> Coordinate activities of <b>Staging Area Manager</b>, <b>Site Safety</b>, <b>Control</b> and <b>Containment</b>.</li> <li><input type="checkbox"/> Report air monitoring to <b>Incident Commander</b> (third party and regulatory).</li> <li><input type="checkbox"/> Call police, fire and ambulance as needed.</li> <li><input type="checkbox"/> Coordinate with ambulance / fire / RCMP / regulatory agencies / spill co-ops.</li> <li><input type="checkbox"/> Conduct meetings with on-site personnel to review action plans, communication and safety.</li> <li><input type="checkbox"/> Request additional resources needed to implement on-site response actions.</li> <li><input type="checkbox"/> Supervise the execution of the on-site response actions.</li> <li><input type="checkbox"/> The <b>On-Site Group Supervisor</b> has the authority to ignite the release if ignition criteria are met. If at all possible, the <b>On-Site Group Supervisor</b> must consult with higher authority individuals within the company (ideally the <b>Operations Section Chief</b>, <b>Incident Commander</b>, <b>Crisis Manager</b>, etc.) and the applicable government regulator before making the decision to ignite a release. Refer to SECTION 7.14 in SECTION 7: PUBLIC SAFETY GUIDELINES.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Establish a staging area near the incident site and outside of the EPZ. When choosing a site for the staging area ensure the following conditions are met:                             <ul style="list-style-type: none"> <li><input type="checkbox"/> Adequate sized site that is stable and level with suitable access roads</li> <li><input type="checkbox"/> No entry problems such as narrow approach ways, gates, power lines, buried pipelines, etc.</li> <li><input type="checkbox"/> Approval has been received from landowner</li> <li><input type="checkbox"/> Reception of communication equipment is adequate</li> </ul> </li> <li><input type="checkbox"/> Erect staging area information and directional signs to the staging area, if required.</li> <li><input type="checkbox"/> Flag the perimeter of the staging area.</li> <li><input type="checkbox"/> Obtain an office trailer and emergency lighting, if required.</li> <li><input type="checkbox"/> Coordinate traffic and maintain a log of personnel and services dispatched to, or arriving from the site of the emergency. Communicate this information to the <b>Operations Section Chief</b>.</li> <li><input type="checkbox"/> Respond to <b>Operations Section Chief</b> or <b>Incident Commander</b> requests for resources.</li> <li><input type="checkbox"/> Confirm all workers have required training before they are dispatched to the incident.</li> <li><input type="checkbox"/> Maintain and provide status to the <b>Planning Section</b> of all resources in Staging Area.</li> <li><input type="checkbox"/> Demobilize or move Staging Area as required.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Assess hazards &amp; potential risks e.g. fire/explosion, toxicity, oxygen deficiency, ignition sources, access/egress.</li> <li><input type="checkbox"/> Ensure responder safety at all times.</li> <li><input type="checkbox"/> Ensure that on-site personnel are taking appropriate safety actions: PPE, SCBA / SABA, Safe Work Procedures, proper grounding / bonding procedures, work in teams, etc.</li> <li><input type="checkbox"/> Ensure workers that show signs of stress, fatigue, and other symptoms are demobilized and sent for treatment if necessary.</li> <li><input type="checkbox"/> Maintain records of all injuries and on-site medical treatments.</li> <li><input type="checkbox"/> Conduct responder safety orientations.</li> <li><input type="checkbox"/> Monitor activities and conduct a head count on a regular basis.</li> <li><input type="checkbox"/> Continually evaluate risks and stop unsafe activities immediately.</li> <li><input type="checkbox"/> Recommend alternatives for activities that are considered to be unsafe.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Assist with the development of control procedures.</li> <li><input type="checkbox"/> Identify immediate response tactics (i.e. offensive / defensive response tactics). Only when safety is assured, take immediate operational actions to bring the incident under control (i.e. shut down, isolate, de-pressure, etc.).</li> <li><input type="checkbox"/> Provide or seek technical / engineering advice around all control-related issues.</li> <li><input type="checkbox"/> Inform <b>Operations Section Chief</b> of any interactions with regulatory agencies or environmental personnel.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Assist with the development of containment procedures.</li> <li><input type="checkbox"/> Identify immediate response tactics (i.e. offensive / defensive response tactics). Only when safety is assured, take actions to contain the incident so as to prevent the incident from spreading offsite and to reduce the impact on the public, sensitive terrain, watercourses, etc.</li> <li><input type="checkbox"/> Provide or seek technical / engineering advice around all containment-related issues.</li> <li><input type="checkbox"/> Secure the scene and restrict access to essential and authorized personnel only.</li> <li><input type="checkbox"/> Inform <b>Operations Section Chief</b> of any interactions with regulatory agencies or environmental personnel.</li> <li><input type="checkbox"/> Coordinate oil spill cooperative activities (booms, dams, etc.).</li> </ul>
<p><b>IMPORTANT</b></p> <p><b>Prior</b> to beginning any activities, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain a completed ICS 201 Incident Briefing and ICS 207 Incident Organization Chart from the <b>Incident Commander</b>.</li> </ul> <p><b>Throughout</b> the duration of the incident, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Chronologically document all actions, decisions, contacts and requests on an ICS 214 Activity Log. Copies can be found in SECTION 5: FORMS.</li> </ul> <p><b>After</b> the incident is over, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Assist with post-incident activities.</li> </ul> <p style="text-align: center;"><b>ALL FORMS REFERENCED CAN BE FOUND IN SECTION 5: FORMS</b></p>					
<p><b>POST INCIDENT GUIDELINES</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Release non-essential responders/resources and notify the stand down to all operations section responders.</li> <li><input type="checkbox"/> Ensure Rovers provides assistance to residents returning to their homes.</li> <li><input type="checkbox"/> Collect/process any public expense claims.</li> <li><input type="checkbox"/> Provide Critical Incident Stress Debriefing and required support to responders.</li> <li><input type="checkbox"/> Participate in the incident response debriefing.</li> <li><input type="checkbox"/> Collect/submit all incident documentation to the <b>Incident Commander</b>.</li> </ul>					
Located at the Incident Command Post (ICP)	Located at the On-Site Command Post (OSCP)	Located at the Staging Area	Located at the On-Site Command Post (OSCP)	Located at the On-Site Command Post (OSCP)	Located at the On-Site Command Post (OSCP)

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**ESCALATE, DOWNGRADE OR STAND-DOWN LEVELS OF EMERGENCY:** As the emergency is brought under control, the decision to downgrade the level and/or stand down the emergency will be based on air monitoring readings in consultation with the **Incident Commander** and the applicable government regulator. All affected persons and the media must be kept informed of the status of an emergency. **EMERGENCY FOLLOW-UP:** Once the emergency is over, the area residents, transients, industrial users, involved government agencies, and any individual notified will be informed of the stand-down by the **Information Officer** or **Public Safety Group Supervisor**.



# 2.11 GENERAL STAFF ROLES – PLANNING SECTION

PLANNING SECTION CHIEF	DOCUMENTATION UNIT	TECHNICAL SPECIALISTS UNIT	SITUATION UNIT	RESOURCES UNIT	DEMOBILIZATION UNIT
<p>The <b>Planning Section Chief</b> is responsible for providing planning and status services for the incident. Under the direction of the <b>Planning Section Chief</b>, the Planning Section collects situation and resources status information, evaluates it, and processes the information for use in developing action plans. Dissemination of information can be in the form of the Incident Action Plan, formal briefings, or through map and status board displays.</p>	<p>The <b>Documentation Unit</b> is responsible for the maintenance of accurate, up-to-date incident files. Duplication services will also be provided by the <b>Documentation Unit</b>.</p>	<p>Certain incidents or events may require the use of <b>Technical Specialists</b> who have specialized knowledge and expertise. <b>Technical Specialists</b> may function within the Planning Section, or be assigned wherever their services are required.</p>	<p>The collection, processing, and organization of all incident information. The <b>Situation Unit</b> may prepare future projections of incident growth, maps, and intelligence information.</p>	<p>The <b>Resources Unit</b> is responsible for maintaining the status of all assigned resources at an incident.</p>	<p>The <b>Demobilization Unit</b> is responsible for developing the Incident Demobilization Plan.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Identify and confirm communication links.</li> <li><input type="checkbox"/> Assign personnel to assume the following positions, as required: <b>Documentation, Technical, Situation, Resources</b>, and <b>Demobilization</b>.</li> <li><input type="checkbox"/> Assist with setup of the Incident Command Post.</li> <li><input type="checkbox"/> Review the details of the incident and support the <b>Incident Commander</b> with the development of a preliminary response strategy.</li> <li><input type="checkbox"/> Identify the need for technical specialists.</li> <li><input type="checkbox"/> Collect and analyze information on the current situation, prepare situation displays and situation summaries, and develop maps and projections.</li> <li><input type="checkbox"/> Establish special information collection activities as necessary, e.g., weather, environmental, toxics, etc.</li> <li><input type="checkbox"/> Provide technical support to the <b>Incident Commander</b> and work with <b>Incident Commander</b> to develop the Incident Action Plan (IAP).</li> <li><input type="checkbox"/> Review any changes to the Incident Action Plan (IAP) to ensure consistency.</li> <li><input type="checkbox"/> Assemble information on alternative strategies.</li> <li><input type="checkbox"/> Coordinate with <b>Logistics</b> to determine current available resources and resource availability for future plans of action.</li> <li><input type="checkbox"/> Establish reporting schedules.</li> <li><input type="checkbox"/> Conduct long-range and / or contingency planning.</li> <li><input type="checkbox"/> Develop plans for demobilization.</li> <li><input type="checkbox"/> Maintain continuous communications with the <b>Incident Commander</b>.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Document the Incident Action Plan (IAP) strategies using the ICS 201 Incident Briefing Form provided in SECTION 1: ACTIVATION NOTIFICATION or SECTION 5: FORMS and disseminate them to all key responders. <small>FORM ICS 201</small></li> <li><input type="checkbox"/> Be prepared to document the <b>Incident Commander's</b> status update meetings using whiteboards, PC or Action Logs. <small>FORM ICS 214</small></li> <li><input type="checkbox"/> Ensure consistent documentation.</li> <li><input type="checkbox"/> Ensure timely dissemination of all documentation.</li> <li><input type="checkbox"/> Participate in planning meetings, capturing key information, decisions made, commitments and status.</li> <li><input type="checkbox"/> Collect documentation from response team members and maintain a consistent system for organizing the data. <ul style="list-style-type: none"> <li><input type="checkbox"/> Records must be held for a minimum of 5 years as it may be requested by the regulatory agency at any point during that time.</li> </ul> </li> <li><input type="checkbox"/> Establish duplication services.</li> <li><input type="checkbox"/> Incident files will be stored for legal, analytical, and historical purposes.</li> <li><input type="checkbox"/> Post and maintain all Emergency Status Boards and other laminated charts in the Incident Command Post.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Determine what technical support is available now and in the future.</li> <li><input type="checkbox"/> Work with <b>Logistics</b> to determine the key locations for the required technical support and appropriate time to acquire.</li> <li><input type="checkbox"/> Gather data (weather, etc.) and forecast changes considering incident potential and develop new or modified response strategies.</li> <li><input type="checkbox"/> As required, obtain plume dispersion modelling.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Collect and evaluate information to establish an accurate picture of the situation and creates a detailed summary. Use this information to create maps and projections.</li> <li><input type="checkbox"/> Prepare, post, or disseminate resources and situation status information as required, including special requests.</li> <li><input type="checkbox"/> Provide photographic services and maps if required.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Monitor the status and location of all incident resources / personnel responding to the incident.</li> <li><input type="checkbox"/> Oversee the check-in of all resources.</li> <li><input type="checkbox"/> Maintenance of a master list of all resources, e.g., key supervisory personnel, primary and support resources, etc.</li> <li><input type="checkbox"/> May assist in preparing the written Incident Action Plan.</li> <li><input type="checkbox"/> Maintain and post the current status and location of all resources.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Prepare plan for the demobilization of all personnel and equipment upon resolution of the incident.</li> <li><input type="checkbox"/> Ensure resources in available status are still required. Identify surplus resources and probably release time.</li> <li><input type="checkbox"/> Debrief non-required resources and dismiss resources being demobilized.</li> <li><input type="checkbox"/> Coordinate demobilization with agency representatives.</li> <li><input type="checkbox"/> Develop incident check-out function for all units.</li> <li><input type="checkbox"/> Ensure the demobilization process is organized, safe and cost effective.</li> </ul>
<p><b>IMPORTANT</b></p> <p><b>Prior</b> to beginning any activities, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain a completed ICS 201 Incident Briefing and ICS 207 Incident Organization Chart from the <b>Incident Commander</b>.</li> </ul> <p><b>Throughout</b> the duration of the incident, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Chronologically document all actions, decisions, contacts and requests on an ICS 214 Activity Log. Copies can be found in SECTION 5: FORMS.</li> </ul> <p><b>After</b> the incident is over, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Assist with post-incident activities.</li> </ul> <p><b>ALL FORMS REFERENCED CAN BE FOUND IN SECTION 5: FORMS</b></p>					
<p><b>POST INCIDENT GUIDELINES</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Collect/submit all incident documentation to the <b>Incident Commander</b>.</li> <li><input type="checkbox"/> Participate in the incident response debriefing.</li> </ul>					
<p><b>All team members are located at the INCIDENT COMMAND POST (ICP), unless otherwise noted.</b> <span style="float: right;">March 2025</span></p>					

**ESCALATE, DOWNGRADE OR STAND-DOWN LEVELS OF EMERGENCY:** As the emergency is brought under control, the decision to downgrade the level and/or stand down the emergency will be based on air monitoring readings in consultation with the **Incident Commander** and the applicable government regulator. All affected persons and the media must be kept informed of the status of an emergency. **EMERGENCY FOLLOW-UP:** Once the emergency is over, the area residents, transients, industrial users, involved government agencies, and any individual notified will be informed of the stand-down by the **Information Officer** or **Public Safety Group Supervisor**.



# 2.12 GENERAL STAFF ROLES – LOGISTICS SECTION

LOGISTICS SECTION CHIEF	COMMUNICATIONS UNIT	MEDICAL UNIT	FOOD UNIT	SUPPLY UNIT	FACILITIES UNIT	GROUND SUPPORT UNIT
<p>All incident support needs are provided by the Logistics Section. The section is responsible for providing: facilities, transportation, communications, supplies, equipment maintenance and fuelling, food services, medical services, and ordering resources. Six units may be established within the Logistics Section and the <b>Logistics Section Chief</b> will determine the need to activate or deactivate a unit. If a unit is not activated, responsibility for that unit's duties will remain with the <b>Logistics Section Chief</b>.</p>	<p>The <b>Communications Unit</b> is responsible for developing plans for the use of incident communications equipment and facilities; installing and testing of communications equipment; supervision of the Incident Communications Centre, if established; and the distribution and maintenance of communications equipment.</p>	<p>The <b>Medical Unit</b> is responsible for all medical services for incident assigned personnel. The unit will develop procedures for managing major medical emergencies; and provide medical aid.</p> <p><i>Note Medical assistance to the public or victims of the emergency is an operational function.</i></p>	<p>Responsible for supplying the food needs for the entire incident, including all remote locations, (e.g., Camps, Staging Areas), as well as providing food for personnel unable to leave tactical field assignments. The <b>Food Unit</b> interacts with the <b>Facilities Unit</b> for location of fixed-feeding site; the <b>Supply Unit</b> for food ordering; and the <b>Ground Support Unit</b> for transporting food.</p>	<p>The <b>Supply Unit</b> is responsible for ordering, receiving, processing, and storing all incident-related resources.</p>	<p>The <b>Facilities Unit</b> is responsible for set-up, maintenance, and demobilization of all incident support facilities except staging areas. The <b>Facilities Unit</b> will also provide security services to the incident as needed.</p>	<p>The Ground Support Unit is primarily responsible for the maintenance, services, and fuelling of all mobile equipment and vehicles, with the exception of aviation resources. The unit also has responsibility for the ground transportation of personnel, supplies, and equipment.</p>
<ul style="list-style-type: none"> <li>❑ Identify and confirm communication links.</li> <li>❑ Assign personnel as required.</li> <li>❑ List and obtain all immediate resources requested by the <b>Incident Commander</b> or <b>Operations Section Chief</b>.</li> <li>❑ Identify anticipated and known incident service and support requirements.</li> <li>❑ Maintain continuous communications with the <b>Incident Commander</b>.</li> <li>❑ Develop plans to move required resources to site.</li> <li>❑ Confirm spending authorities with the Finance / Admin Section.</li> <li>❑ Mobilize resources.</li> <li>❑ Move required resources to site.</li> <li>❑ Coordinate spending with the <b>Finance / Admin Section Chief</b>.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Establish the communications plan for the use of incident communications equipment and facilities.</li> <li>❑ Install, test, distribute, and maintain all communications equipment.</li> <li>❑ Advise on communications capabilities and limitations.</li> <li>❑ Establish telephone, communication links, and public address systems.</li> <li>❑ Establish clear and widespread communication throughout the incident.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Arrange and provide response personnel with first aid and minor medical services.</li> <li>❑ Develop Incident Medical Plan.</li> <li>❑ Develop procedures for handling serious injuries of responder personnel.</li> <li>❑ Provide medical aid to personnel.</li> <li>❑ Assist the Finance / Administration Section with processing injury-related claims.</li> </ul> <p><i>Note Provision of medical assistance to the public or victims of the emergency is an operational function and would be done by the Operations Section and not by the Logistics Section Medical Unit. If there is a requirement for victims of an incident the local public ambulance service is most often utilized.</i></p>	<ul style="list-style-type: none"> <li>❑ Responsible for supplying the food needs for the entire incident, including all remote locations (e.g., Camps, Staging Areas), as well as providing food for personnel unable to leave tactical field assignments.</li> <li>❑ Works with the Planning Section - <b>Resources Unit</b> to anticipate the numbers of personnel to be fed and develop plans for supplying food to all incident areas.</li> <li>❑ Interacts with the <b>Facilities Unit</b> for location of fixed-feeding site; the <b>Supply Unit</b> for food ordering; and the <b>Ground and Air Support Units</b> for transporting food.</li> <li>❑ Obtain necessary equipment and supplies and establish cooking facilities.</li> <li>❑ Order sufficient food and potable water from the <b>Supply Unit</b>.</li> <li>❑ Maintain inventory of food and water.</li> <li>❑ Maintain food services areas, ensuring that all appropriate health and safety measures and being followed.</li> <li>❑ Supervise caterers, cooks, and other <b>Food Unit</b> personnel as appropriate.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Order, receive, distribute and track all incident equipment and supplies.</li> <li>❑ Ordered all off-incident resources including: tactical and support resources (including personnel), all expendable and non-expendable support supplies.</li> <li>❑ Management of tool operations, including the storage, disbursement, and service of all tools and portable non-expendable equipment.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Set-up, maintain, and demobilize incident support facilities with the exception of staging areas.</li> <li>❑ Facilities may include: Incident Command Post, Incident Base, Camps, and other facilities within the incident area to be used for feeding, sleeping and sanitation services.</li> <li>❑ Prepare layout of facilities; inform appropriate unit leaders.</li> <li>❑ Will provide security services to the incident as needed.</li> <li>❑ Contact local law enforcement agencies as required.</li> <li>❑ Investigate and document all complaints and suspicious occurrences.</li> <li>❑ Ensure strict compliance with applicable safety regulations.</li> <li>❑ Provide facility maintenance services, e.g., sanitation, lighting, etc.</li> <li>❑ Demobilize base and camp facilities.</li> </ul>	<ul style="list-style-type: none"> <li>❑ Responsible for the maintenance, service and fuelling of all mobile equipment and vehicles, with the exception of aviation resources.</li> <li>❑ Coordinates the transportation of all personnel, supplies, and equipment.</li> <li>❑ Update the <b>Resources Unit</b> with the status (location and capability) of transportation vehicles.</li> <li>❑ Develop the Incident Traffic Plan as required.</li> </ul>
<div style="border: 1px solid red; padding: 5px;"> <p style="text-align: center;"><b>IMPORTANT</b></p> <p><b>Prior</b> to beginning any activities, each person in a role must:</p> <ul style="list-style-type: none"> <li>❑ Obtain a completed ICS 201 Incident Briefing and ICS 207 Incident Organization Chart from the <b>Incident Commander</b>.</li> </ul> <p><b>Throughout</b> the duration of the incident, each person in a role must:</p> <ul style="list-style-type: none"> <li>❑ Chronologically document all actions, decisions, contacts and requests on an ICS 214 Activity Log. Copies can be found in SECTION 5: FORMS.</li> </ul> <p><b>After</b> the incident is over, each person in a role must:</p> <ul style="list-style-type: none"> <li>❑ Assist with post-incident activities.</li> </ul> <p style="text-align: center;"><b>ALL FORMS REFERENCED CAN BE FOUND IN SECTION 5: FORMS</b></p> </div>						
					<div style="border: 1px solid red; padding: 5px;"> <p style="text-align: center;"><b>POST INCIDENT GUIDELINES</b></p> <ul style="list-style-type: none"> <li>❑ Notify all resources contacted of the stand down status.</li> <li>❑ Assemble response related cost summaries.</li> <li>❑ Collect/submit all incident documentation to the <b>Incident Commander</b>.</li> </ul> </div>	

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# 2.13 GENERAL STAFF ROLES – FINANCE / ADMIN SECTION

FINANCE / ADMIN SECTION CHIEF	TIME UNIT	PROCUREMENT UNIT	COMPENSATION & CLAIMS UNIT	COST UNIT
<p>The <b>Finance / Administration Section Chief</b> is responsible for managing all financial aspects of an incident. The <b>Finance / Administration Section Chief</b> will determine the need to activate or deactivate a unit.</p>	<p>The <b>Time Unit</b> is responsible for ensuring the accurate recording of daily personnel time, compliance with specific agency time recording policies and managing commissary operations if established at the incident.</p>	<p>All financial matters pertaining to vendor contracts, leases and fiscal agreements are managed by the <b>Procurement Unit</b>. The unit is also responsible for maintaining equipment time records. The <b>Procurement Unit</b> establishes local sources for equipment and supplies; manages all equipment rental agreements; and processes all rental and supply fiscal document billing invoices.</p>	<p>This unit oversees the completion of all forms required by workers' compensation and local agencies. A file of injuries and illnesses associated with the incident will also be maintained and all witness statement will be obtained in writing. Close coordination with the medical Unit is essential. The <b>Compensation &amp; Claims Unit</b> is also responsible for investigating all claims involving property associated with or involved in the incident.</p>	<p>The <b>Cost Unit</b> provides all incident cost analysis. It ensures the proper identification of all equipment and personnel requiring payment; records all cost data; analyzes and prepares estimates of incident costs; and maintains accurate records of incident costs.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Identify and confirm communication links.</li> <li><input type="checkbox"/> Assign personnel to assume the following positions, as required: <b>Time Unit, Procurement Unit, Compensation &amp; Claims Unit, and Cost Unit.</b></li> <li><input type="checkbox"/> Review legal issues with the <b>Incident Commander</b> and <b>Crisis Manager.</b></li> <li><input type="checkbox"/> Maintain continuous communications with the <b>Incident Commander.</b></li> <li><input type="checkbox"/> Brief agency administrative personnel on all incident-related financial issues needing attention or follow-up.</li> <li><input type="checkbox"/> Manage all financial aspects of an incident.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Record daily personnel time, ensure compliance with specific agency time recording policies, and manage commissary operations if established at the incident.</li> <li><input type="checkbox"/> Submit cost estimate data forms to <b>Cost Unit</b> as required.</li> <li><input type="checkbox"/> Ensure that all records are current and complete prior to demobilization.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Manage finances relating to vendor contracts, leases and fiscal agreements.</li> <li><input type="checkbox"/> Maintain equipment time records.</li> <li><input type="checkbox"/> Establish local sources for equipment and supplies. Coordinate with local jurisdiction on plans and supply sources.</li> <li><input type="checkbox"/> Manage all equipment rental agreements. Establish contracts and agreement with supply vendors.</li> <li><input type="checkbox"/> Processes all rental and supply fiscal document billing invoices.</li> <li><input type="checkbox"/> Prepare and authorize contracts and land use agreements, as needed.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Handle all matters relating to compensation for injury or property damage due to the incident.</li> <li><input type="checkbox"/> Oversees the completion of all forms required by workers' compensation and local agencies.</li> <li><input type="checkbox"/> Maintain a file with all the injuries and illnesses associated with the incident.</li> <li><input type="checkbox"/> Obtain witness statements in writing.</li> <li><input type="checkbox"/> Investigate all claims involving property associated with or involved in the incident.</li> <li><input type="checkbox"/> Ensure the completion of a Resident Compensation Log for any out-of-pocket expenses incurred by evacuees. <span style="border: 1px solid black; padding: 2px;">Form B2</span></li> <li><input type="checkbox"/> All claims must be submitted to the Finance and Legal departments for processing and disbursement of funds.                             <ul style="list-style-type: none"> <li><input type="checkbox"/> If applicable, Finance and Legal will deal with insurers as well as any other extraneous circumstances (affected parties want more, etc.).</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Collect and evaluate cost data to establish an accurate picture of the incident costs.</li> <li><input type="checkbox"/> Create cost summaries, cost estimates, and cost saving recommendations.</li> <li><input type="checkbox"/> Prepare resources-use cost estimates for the Planning Section.</li> <li><input type="checkbox"/> Identify all equipment and personnel requiring payment.</li> </ul>
<p><b>IMPORTANT</b></p> <p><b>Prior</b> to beginning any activities, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain a completed ICS 201 Incident Briefing and ICS 207 Incident Organization Chart from the <b>Incident Commander.</b></li> </ul> <p><b>Throughout</b> the duration of the incident, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Chronologically document all actions, decisions, contacts and requests on an ICS 214 Activity Log. Copies can be found in SECTION 5: FORMS.</li> </ul> <p><b>After</b> the incident is over, each person in a role must:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Assist with post-incident activities.</li> </ul> <p style="text-align: center; color: red; font-weight: bold;">ALL FORMS REFERENCED CAN BE FOUND IN SECTION 5: FORMS</p>				
<p><b>POST INCIDENT GUIDELINES</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Participate in the incident response debriefing.</li> <li><input type="checkbox"/> Assemble response related cost summaries.</li> <li><input type="checkbox"/> Collect/submit all incident documentation to the <b>Incident Commander.</b></li> </ul>				
<p><b>All team members are located at the INCIDENT COMMAND POST (ICP), unless otherwise noted.</b> <span style="float: right;">March 2025</span></p>				

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# 2.14 OPERATIONS SECTION - PUBLIC SAFETY ROLES

PUBLIC SAFETY GROUP SUPERVISOR	AIR MONITORS	RECEPTION CENTRE REP	ROADBLOCKS	ROVERS	TELEPHONERS
<p><b>The Public Safety Group Supervisor is responsible for the management, planning, consideration and implementation of external public protection activities for the duration of the incident.</b></p>	<p><b>Air Monitoring</b> personnel are responsible for acquiring and providing air quality readings to the <b>Public Safety Group Supervisor</b>.</p>	<p><b>Reception Centre Reps</b> are responsible for establishing reception centres, managing evacuee accommodation, communication and documentation for compensation purposes.</p>	<p><b>Roadblock</b> personnel are responsible for maintaining assigned roadblock positions, air monitor readings and communication with transients.</p>	<p><b>Rovers</b> travel to assigned locations to locate the public and personally provide public safety instructions and assistance as required.</p>	<p><b>Telephoners</b> are responsible for the notification of impacted residences and businesses to provide public safety instructions.</p>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm communication links with the <b>Incident Commander</b> and <b>Operations Section Chief</b>.</li> <li><input type="checkbox"/> In conjunction with the <b>Incident Commander</b>: determine the size of the EPZ; identify the residents, businesses, industrial operators, and / or transients in the area; and determine the initial public protection measures to be taken. Refer to SECTION 7: PUBLIC SAFETY GUIDELINES for guidelines on evacuation / shelter, ignition, roadblocks, rovers, public concerns, etc. Additional information for <b>Air Monitors, Reception Centre Representative, Roadblocks, Rovers, and Telephoners</b> can be found in SECTION 2: ROLES &amp; RESPONSIBILITIES.</li> <li><input type="checkbox"/> In conjunction with the <b>Incident Commander, Planning Section Chief, and Operations Section Chief</b>, develop and implement an Incident Action Plan (IAP).</li> <li><input type="checkbox"/> Review resident lists, area user lists, reception centres, and telephone numbers within the ERP.</li> <li><input type="checkbox"/> Assign personnel to assume the following positions as required: <b>Air Monitors, Reception Centre Representative, Roadblocks, Rovers, and Telephoners</b>.             <ul style="list-style-type: none"> <li><input type="checkbox"/> The <b>Telephoners</b> must have sufficient personnel to accommodate the following ratios when contacting residents: 1 Telephoner to every 7 residences; and 1 Supervisor for every 10 Telephoners.</li> </ul> </li> <li><input type="checkbox"/> Dispatch <b>Air Monitors</b> at a Level 1 emergency (hand-held and mobile).             <ul style="list-style-type: none"> <li><input type="checkbox"/> Dispatch trained personnel with the appropriate hand-held gas monitors to record concentrations at the nearest unevacuated residences downwind of the incident site.</li> <li><input type="checkbox"/> Mobilize third party mobile air monitoring units.</li> <li><input type="checkbox"/> Maintain communication with the applicable government regulator and environment agency regarding air monitoring needs and activities.</li> </ul> </li> <li><input type="checkbox"/> Consult with the <b>Operations Section Chief</b> to determine the need for evacuation / sheltering. This is based on air monitoring readings at the nearest downwind residence.</li> <li><input type="checkbox"/> Prioritize residents and area users in the EPZ to establish the order of evacuation. Coordinate evacuation or shelter of residents, area users, and transients (via <b>Telephoners</b> and <b>Rovers</b>).             <ul style="list-style-type: none"> <li><input type="checkbox"/> Determine who needs to be notified and what script will be used: Early Notification / Voluntary Evacuation Message, Shelter-in-Place Phone Message, Evacuation Phone Message.</li> <li><input type="checkbox"/> At a Level 1 Emergency it is required to notify any special needs residents and give them the option to evacuate.</li> <li><input type="checkbox"/> If residences are evacuated, a reception centre must be established.</li> <li><input type="checkbox"/> Determine and notify landowner / occupant(s) as soon as possible.</li> <li><input type="checkbox"/> Ensure the schools / school buses are contacted to make arrangements for school age children (if applicable).</li> <li><input type="checkbox"/> If a large number of people need to be evacuated (large industrial operations and/or public facilities) refer to SECTION 12: SITE SPECIFIC (white tabs) for contacts to obtain charter buses or changes to the normal notification procedures.</li> </ul> </li> <li><input type="checkbox"/> Send <b>Rovers</b> (if required) to identify human activity in the area which is not already identified within the ERP (drilling, pipeline construction, logging, hunting, farming, camping, fishing, etc.).             <ul style="list-style-type: none"> <li><input type="checkbox"/> Prepare Evacuation Notices and provide copies to <b>Rovers</b>.</li> <li><input type="checkbox"/> <b>Rovers</b> can be used to assist with notifications, assist with evacuating special needs residents, assist with air monitoring, etc.</li> </ul> </li> <li><input type="checkbox"/> Determine the need for helicopters to identify human activity in the area.</li> <li><input type="checkbox"/> Determine the need for and location of <b>Roadblocks</b> to isolate and secure the area.             <ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure all <b>Roadblock</b> personnel are properly trained and have appropriate roadblock kits.</li> <li><input type="checkbox"/> Ensure all <b>Roadblock</b> personnel have the legal authority to restrict access to the area.</li> </ul> </li> <li><input type="checkbox"/> Assess public impact outside of EPZ. See SECTION 3: GOVERNMENT AGENCY ROLES to determine what assistance local authorities can provide for public protection outside the EPZ.</li> <li><input type="checkbox"/> Regularly update the <b>Operations Section Chief</b>.</li> <li><input type="checkbox"/> Confirm communication links with: <b>Air Monitors, Reception Centre, Roadblocks, Rovers, and Telephoners</b>. Personnel should check in at scheduled intervals.</li> <li><input type="checkbox"/> Review and confirm evacuation of residents, area industrial users, transients, etc. from the area.</li> <li><input type="checkbox"/> Request that a Notice to Airmen (NOTAM) is issued to restrict the airspace above the EPZ.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Provide air monitoring readings to assist with decision making (evacuation / shelter / ignition).</li> <li><input type="checkbox"/> Obtain and check equipment and information (maps, forms, communications, reports, monitors, safety, and breathing equipment).</li> <li><input type="checkbox"/> Confirm communication links.</li> <li><input type="checkbox"/> Monitor closest downwind public location or residence.</li> <li><input type="checkbox"/> Monitor environment for adverse effects.             <ul style="list-style-type: none"> <li><input type="checkbox"/> Record all readings on the Air Monitoring Log.</li> </ul> </li> <li><input type="checkbox"/> Report all readings at established intervals to the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> For your own safety, ensure <b>Public Safety Group Supervisor</b> is notified immediately if readings are approaching 10% LEL and / or 10 ppm H<sub>2</sub>S.</li> <li><input type="checkbox"/> Prepare Mobile Monitoring Plan.</li> <li><input type="checkbox"/> Collect/submit all incident documentation to the direct report/supervisor.</li> <li><input type="checkbox"/> Participate in the incident response debriefing; if requested.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm reception centre is available for use.</li> <li><input type="checkbox"/> Establish reception centre. Refer to SECTION 2: ROLES &amp; RESPONSIBILITIES.</li> <li><input type="checkbox"/> Confirm communication links.</li> <li><input type="checkbox"/> Receive evacuees and maintain a Reception Centre Registration Log.</li> <li><input type="checkbox"/> Arrange for food and accommodations for the evacuees.</li> <li><input type="checkbox"/> Provide evacuees with a place to request counselling services, if required.</li> <li><input type="checkbox"/> Record and follow up on all evacuees who choose to make their own accommodation arrangements.</li> <li><input type="checkbox"/> Arrange for temporary care of livestock (if possible) and the security of evacuated property.</li> <li><input type="checkbox"/> Establish and oversee compensation administration activities at the reception centre.</li> <li><input type="checkbox"/> Reimburse evacuees for their immediate out-of-pocket expenses and log details on a Resident Compensation Log.</li> <li><input type="checkbox"/> Where possible, provide evacuees with information regarding their property, livestock, and the incident.</li> <li><input type="checkbox"/> Forward all media and incident inquiries to the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> Report all names of evacuees who have registered at the reception centre to the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> Address resident concerns and forward them to the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> WHEN DIRECTED: Complete all assigned post incident notifications and updates.</li> <li><input type="checkbox"/> Collect/submit all incident documentation to the direct report/supervisor.</li> <li><input type="checkbox"/> Participate in the incident response debriefing; if requested.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> In conjunction with the <b>Public Safety Group Supervisor</b> determine the need for and location of roadblocks.</li> <li><input type="checkbox"/> Pickup and check roadblock kits.</li> <li><input type="checkbox"/> Proceed to roadblock locations.</li> <li><input type="checkbox"/> Confirm communication links.</li> <li><input type="checkbox"/> Establish roadblocks to secure the EPZ.</li> <li><input type="checkbox"/> Follow the scripts and procedures in the ERP. Refer to either SECTION 2: ROLES &amp; RESPONSIBILITIES or SECTION 5: FORMS.</li> <li><input type="checkbox"/> Monitor area for H<sub>2</sub>S and / or LEL with personal monitors and document readings on the Air Monitoring Log.</li> <li><input type="checkbox"/> Report all H<sub>2</sub>S and / or LEL reading changes / increases to the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> For your own safety, ensure the <b>Public Safety Group Supervisor</b> is notified immediately if readings are approaching 10% LEL and / or 10 ppm H<sub>2</sub>S.</li> <li><input type="checkbox"/> Record all incoming and outgoing traffic, personnel, and equipment on the Roadblock Log.</li> <li><input type="checkbox"/> Forward information given to you by people passing through your location to the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> Maintain communication with the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> Maintain roadblock locations. Do not leave until requested to do so by the <b>Public Safety Group Supervisor</b> or until relieved by other <b>Roadblock</b> personnel.</li> <li><input type="checkbox"/> WHEN DIRECTED: Safely demobilize roadblock location and equipment.</li> <li><input type="checkbox"/> Collect/submit all incident documentation to the direct report/supervisor.</li> <li><input type="checkbox"/> Participate in the incident response debriefing; if requested.</li> </ul> <p><i>Note:</i> See SECTION 2: ROLES &amp; RESPONSIBILITIES for a media script for <b>Roadblock</b> and <b>Rover</b> personnel.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm resident contact lists are available.</li> <li><input type="checkbox"/> Confirm communication links.</li> <li><input type="checkbox"/> Know safe routes in and out of the EPZ.</li> <li><input type="checkbox"/> Search for residents and transients in the Emergency Response and Planning Zones.</li> <li><input type="checkbox"/> Check all buildings including barns, shops, sheds, etc.</li> <li><input type="checkbox"/> Assist, as required, with the notification, evacuation or sheltering of persons within the EPZ. Record all contact with residents using the Resident Contact Log.</li> <li><input type="checkbox"/> Post Evacuation Notices for residents that are not at their residence.</li> <li><input type="checkbox"/> Follow the scripts and procedures in the ERP. Refer to SECTION 2: ROLES &amp; RESPONSIBILITIES or SECTION 5: FORMS.</li> <li><input type="checkbox"/> Monitor area for H<sub>2</sub>S and / or LEL with personal monitors and document readings on the Air Monitoring Log.</li> <li><input type="checkbox"/> Report all H<sub>2</sub>S and / or LEL reading changes / increases to the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> For your own safety, ensure the <b>Public Safety Group Supervisor</b> is notified immediately if readings are approaching 10% LEL or 10 ppm H<sub>2</sub>S.</li> <li><input type="checkbox"/> Report any suspicious behaviour to the <b>Public Safety Group Supervisor</b> who will notify the police as required.</li> <li><input type="checkbox"/> Maintain communication with the <b>Public Safety Group Supervisor</b>.</li> <li><input type="checkbox"/> Provide assistance to residents returning to their homes. Upon request from residents, coordinate the testing of indoor air quality with local Fire Department or other air monitoring professional prior to resident entering home.</li> <li><input type="checkbox"/> Collect/submit all incident documentation to the direct report/supervisor.</li> <li><input type="checkbox"/> Participate in the incident response debriefing; if requested.</li> </ul> <p><i>Note:</i> See SECTION 2: ROLES &amp; RESPONSIBILITIES for a media script for <b>Roadblock</b> and <b>Rover</b> personnel.</p>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Confirm resident contact lists are available.</li> <li><input type="checkbox"/> Confirm communication links.</li> <li><input type="checkbox"/> In conjunction with the <b>Public Safety Group Supervisor</b>, determine who needs to be notified (residents, businesses, area users, etc.).</li> <li><input type="checkbox"/> Review with the <b>Public Safety Group Supervisor</b> which telephoner scripts to use: Early Notification / Voluntary Evacuation Message, Shelter-in-Place Phone Message, Evacuation Phone Message.</li> <li><input type="checkbox"/> Contact special needs residents at a Level 1 Emergency and provide them with the option to evacuate.</li> <li><input type="checkbox"/> Contact the other residents and area users in the EPZ and advise them to evacuate or shelter.</li> <li><input type="checkbox"/> Contact the schools / school buses to make arrangements for school age children (if applicable).             <ul style="list-style-type: none"> <li><input type="checkbox"/> Advise that buses in the affected area leave immediately and that buses should not enter the area.</li> <li><input type="checkbox"/> Request a school administrator for the reception centre to assist in managing the children and releasing them to their guardians.</li> </ul> </li> <li><input type="checkbox"/> Document all resident interactions using the Resident Contact Log and report this information to the <b>Public Safety Group Supervisor</b>. Immediately advise the <b>Public Safety Group Supervisor</b> about unsuccessful contacts and any residents requiring assistance.</li> <li><input type="checkbox"/> WHEN DIRECTED: Complete all assigned post incident notifications and updates.</li> <li><input type="checkbox"/> Collect/submit all incident documentation to the direct report/supervisor.</li> <li><input type="checkbox"/> Participate in the incident response debriefing; if requested.</li> </ul>
<p>Located at the <b>INCIDENT COMMAND POST (ICP)</b> or the <b>REGIONAL EMERGENCY OPERATIONS CENTRE (REOC)</b>.</p>	<p>Location will be <b>ASSIGNED</b>.</p>	<p>Location will be the <b>RECEPTION CENTRE</b>.</p>	<p>Location will be <b>ASSIGNED</b>.</p>	<p>Location will be <b>ASSIGNED</b>.</p>	<p>Location will be <b>INCIDENT COMMAND POST (ICP)</b> or <b>REGIONAL EMERGENCY OPERATIONS CENTRE (REOC)</b>.</p>

**ESCALATE, DOWNGRADE OR STAND-DOWN LEVELS OF EMERGENCY:** As the emergency is brought under control, the decision to downgrade the level and/or stand down the emergency will be based on air monitoring readings in consultation with the **Incident Commander** and the applicable government regulator. All affected persons and the media must be kept informed of the status of an emergency. **EMERGENCY FOLLOW-UP:** Once the emergency is over, the area residents, transients, industrial users, involved government agencies, and any individual notified will be informed of the stand-down by the **Information Officer** or **Public Safety Group Supervisor**.



## OVERVIEW

H<sub>2</sub>S, SO<sub>2</sub>, LEL or other toxic substance concentrations will be monitored continuously during the incident response. It is crucial that **Air Monitors** continuously update the **Public Safety Group Supervisor** with monitored results. If air monitoring readings show high levels of H<sub>2</sub>S, SO<sub>2</sub>, or LEL the **Public Safety Group Supervisor** may need to initiate evacuation / shelter of additional residences, change the location of the roadblocks, or ignite the release.

## AIR MONITORS ROLES

- Obtain and check equipment and information (maps, forms, communications, reports, monitors, safety, and breathing equipment).
- Confirm communication links.
- Monitor closest downwind public location or residence.
- Monitor environment for adverse effects. Form A5
- Record all readings on the Air Monitoring Log provided.
- Report all readings at established intervals to the **Public Safety Group Supervisor**.
- For your own safety, ensure the **Public Safety Group Supervisor** is notified immediately if readings are approaching the following levels: 10% LEL or 10 ppm H<sub>2</sub>S.
- Prepare Mobile Monitoring Plan.
- Document activities using the ICS 214 Activity Log. Form ICS 214
- Assist with post-incident activities.
- Monitor H<sub>2</sub>S and LEL concentrations along the edge of the EPZ to determine if sheltering and/or evacuation criteria has been met beyond the EPZ.

## AIR MONITORING EQUIPMENT

Air monitoring equipment is used to:

- Track the plume.
- Determine if ignition criteria are met.
- Determine whether evacuation and / or shelter-in-place criteria have been met.
- Determine roadblock locations.
- Determine concentrations in areas being evacuated to ensure that evacuation is safe.
- Assist in determining when the emergency can be downgraded.

## TIPS

- Air monitors should be dispatched at a Level 1 Emergency.
- Ensure all equipment is operational and the appropriate documentation is available to verify testing and calibration requirements.
- Use the buddy system where possible.
- Breathing apparatus – be prepared to don apparatus quickly.
- Ensure all personnel have a personal gas monitor.
- Speed and direction of wind may vary, therefore, be prepared to track gas plume.
- Record all information:
  - Concentrations in ppm or ppb
  - Location and time of readings
  - Wind speed and direction

## REGULATORY REQUIREMENTS

### Drilling & Completions

#### Critical / Special Sour Wells

If the EPZ includes a portion of urban density development or urban centre:

- There must be minimum of two mobile air monitors:
  - One to monitor the boundary of the urban density development or urban centre and the other to track the plume.
- Ensure that one unit is in the area during drilling and / or completion, testing, and workover operations in potentially critical sour zones.
- Dispatch a mobile air quality monitoring unit(s) at a level 1 emergency and request additional units as required.
- Dispatch a mobile air quality monitoring unit(s) when it is evident that well control measures are deteriorating and that a sour gas release is likely to occur.
- Prior to conducting operations in the sour zone, determine where the monitoring equipment is located and what the estimated travel time is to the well site.

If the EPZ **DOES NOT** include a portion of urban density development or urban centre:

- Dispatch a mobile air quality monitoring unit(s) at a level 1 emergency and request additional units as required.
- Dispatch a mobile air quality monitoring unit(s) when it is evident that well control measures are deteriorating and that a sour gas release is likely to occur.
- Prior to conducting operations in the sour zone, determine where the monitoring equipment is located and what the estimated travel time is to the well site.

#### Continuous Detection Devices

A continuous H<sub>2</sub>S/LEL system must be used while in the critical sour zone. The detection system requirements are as follows:

- A minimum of four sensors able to detect H<sub>2</sub>S concentrations of 5 ppm or greater.
- Audible and visual alarms near the driller's station.
- Set alarms at 10 ppm.
- Locate sensors at the shale shaker, near the bell nipple, on the rig floor, and at the mud mixing unit.

#### Portable Detection Devices

- One portable H<sub>2</sub>S detection device is required while drilling in the critical sour zone.

### Production Operations & General Information

#### Sour Gas Release

- If notified of a release by alarm or by a reported odour, the licensee must investigate the source of the release and dispatch air monitors upon confirmation of the release location or when it is evident that spill control measures are not effective.
- Air quality monitoring occurs downwind with priority being directed to the nearest un-evacuated residence or area where people may be present.
- Air monitors (personal handheld, stationary, and mobile) should be dispatched at a level 1 emergency.
- Dispatch a mobile air quality monitoring unit(s) when it is evident that spill control measures are not effective and that a sour gas release is likely to occur.
- Licensee personnel will monitor and record the concentrations until a mobile air monitoring unit arrives or until the incident is over. At minimum, these readings must include LEL and H<sub>2</sub>S.
- If a sour gas release has been ignited, the licensee should continue to monitor response zones for H<sub>2</sub>S from incomplete combustion, as well as SO<sub>2</sub>.
- The licensee is expected to provide monitored H<sub>2</sub>S and SO<sub>2</sub> information on a regular basis throughout a sour gas emergency to the relevant government regulator, environmental agency, health authority, local authorities, and on request to the public.

#### HVP Product Release

- Air quality monitoring may occur downwind or upwind depending on how the plume is tracking, with priority being directed to the nearest un-evacuated residence or areas where people may be present.
- The licensee is expected to provide monitored HVP product LEL information on a regular basis throughout the emergency to the relevant government regulator, environmental agency, health authority, local authorities, and on request to the public.

#### Downgrading Level of Emergency

- The decision to downgrade an incident will be based on the air monitoring results.

## AIR MONITORING LOG - EXAMPLE

Form A5

TIME	LOCATION OF SAMPLES	H <sub>2</sub> S (ppm)	LEL (%)	O <sub>2</sub> (%)	SO <sub>2</sub> (ppm)	OTHER	TEMP(°C)	WIND CONDITIONS *		COMMENTS
								FROM	SPEED (km/hr)	
19:06	12-05-13-16 W5M	5	4		10		19	NW	12	Picked up 5 ppm reading upon entering lease access. Contacted control room at plant.
19:15	12-05-13-16 W5M	6	7		12		18	NW	11	H <sub>2</sub> S reading increased 1 ppm at the access point.
19:25	12-05-13-16 W5M	6	7		12		17	NW	11	No change in readings. Wind and temperature is down.

\* Estimate meteorological conditions where accurate readings are not available.

## 1.

### CHOOSING A POSITION

1. Using your map and the current wind conditions, travel downwind, with priority being directed to the nearest un-evacuated residence or area where people may be present.
2. Confirm the location with the **Public Safety Group Supervisor** and make sure you have a safe route to the assigned location that does not cross the hazardous area.

## 2.

### RECORD INFORMATION

Record information on the following forms located within this Section:

- Air Monitoring Log
- ICS 214 Activity Log

Form A5 Form ICS 214

## REPORTING AND CONTACTS

**Air Monitors** report to the **Public Safety Group Supervisor**.

Name:

Phone Number:

Reception Centre

Location:

Phone Number:

Wind Direction:





## OVERVIEW

In the event of an emergency in which residents need to be evacuated, a Reception Centre must be established to receive and register the evacuees. A **Reception Centre Representative** is assigned to manage / coordinate activities at the Reception Centre. The **Reception Centre Representative** continuously updates the **Public Safety Group Supervisor** with a list of those who have, and have not, checked in at the Reception Centre.

## RECEPTION CENTRE REP ROLES

- Confirm Reception Centre is available for use.
- Establish Reception Centre.
- Confirm communication links.
- Receive evacuees and maintain a Reception Centre Registration Log. FORM B1
- Arrange for food and accommodations for the evacuees.
- Provide evacuees with a place to request counselling services, if required.
- Record and follow up on all evacuees who choose to make their own accommodation arrangements.
- Arrange for temporary care of livestock (if possible) and the security of evacuated property.
- Establish and oversee compensation administration activities at the reception centre. FORM B2
- Reimburse evacuees for their immediate out-of-pocket expenses and log details on a Resident Compensation Log.
- Where possible, provide evacuees with information regarding their property, livestock, and the incident. FORM C2
- Forward all media and incident inquiries to the **Information Officer**.
- Report all names of evacuees who have registered at the Reception Centre to the **Public Safety Group Supervisor**. FORM ICS 214
- Document activities using the ICS 214 Activity Log.
- Assist with post-incident activities.
- Confirm information to be released to public with the **Information Officer**.
- Address resident concerns and forward them to the **Public Safety Group Supervisor**.

## 1. CHOOSING A RECEPTION CENTRE

- Reception Centres are usually located in schools, hotels / motels, or community halls.
- It may be useful to coordinate the location of the Reception Centre with the local authority (city, town, county, M.D., etc.).
- See Area Specific Information (white tabs) for pre-identified Reception Centres in your area.

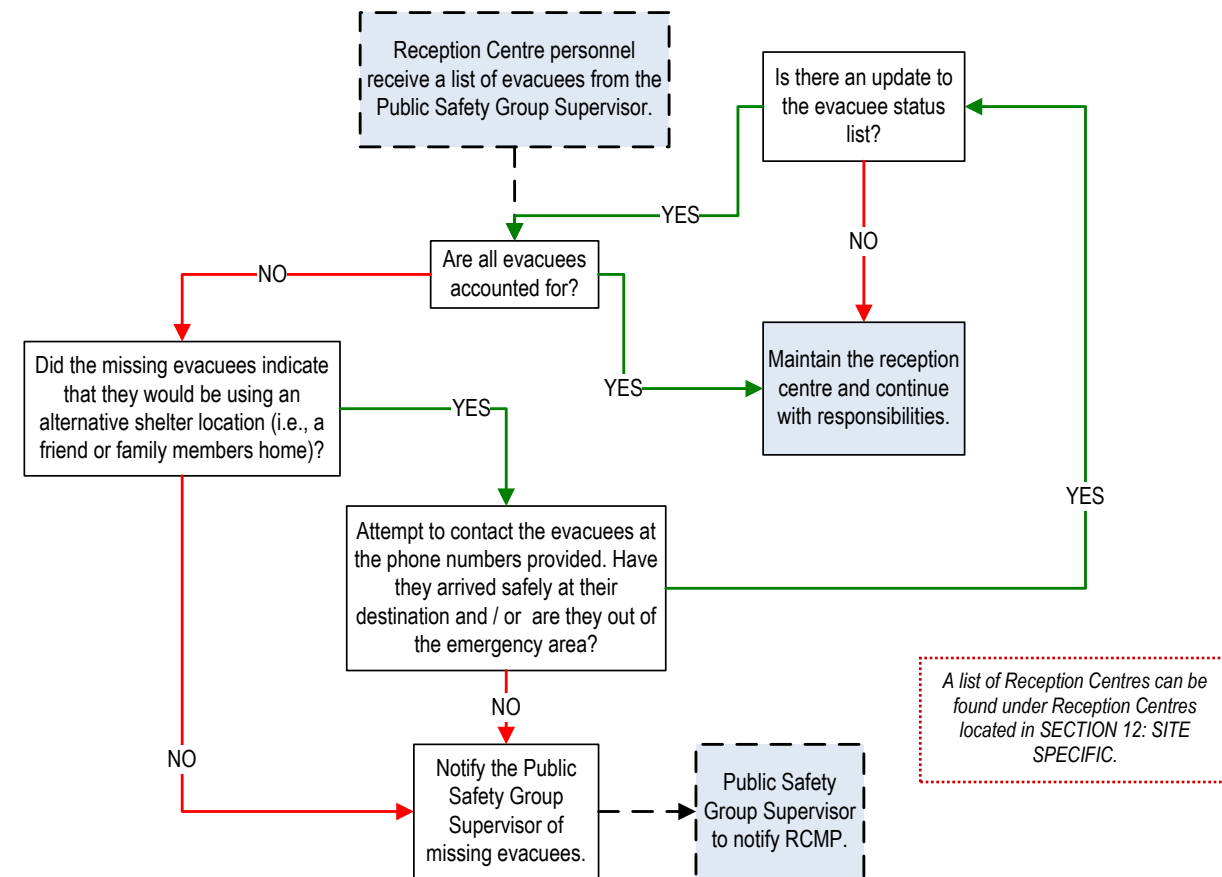
A Reception Centre should:

- Have a conference room of some type where a large number of people can gather.
- Have conferencing services including fax machine, internet access, and phone access.
- Be large enough to house all of the evacuees.
- Be outside of the hazard area.
- Allow residents to evacuate to the Reception Centre without travelling through the hazard area.
- Allow pets.

### TIPS

- Ensure you have enough staff to handle the needs of all of the evacuees.
- Allow evacuees to vent their emotions.
- Do not make any promises that cannot be kept.
- Attempt to reunite families as quickly as possible.
- Document the details of anyone who may have trouble coping with the incident so that they can be given proper psychological support.
- Monitor whether residents that have been contacted by the **Telephoners, Rovers, and Roadblock** personnel have checked in at the Reception Centre.

## 2. RECEPTION CENTRE FEEDBACK LOOP



## RECEPTION CENTRE REGISTRATION LOG - EXAMPLE FORM B1

RESIDENT ID	NAME (LIST ALL NAMES IN PARTY)		# OF OCCUPANTS	NUMBER ARRIVED	ARRIVAL TIME	DEPART TIME	DESTINATION PHONE # (Where they can be reached)	COMMENTS
	FIRST	LAST						
G124-A	John	Doe	2	2	19:06	19:21	555-555-5555	John and his wife arrived safely and then left to stay at a friend's house in Red Deer.
H131-B	Jane	Doe	3	3	19:12	19:28	555-555-5555	Jane and her 2 children arrived safely then left to stay at her mother's house in Bently.
F122-A	James	Doe	5	3	19:20		555-555-5555	James, his wife and 1 child arrived safely. The other 2 children are away on a school trip. They will stay at the reception centre for the night.

## 3. RECORD INFORMATION

Record information on the following forms located in SECTION 5: FORMS:

- Reception Centre Registration Log
- Resident Compensation Log
- ICS 214 Activity Log
- Media Contact Log



### REPORTING AND CONTACTS

The **Reception Centre Representative** reports to the **Public Safety Group Supervisor**.

Name: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

Reception Centre: \_\_\_\_\_

Location: \_\_\_\_\_  
Phone Number: \_\_\_\_\_

Wind Direction: \_\_\_\_\_

### MEDIA STATEMENT

Refer all media inquiries to the Media Representative in Calgary. However, if they insist on a statement, please use the following:

"ARC is dealing with the situation to maximize the safety of the public, the responders and the environment. The cause of the incident has not been confirmed but ARC will issue a statement once the facts are known.

Our Information Lead is \_\_\_\_\_ and is located at \_\_\_\_\_.

Could I please have your name, contact number and organization and I will pass this information on to our Information Lead."



## OVERVIEW

In the event of an emergency, roadblock locations and road detours will be established. The company will initially establish and maintain roadblocks until relieved by highway maintenance contractors or the RCMP. **Roadblock** personnel will be assigned in teams of two, one member to stop approaching traffic, the other will record the information gathered and relay to The Public Safety Group Supervisor. The **Public Safety Group Supervisor** must be continuously updated by **Roadblock** personnel so that all vehicles entering and exiting the EPZ are accounted for.

## ROADBLOCK PERSONNEL ROLES

- In conjunction with the **Public Safety Group Supervisor**, determine the need for and location of roadblocks.
- Pickup and check roadblock kits.
- Proceed to roadblock locations.
- Determine driving directions to assigned roadblock location that does not have you pass through the hazard area.
- Confirm communication links and establish communication interval times.
- Establish roadblocks to secure the EPZ.
- Follow the scripts and procedures in the ERP.
- Knowledge and ability to communicate safest route away from hazard.
- Monitor area for H<sub>2</sub>S and / or LEL with personal monitors and document readings on the Air Monitoring Log. FORM A5
- Report all reading changes / increases to the **Public Safety Group Supervisor**.
- For your own safety, ensure the **Public Safety Group Supervisor** is notified immediately if readings are approaching 10% LEL and / or 10 ppm H<sub>2</sub>S.
- Move location of Roadblock immediately if readings are approaching 10% LEL and / or 10 ppm H<sub>2</sub>S. FORM B4
- Record all incoming and outgoing traffic, personnel, and equipment on the Roadblock Log.
- Forward information given to you by people passing through your location to the **Public Safety Group Supervisor**. FORM ICS 214
- Document activities using the ICS 214 Activity Log.
- Report any person that insists on going through the roadblock into the hazard area as well as any suspicious activity to the **Public Safety Group Supervisor**.
- Maintain communication with the **Public Safety Group Supervisor**.
- Maintain roadblock locations. Do not leave until requested to do so by the **Public Safety Group Supervisor** or until relieved by other **Roadblock** personnel.
- Assist with post-incident activities.

## ROADBLOCK KIT CONTENTS - SAMPLE

The roadblock kit may contain the following items:

### Recommended

- Direct communication capability (radio, cell phone, etc.)
- ERP maps and roadblock forms
- Flashlight and batteries
- High visibility / reflective vests
- Orange traffic cones / reflectors
- Pens and / or pencils
- Personal Air Monitoring Device (H<sub>2</sub>S, CO, O<sub>2</sub>, LEL)
- Portable rotating emergency light
- SCBA
- Hand-held stop sign with reflective tape
- Waterproof bag

### Optional

- Caution tape
- Rain suit
- Road barrier

## TIPS

- When talking to motorists at the roadblock, **ONLY** provide them with the information as directed by the **Public Safety Group Supervisor**.
- Ask for identification prior to granting access.
- You do not have the legal authority to restrict access to the area without an order from the relevant authority. Report any person who chooses to proceed, without permission, through the roadblock.
- Check with the motorists and ensure all members of their residence are accounted for and documented on the Resident Contact FORM B3. Report any resident that is left behind in the EPZ.
- The roadblock should be setup to allow optimal visibility and sufficient distance for traffic to come to a safe and complete stop.
- Roadblock** personnel should be highly visible on the side of the road and have an escape route in case of an emergency.
- DO NOT** leave your position until you are directed to do so.

## REPORTING AND CONTACTS

**Roadblock** personnel report to the **Public Safety Group Supervisor**.

Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Reception Centre

Location: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Wind Direction: \_\_\_\_\_

To give motorists time to prepare to come to a stop, it is recommended that the **Roadblock** personnel set up all available collapsible reflective triangles 100 metres apart, at a minimum distance of 200 metres before the roadblock.

**Roadblock** personnel cannot force an evacuation or restrict access to the area unless proper authority has been granted. The authority for forced evacuation is gained only through the declaration of a State of Local Emergency by the local authority.

When establishing a roadblock consider:

- Visibility
- Distance
- Bends in the road
- Level of the ground

Remember to:

- Remain calm
- Be courteous
- Record names
- Notify the **Public Safety Group Supervisor**

## 1. CHOOSING A ROADBLOCK

Roadblocks should be established:

- Approximately where the EPZ intersects any highways / roads.
- Outside of the hazard area.
- At a conspicuous location where the **Roadblock** personnel will be visible to approaching traffic, providing them with enough time to safely stop.
- At a location where traffic can easily turn around or detour (consider the potential for larger vehicles such as buses, semi-trailers, drilling rigs, etc.).
- Where possible at natural roadblock locations (e.g., gates, bridges, junctions, etc).

## 2. BEFORE DEPARTURE

- Make sure your vehicle is equipped and suitable for the travel conditions.
- Check roadblock kit to confirm all items are present (see sample of roadblock kit contents to left).
- Confirm that your handheld monitor for H<sub>2</sub>S and / or LEL is functioning properly.
- Check all communications devices.
- Check that the red signaling baton flashlight is working and has spare batteries.
- Confirm that you have enough copies of the Roadblock Log form.
- Confirm the location of the roadblock with the **Public Safety Group Supervisor** and make sure you have a safe route to the assigned location that does not cross the hazardous area.

## 3. SETTING UP A ROADBLOCK

- Park vehicle as illustrated, activating four way flashers and roof mounted rotating beacon.

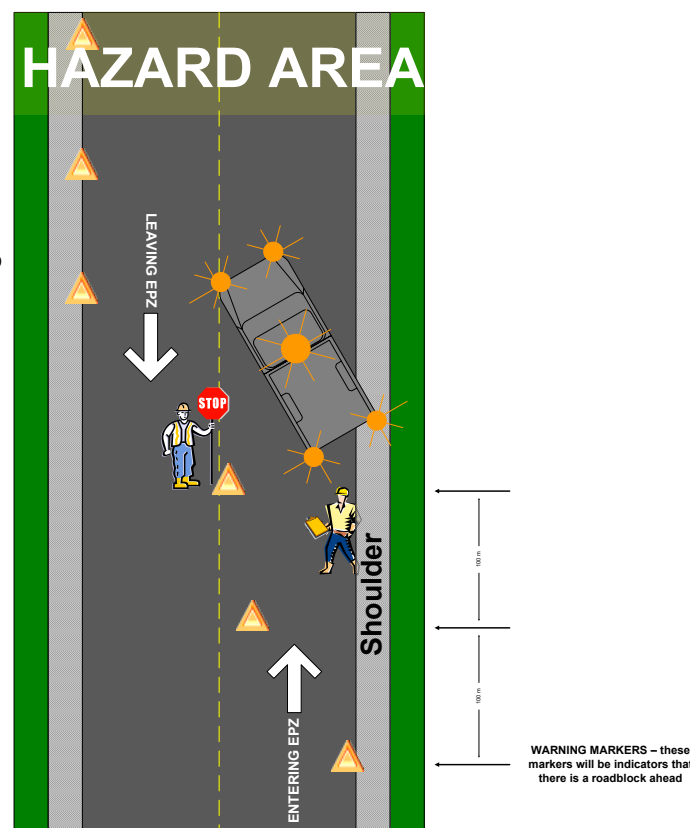
- Put on reflective vests.

- Take a reading with your handheld monitor for H<sub>2</sub>S and / or LEL; ensuring your roadblock is not too close to the edge of the EPZ. Record readings on the Air Monitoring Log. FORM A5

- Notify the **Public Safety Group Supervisor** once your roadblock is set up.

- Continue to monitor and record H<sub>2</sub>S and / or LEL levels at scheduled intervals. Report to the **Public Safety Group Supervisor** at scheduled intervals.

- Maintain roadblock until the emergency is over and the "all clear" message is given or until relieved by other **Roadblock** personnel.



## 4. HOW TO STOP TRAFFIC

1. Hold the reflective stop / slow paddle erect and away from your body. Never wave the sign.
2. Look directly at the approaching driver.
3. Raise your free arm with the palm of your hand exposed to the driver.
4. Bring the vehicle to a full stop.
5. After the first vehicle has stopped, move to a spot (near the centre line of the roadway) where you can be seen by other approaching vehicles.

Because visibility is reduced at night, it is important that you use utmost care when stopping traffic through a roadblock area, and that you protect yourself from injury by:

- Standing in a safe position on the shoulder of the road.
- Waving the red signaling baton flashlight back and forth.

*Note: The red signaling baton flashlight should only be used in place of the reflective stop / slow paddle at night or in conditions of low / poor visibility.*

## ROADBLOCK SCRIPT

**"I am representing ARC Resources and we are presently experiencing control problems ahead. This situation is serious enough to warrant restricted access beyond this point. For your own safety I must ask you not to proceed."**

### Note:

◆ Record driver's name, vehicle make, colour, etc. and at least the license plate number of all vehicles approaching your roadblock; also make a note of the time and of the direction the vehicle took when leaving (e.g., east, south, west, north) on your log sheet.

◆ Remember you have no legal position to restrict access to the general public. You are there to protect and notify – to protect the health and safety of the people by notifying them of the danger and secondly to protect the property of the residents who have evacuated the area.

◆ Should someone continue into the restricted area, regardless of your warning about personal safety, then use the 2-way radio or cell phone to notify the **Public Safety Group Supervisor** and the matter shall be immediately turned over to the Police.

## MEDIA STATEMENT

If the media arrives at your roadblock location, company personnel may give the following statement:

**"ARC is dealing with the situation to maximize the safety of the public, the responders and the environment. The cause of the incident has not been confirmed but ARC will issue a statement once the facts are known."**

**Our Information Lead is \_\_\_\_\_ and is located at \_\_\_\_\_.**

**Could I please have your name, contact number and organization and I will pass this information on to our Information Lead."**

Contact the **Public Safety Group Supervisor** if a media representative arrives at your roadblock.

**NEVER** offer your opinion of what is happening at the location to a media person or stranger. This can be interpreted as the company's position. **DO NOT** give statements, other than the above message, regarding the emergency situation to the MEDIA. Refer them to the Information Officer.

## RECORD INFORMATION

Record information on the following forms located in SECTION 5: FORMS:

- Roadblock Log
- Resident Contact Log
- Air Monitoring Log
- ICS 214 Activity Log

FORM ICS 214 FORM A5 FORM B3 FORM B4

### POSSIBLE SCENARIOS FOR ROADBLOCK PERSONNEL:

- ◆ Motorist obeys request and drives away from the EPZ.
- ◆ Motorist is leaving the EPZ and agrees not to return until further notice.
- ◆ Emergency responders (service companies, fire, ambulance, etc.) are entering the EPZ to help respond to the incident.
- ◆ Motorist disobeys request to leave the area and enters the EPZ.

In all cases, notify the **Public Safety Group Supervisor** and log all information.





## OVERVIEW

**Rovers** are responsible for patrolling the Emergency Planning Zone to locate and notify residents, businesses, industrial operators, transients (i.e. hunters, trappers, recreational users, non-resident landowners), and the general public. This may be completed via truck, ATV, boat, helicopter, etc. The **Public Safety Group Supervisor** must be continuously updated by the **Rovers** so that unsuccessful attempts to evacuate residents, transients, etc. can be followed up on immediately.

## ROVER PERSONNEL ROLES

- Confirm resident contact lists are available.
- Confirm communication links.
- Know safe routes in and out of the EPZ.
- Search for residents and transients in the Emergency Planning and Response Zones.
- Check all buildings including barns, shops, sheds, etc.
- Assist, as required, with the notification, evacuation or sheltering of persons within the Emergency Planning Zone. Record all contact with residents using the Resident Contact Log. FORM B3
- Post Evacuation Notices for residents that are not at their residence. FORM B5
- Follow the scripts and procedures in the ERP.
- Monitor area for H<sub>2</sub>S and / or LEL with personal monitors and document readings on the Air Monitoring Log. FORM A5
- Report all reading changes / increases to the **Public Safety Group Supervisor**.
- For your own safety, ensure the **Public Safety Group Supervisor** is notified immediately if readings are approaching the following levels: 10% LEL and / or 10 ppm H<sub>2</sub>S.
- Report any suspicious behaviour to the **Public Safety Group Supervisor** who will notify the police as required. FORM ICS 214
- Document all activities using the ICS 214 Activity Log.
- Maintain communication with the **Public Safety Group Supervisor**.
- Assist with post-incident activities.

## MEDIA STATEMENT

If a media representative approaches you, company personnel may give the following statement:

**“ARC is dealing with the situation to maximize the safety of the public, the responders and the environment. The cause of the incident has not been confirmed but ARC will issue a statement once the facts are known.”**

**Our Information Lead is \_\_\_\_\_ and is located at \_\_\_\_\_.**

**Could I please have your name, contact number and organization and I will pass this information on to our Information Lead.”**

Contact the **Public Safety Group Supervisor** if a media representative approaches you.

**NEVER** offer your opinion of what is happening at the location to a media person or stranger. This can be interpreted as the company's position. **DO NOT** give statements, other than the above message, regarding the emergency situation to the MEDIA. Refer them to the Information Officer.

## TIPS

- Remember to:
- Remain calm
  - Be courteous
  - Document all actions and comments
  - Notify the **Public Safety Group Supervisor**

Remember to use a handheld H<sub>2</sub>S and / or LEL monitor to continually test the atmosphere.  
Report all H<sub>2</sub>S and / or LEL reading changes / increases to the **Public Safety Group Supervisor**.

Response personnel cannot force an evacuation or restrict access to the area unless proper authority has been granted. The authority for forced evacuation is gained only through the declaration of a State of Local Emergency by the local authority.

## REPORTING AND CONTACTS

**Rovers** report to the **Public Safety Group Supervisor**.

Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Reception Centre:

Location: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Wind Direction: \_\_\_\_\_

## EVACUATION NOTICE ~ EXAMPLE

DATE: \_\_\_\_\_  
TIME: \_\_\_\_\_

# EVACUATION NOTICE

**ARC Resources has an emergency at its nearby location.**

**As a safety precaution, please leave the area in a (north / east / south / west) direction and proceed to the Reception Centre located at \_\_\_\_\_.**

ARC Resources representatives will be available at the Reception Centre to address your questions or concerns.

For assistance, call ARC Resources at \_\_\_\_\_.

**Thank you**

## 1. BEFORE DEPARTURE

- Protect yourself
- Ensure you are equipped with all necessary equipment:
  - SCBA
  - Gas monitors
  - Mobile communications or other form of communication
  - Forms
  - Vehicle (4x4) with full tank of fuel
  - Map
- Confirm that your handheld monitor for H<sub>2</sub>S and / or LEL is functioning properly.
- Confirm that you have enough copies of the Evacuation Notice.
- Confirm your assignments with the **Public Safety Group Supervisor** and make sure you have a safe route to the assigned location that does not cross the hazardous area.

## 2a. NOTIFYING RESIDENTS / TRANSIENTS

The **Public Safety Group Supervisor** may request you to patrol the Emergency Planning and Response Zones in search of transients (people passing through the area) and / or residents that couldn't be reached by phone. Make contact with residents / transients and after providing an explanation record their names, contact information, purpose for being in the area (travelling through, live in the area, etc.), current condition, timing of your arrival, and whether or not they require evacuation assistance.

**“Hi, I am [Insert Name] representing ARC Resources. The company is presently experiencing control problems at a nearby location. The situation is serious enough that we are evacuating the public in the area. For your own safety I must ask you to leave the area immediately and check in with a company representative at the Reception Centre. Representatives at the Reception Centre will address any questions you may have and will make arrangements for your temporary accommodations.”**

- Ask if they will require evacuation assistance and arrange additional transportation assistance if necessary.
- Make sure they are all accounted for.
- Ensure they gather any supplies they will need for the next 24 hours (medicines, baby food, diapers, etc.).
- If they are able to transport themselves to the Reception Centre provide them with directions that will keep them away from the hazard.
- Ask them if they have any questions.
- Provide them with your name and contact information in case they need assistance later.
- Report to the **Public Safety Group Supervisor**.

## 2b. REQUESTED EVACUATION ASSISTANCE

The **Public Safety Group Supervisor** may request you to provide evacuation assistance for residents that have requested it. Ensure you obtain the number of residents requiring assistance, resident's names, location (legal and address), and the reason evacuation assistance is required (medical issue, children home alone, etc). A **Telephoner** should have already contacted and explained the situation to the residents; however, it is a good idea to confirm with the **Public Safety Group Supervisor** that they know you are coming to assist them. If they have not already been informed, contact the resident to tell them you are on your way and provide an estimated time of arrival.

**“Hi, I am [Insert Name] representing ARC Resources. I am here to help you evacuate out of the hazard area and make sure you arrive safely at the Reception Centre. A company representative at the Reception Centre will address any questions you may have and will make arrangements for your temporary accommodations.”**

- Try not to scare them. They are aware you might be coming but don't know what to expect.
- Make sure they are all accounted for.
- Ensure they gather any supplies they will need for the next 24 hours (medicines, baby food, diapers, etc.).
- Ask them if they have any questions.
- Once you are satisfied that all personnel from the residence are accounted for, deliver them to the Reception Centre.
- On the way to the Reception Centre, notify the **Public Safety Group Supervisor** of your progress and estimated time of arrival at the Reception Centre.
- Ensure that the residents check in at the Reception Centre with the **Reception Centre Representative** before you leave for your next assignment.

## 3. RECORD INFORMATION

Record information on the following forms located in SECTION 5: FORMS:

- Resident Contact Log
- Air Monitoring Log
- ICS 214 Activity Log
- Evacuation Notice

FORM ICS 214 FORM A5 FORM B3 FORM B5



## OVERVIEW

In the event of an emergency in which residents and area users need to be sheltered and / or evacuated, a team of **Telephoners** will be established to contact people in the area and provide instructions to ensure their safety. The **Public Protection Supervisor** must be continuously updated with the **Telephoners** progress so that unsuccessful contact attempts and requests for evacuation assistance can be followed up on immediately.

## TELEPHONER PERSONNEL ROLES

- Confirm resident contact lists are available.
- Confirm communication links.
- In conjunction with the **Public Protection Supervisor**, determine who needs to be notified (residents, businesses, area users, etc.). FORM B6
- Review with the **Public Protection Supervisor** the telephoner scripts to be used: Early Notification / Voluntary Evacuation Message, Shelter-in-Place Phone Message, Evacuation Phone Message. FORM B7
- Contact special needs residents at a Level 1 Emergency and provide them with the option to evacuate. FORM B8
- Contact the other residents and area users in the EPZ and advise them to evacuate or shelter.
- Contact the schools / school buses to make arrangements for school age children (if applicable).
  - Advise that buses in the affected area leave immediately and that buses should not enter the area.
  - Request a school administrator for the reception centre to assist in managing the children and releasing them to their guardians.
- Document all resident interactions using the Resident Contact Log and report this information to the **Public Protection Supervisor**. Immediately advise the **Public Protection Supervisor** about unsuccessful contacts and any residents requiring assistance. FORM B3
- Document all activities using the ICS 214 Individual Activity Log. FORM ICS 214
- Assist with post-incident activities.

## SHELTER-IN-PLACE INSTRUCTIONS

- Immediately gather everyone indoors and stay there. Do not leave even if you see people outside.
- Close and lock all outside doors and windows. Tape gaps around doors and windows. Leave all inside doors open.
- Turn off appliances or equipment that blows out indoor air or sucks in outside air.
- Turn down furnace thermostats to the minimum setting and turn off air conditioners.
- Extinguish all potential sources of ignition (do not smoke or attempt to start your vehicle).
- Stay off of the phone so that you can be contacted by emergency personnel.
- Stay tuned to local radio and television for possible updates.

Note: For the full Shelter-in-Place instructions see page 2 of the Shelter-in-Place Telephoner Text form located in SECTION 5: FORMS. FORM B7

## 1. WHO TO CONTACT

- Residents
- Schools / School Bus Transportation
- Businesses
- Public Facilities
- Recreation Areas
- Urban Centres (contact local authority to coordinate)
- Area Users (other oil and gas operators, rail, logging, etc.)
- Trappers
- Guides / Outfitters
- Grazing Lease / Allotment Holders

Priority is given to:

- Those closest to the hazard
- Those downwind of the hazard
- Those with sensitivity issues (health issues, require evacuation assistance, etc.)

## TIPS

- Ensure you have enough personnel to quickly and efficiently shelter / evacuate the required residents / area users.
- A general guideline is to have one **Telephoner** for every seven residences that need to be contacted and one **Telephoners Leader** for every ten **Telephoners**.
- Special needs residents should be contacted at a Level 1 Emergency and given the option to evacuate.

Response personnel cannot force an evacuation or restrict access to the area unless proper authority has been granted. The authority for forced evacuation is gained only through the declaration of a Local State of Emergency by the local authority.

## 2a. SHELTER-IN-PLACE PHONE MESSAGE

Hello, this is \_\_\_\_\_ (your name) of \_\_\_\_\_ (company name).  
Is this the \_\_\_\_\_ (name) residence at \_\_\_\_\_ (telephone number)?  
\_\_\_\_\_ (company name) is responding to a (potential) emergency at \_\_\_\_\_ (location) in your area.

For your safety, it is extremely important that you, and those with you, stay indoors until the potential hazard no longer exists, or you are advised to evacuate.

To help us understand your immediate needs, we need to know:

How many people are at your location now?

Adults \_\_\_\_\_

Children \_\_\_\_\_

Is there anyone in your household that you cannot contact to inform them of the situation and advise them to get in doors or stay out of the area?

Yes  No

IF YES Whom? \_\_\_\_\_

Location of the person(s) \_\_\_\_\_

We will send someone to find them as soon as possible.

Do you have children in school at this time?

Yes  No

IF YES What school? \_\_\_\_\_

Children's names \_\_\_\_\_

We will contact the school to ensure the safety of your children. Buses will be directed to leave the area immediately. If school is in session, your children will be redirected to the reception centre by their regular bus driver when the school day is over.

Do you have the "Shelter-in-Place" instructions previously provided to you by \_\_\_\_\_ (company name)?

Yes  No

IF YES Please follow the Shelter-in-Place instructions located inside the resident pamphlet.

IF NO Verbally walk the resident through the Shelter-in-Place instructions on the next page.

Do you understand what I have told you?

Is there an alternate number we can contact you at? \_\_\_\_\_

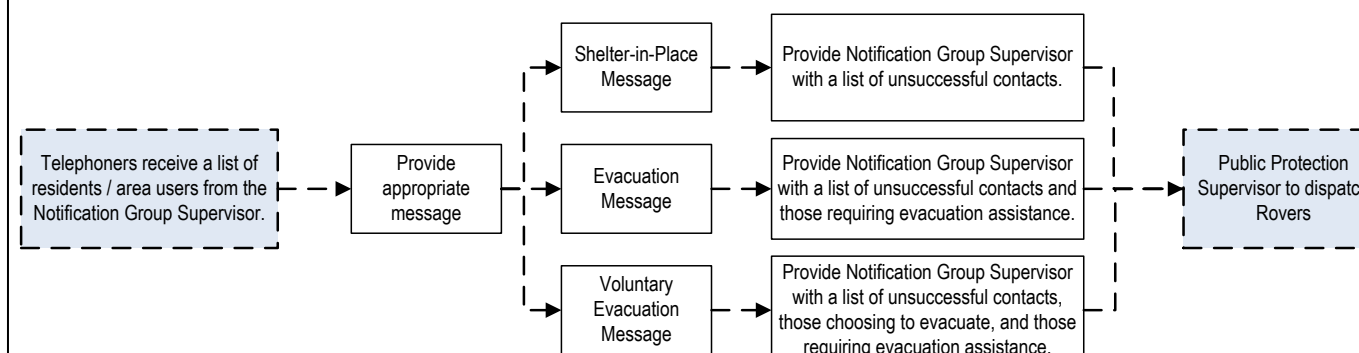
If you have any urgent questions, please contact \_\_\_\_\_ (company name) at \_\_\_\_\_ (telephone number).

Thank you for your cooperation.

(Pass on all information regarding this call to the Public Protection Supervisor immediately)

Note: Refer to Shelter-in-Place instructions on page 2 of the Shelter-in-Place Phone Message located in SECTION 5: FORMS

## TELEPHONER COMMUNICATION FLOW



## 2b. EVACUATION PHONE MESSAGE

Hello, this is \_\_\_\_\_ (your name) of \_\_\_\_\_ (company name).  
Is this the \_\_\_\_\_ (name) residence at \_\_\_\_\_ (telephone number)?  
\_\_\_\_\_ (company name) is responding to a (potential) emergency at \_\_\_\_\_ (location) in your area.

For your safety, it is extremely important that you and your family leave your residence immediately and travel in a north / east / south / west direction to our reception centre located at: \_\_\_\_\_

To help us understand your immediate needs, we need to know:

How many people are at your location now?

Adults \_\_\_\_\_

Children \_\_\_\_\_

Is there anyone in your household that you cannot contact to inform them of the situation and advise them to evacuate away from the area?

Yes  No

IF YES Whom? \_\_\_\_\_

Location of the person(s) \_\_\_\_\_

We will send someone to find them as soon as possible.

Do you have children in school at this time?

Yes  No

IF YES What school? \_\_\_\_\_

Children's names \_\_\_\_\_

We will contact the school to ensure the safety of your children. Buses will be directed to leave the area immediately. If school is in session, your children will be redirected to the reception centre by their regular bus driver when the school day is over.

Do you require evacuation / transportation assistance?

Yes  No

IF YES We are sending someone to assist you. Please stay indoors and close all doors and windows until a Rover or the local police arrive to evacuate you.

IF NO Provide the resident with:

- Directions to safely travel to the reception centre
- A list of items to bring with them to the reception centre (medications, cell phone, etc.)
- An idea of how long they may be expected to stay at the reception centre
- The option to bring their house pets to the reception centre

Please contact \_\_\_\_\_ (company name) if you are unable to make it to the reception centre for any reason. Please keep your phone line free so that we can contact you if necessary.

Is there an alternate number we can contact you at? \_\_\_\_\_

A company representative at the reception centre will address any questions you may have and will make arrangements for your temporary accommodations. Do you understand everything I have told you? Are you leaving immediately?

If you have any urgent questions, please contact \_\_\_\_\_ (company name) at \_\_\_\_\_ (telephone number).

Thank you for your cooperation.

(Pass on all information regarding this call to the Public Protection Supervisor immediately)

## 3. RECORD INFORMATION

Record information on the following forms located in SECTION 5: FORMS:

- Resident Contact Log
- ICS 214 Individual Activity Log
- Voluntary Evac Message
- Shelter-in-Place Message
- Evacuation Message

## REPORTING AND CONTACTS

Telephoners report to the **Public Protection Supervisor**.

Name: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Reception Centre

Location: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Wind Direction: \_\_\_\_\_

**B3 RESIDENT CONTACT LOG**

Date: \_\_\_\_\_ Responder Name: \_\_\_\_\_  
 Page \_\_\_\_\_ of \_\_\_\_\_ Responder Position: \_\_\_\_\_ Responders Phone No.: \_\_\_\_\_

TIME	RESIDENT NAME	Ref. No. on Map FOR RESIDENCE	SHELTER / EVACUATE	NUMBER OF PEOPLE		ASSISTANCE OR TRANSPORTATION REQUIRED?	COMMENTS
				INSIDE	OUTSIDE		
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	
			<input type="radio"/> SHELTER <input type="radio"/> EVACUATE			<input type="radio"/> YES <input type="radio"/> NO	

**ICS 214 ACTIVITY LOG**

Incident Name: \_\_\_\_\_

Date / Time Initiated: \_\_\_\_\_

Prepared by: \_\_\_\_\_ Position / Title: \_\_\_\_\_

**Personnel Assigned**

Name	ICS Position	Location

**Activity Log**

Time	Actions

**B6 EARLY NOTIFICATION / VOLUNTARY EVACUATION PHONE MESSAGE**

Before calling, determine a safe evacuation route for the residents to travel, away from the emergency hazard area, upwind if possible, towards the reception centre.

Hello, this is \_\_\_\_\_ (your name) calling from \_\_\_\_\_ (company name) .  
 Is this the \_\_\_\_\_ (name of residence / business) at \_\_\_\_\_ (telephone number) ?  
 \_\_\_\_\_ (Company name) is responding to a (potential) emergency at \_\_\_\_\_ (location) in your area.  
 You are in no danger at this time. All efforts are being made to resolve the problem and this phone call is only to inform you and provide you with an early notification.  
 To help us understand and your immediate needs we need to know:

**How many people are at your location now?**

Adults \_\_\_\_\_  
 Children \_\_\_\_\_

**Do you wish to leave your residence at this time?**

**IF YES** Please travel in a *north / east / south / west* direction to our reception centre located at: \_\_\_\_\_

**IF NO** Please standby for further contact. Please do not use your telephone for outgoing calls as this may prevent us from contacting you with updated information or when the problem has been eliminated.

If you have urgent questions, please contact \_\_\_\_\_ (company name) at \_\_\_\_\_ (telephone number) .  
 Thank you for your cooperation.

(Pass on all information regarding this call to the Public Safety Group Supervisor immediately)



### STEP 1 - OBJECTIVES MEETING

- Incident Commander conducts the meeting.
- Review the ICS 201 form completed during the Initial Response phase and begin the ICS 209 form by evaluating the current incident status.
- Identify issues/problems to resolve using the PEAR worksheet.
- Develop SMART (Specific, Measurable, Attainable, Realistic, & Time-Sensitive) objectives to mitigate the identified problems.
- Prioritize the objectives using the ICS 202 form.
- Complete the ICS 202 form and identify initial staffing on the ICS 207 form.
- Utilize IAP Checklist (A4) to complete the IAP.

#### PREPARE FOR TACTICS MEETING

- Develop draft strategies and tactics for each defined objective.
- Outline work assignments and develop an operations organization chart using the ICS 207 form.
- Identify future tactical plans to optimize the Tactics Meeting.
- Begin to prepare a safety analysis once all hazards have been identified using ICS 215A form.

### STEP 2 - TACTICS MEETING

- Operations Section Chief conducts the meeting.
- Review the incident status using the ICS 209 form that was completed during the Objectives Meeting.
- Operations Section Chief proposes strategies and tactics.
- Evaluate and assign resources and personnel.
- Ensure that all strategies have associated tactics to ensure responder safety and complete the ICS 215A form.
- Complete the ICS 215 form and update the ICS 207 form started during the Objectives Meeting.

#### PREPARE FOR PLANNING MEETING

- Review and update the ICS 209 form.
- Confirm availability of resources and locations.
- Prepare all information for review at the Planning Meeting.
- Gather any additional incident documentation (i.e., maps and status boards).

### STEP 3 - PLANNING MEETING

- Planning Section Chief conducts the meeting.
- Review the incident status using the updated ICS 209 form.
- Confirm the strategies and tactics assigned to achieve the defined objectives.
- Ensure that all assigned tactics can be performed safely and follow the defined safety analysis using the ICS 215A form.
- Incident Commander to give tentative approval of proposed plan and review with key response personnel.

#### INCIDENT ACTION PLAN PREPARATION & APPROVAL

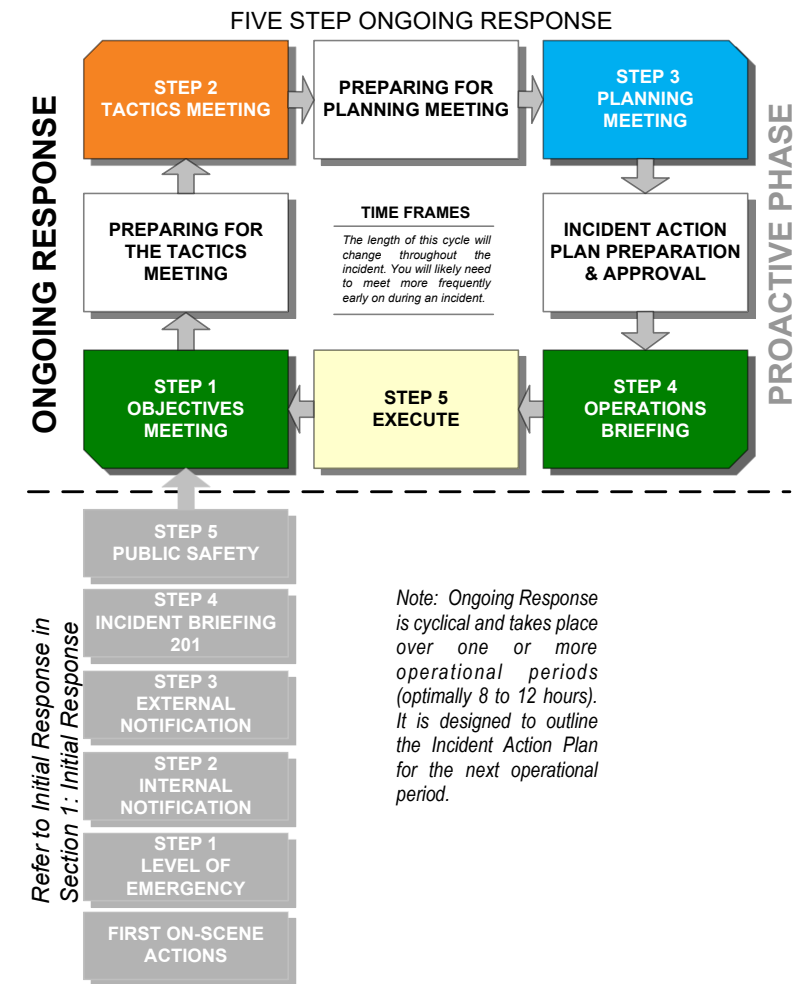
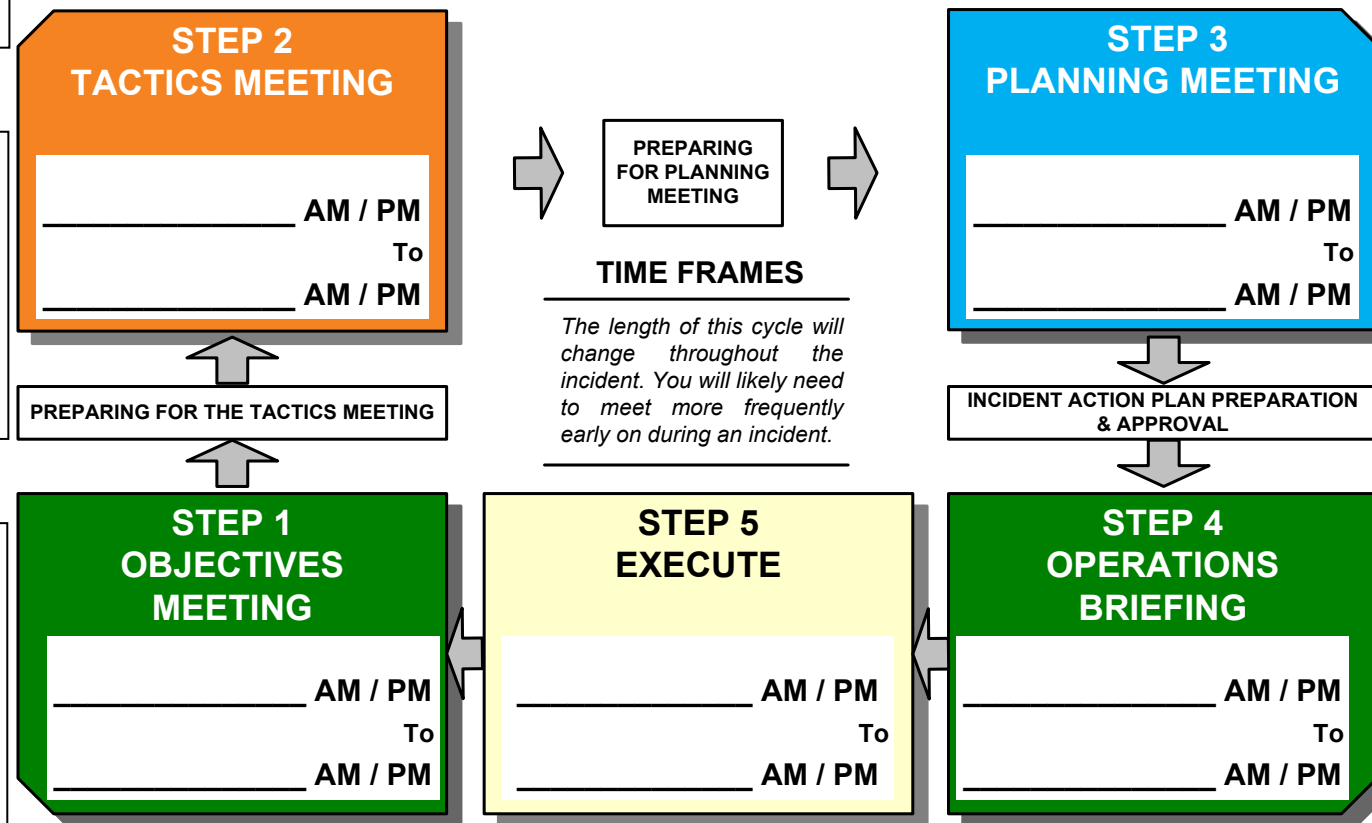
- Produce a coordinated and sustainable Incident Action Plan using the IAP Checklist (A4), ICS forms 202, 207, 209, 215, 215A, and gather any additional incident documentation (i.e., maps and status boards).
- Receive final approval from the Incident Commander.
- Define work assignments and break the work into manageable units.

### STEP 4 - OPERATIONS BRIEFING

- Incident Commander conducts the meeting.
- Provide personnel with work assignments from the IAP.
- Operations Section Chief to brief the organization and provide clarification on all tactical assignments.
- Ensure that all responders know and understand the safety analysis, hazards, and controls.

### STEP 5 - EXECUTE

- Perform work assignments according to assigned roles.
- Document all actions, decisions, and conversations.
- Constantly evaluate how well the plan is designed and being conducted.
- Adjust the plan and associated actions accordingly.
- Identify additional objectives for the upcoming operational period.
- Schedule next Objectives Meeting if applicable.



# 2.20 FIVE STEP ONGOING RESPONSE GUIDE

Note: This document is to be used as a guide only. It is not meant to replace the use of the ERP and does not eliminate the need for ERP related training.



## 2.21 Objectives Meeting

<b>Owner: Incident Commander</b>	<b>Date:</b>	<b>Time:</b>
<b>**Roles below will attend only if designated and available**</b>		
<b>Attendees:</b>		
<input type="checkbox"/> Incident Commander:	<input type="checkbox"/> Planning Section Chief:	
<input type="checkbox"/> Deputy Incident Commander:	<input type="checkbox"/> Logistics Section Chief:	
<input type="checkbox"/> Operations Section Chief:	<input type="checkbox"/> Finance/Admin. Section Chief:	
<input type="checkbox"/> Planning Section Chief:	<input type="checkbox"/> Safety Officer:	
<input type="checkbox"/> Liaison Officer:	<input type="checkbox"/> Other:	
<input type="checkbox"/> Information Officer:	<input type="checkbox"/> Other:	
<b>Summary:</b>		
<p>The objectives of this meeting are to:</p> <ul style="list-style-type: none"> <li>• Have a completed <b>ICS 202</b> form agreed upon by all attendees (Command and General Staff).</li> <li>• Establish objectives and priorities for the upcoming operational period.</li> <li>• Begin an <b>ICS 209</b> Incident Status Summary report.</li> <li>• Begin identifying all required roles on the <b>ICS 207</b> form.</li> <li>• Begin addressing the Incident Action Plan Checklist (<b>A4</b>).</li> <li>• Schedule and prepare for the Tactics Meeting.</li> </ul>		
<b>Resources:</b>	<b>ICS 202, 207, 209 forms, and the IAP Checklist (A4)</b>	
<b>Agenda Items:</b>		
<input type="checkbox"/> Status Update and review the ICS 201 Incident Briefing form.		
<input type="checkbox"/> Determine incident priorities (PEAR). Reference PEAR worksheet on page 2 of the ICS 201 Incident Briefing form.		
<input type="checkbox"/> Establish an incident organization that is capable of meeting initial and long-term challenges required to mitigate the incident.		
<input type="checkbox"/> Determine the incident response objectives and complete and ICS 202 Incident Objectives form. They must be SMART (Specific, Measurable, Attainable, Realistic, & Time Sensitive).		
<input type="checkbox"/> Identify initial staffing requirements and begin filling out the ICS 207 Incident Organizational Chart.		
<input type="checkbox"/> Identify and select incident support facilities.		
<input type="checkbox"/> Review the incident objectives for the next operational period so your management team can begin work on the IAP.		
<input type="checkbox"/> Document the incident status to relay to all responding personnel.		
<b>Key Points:</b>		
<ul style="list-style-type: none"> <li>• Ensure that the meeting is documented / recorded. (Utilize the back side of this page.)</li> <li>• Define the hours of work and operational period.</li> <li>• Utilize Incident Action Plan Checklist (A4).</li> <li>• Identify constraints and limitations.</li> <li>• Clarify any staff roles and responsibilities.</li> <li>• Determine expectations of the team for how all communications are to be made.</li> <li>• Discuss and agree on process issues such as resource ordering, cost accounting, operations security, and sensitive information.</li> <li>• Continue to develop tasks for Command and General Staff.</li> <li>• Agree on division of command workload, such as press and agency briefings.</li> </ul>		

**Notes:**



## 2.22 Tactics Meeting

<b>Owner: Operations Section Chief</b>	<b>Date:</b>	<b>Time:</b>
<b>**Roles below will attend only if designated and available**</b>		
<b>Attendees:</b>		
<input type="checkbox"/> <i>Incident Commander:</i>	<input type="checkbox"/> <i>Planning Section Chief:</i>	
<input type="checkbox"/> <i>Deputy Incident Commander:</i>	<input type="checkbox"/> <i>Logistics Section Chief:</i>	
<input type="checkbox"/> <i>Operations Section Chief:</i>	<input type="checkbox"/> <i>Finance/Admin. Section Chief:</i>	
<input type="checkbox"/> <i>Planning Section Chief:</i>	<input type="checkbox"/> <i>Safety Officer:</i>	
<input type="checkbox"/> <i>Liaison Officer:</i>	<input type="checkbox"/> <i>Other:</i>	
<input type="checkbox"/> <i>Information Officer:</i>	<input type="checkbox"/> <i>Other:</i>	
<b>Summary:</b>		
<p>The objectives of this meeting are to:</p> <ul style="list-style-type: none"> <li>• Define tactics, work assignments, and resources to meet actions identified during the Objectives Meeting.</li> <li>• Have completed <b>ICS 215</b> and <b>215A</b> forms agreed upon by all attendees (Command and General Staff).</li> <li>• Update the <b>ICS 207</b> Incident Organization Chart.</li> <li>• Refer to Incident Action Plan Checklist (<b>A4</b>) and continue to add to items accomplished.</li> <li>• Schedule and prepare for the Planning Meeting.</li> </ul>		
<b>Resources:</b>	<b>ICS 209, 215, 215A, and IAP Checklist (A4)</b>	
<b>Agenda Items:</b>		
<input type="checkbox"/> Review <b>ICS 209</b> Incident Status Summary.		
<input type="checkbox"/> Review incident objectives.		
<input type="checkbox"/> Define tactics to complete objectives set out during the Objectives Meeting.		
<input type="checkbox"/> Provide an operational update and identify tactics to deal with incident.		
<input type="checkbox"/> Identify roles and responsibilities that have to be performed to implement tactics.		
<input type="checkbox"/> Build on already established <b>ICS 207</b> Incident Organization Chart, check span-of-control, and match up with <b>ICS 215</b> assignments.		
<p>Complete the Operational Planning Worksheet, <b>ICS 215</b> (Utilize one form for every established objective).</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify work assignments</li> <li><input type="checkbox"/> Identify resources requirements to achieve each work assignment</li> <li><input type="checkbox"/> Identify overhead staffing needs to support each work assignment</li> <li><input type="checkbox"/> Identify specialized equipment and supply needs for each work assignment</li> <li><input type="checkbox"/> Specify reporting times and location for personnel</li> </ul>		
<p>Complete the Incident Action Plan Safety Analysis, <b>ICS 215A</b>.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify potential hazard types</li> <li><input type="checkbox"/> Identify mitigations for associated hazard types</li> </ul>		
<input type="checkbox"/> Identify support facilities and locations.		
<b>Key Points:</b>		
<ul style="list-style-type: none"> <li>• Ensure that the meeting is documented / recorded. (Utilize the back side of this page.)</li> <li>• Review planned actions against incident objectives and priorities.</li> <li>• Utilize a map or chart to depict the operational areas, support facilities, and any key information.</li> <li>• Discuss any applicable open action items.</li> <li>• Consider contingencies and secondary options.</li> </ul>		

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## 2.23 Planning Meeting

<b>Owner: Planning Section Chief</b>	<b>Date:</b>	<b>Time:</b>
<b>**Roles below will attend only if designated and available**</b>		
<b>Attendees:</b>		
<input type="checkbox"/> Incident Commander:	<input type="checkbox"/> Planning Section Chief:	
<input type="checkbox"/> Deputy Incident Commander:	<input type="checkbox"/> Logistics Section Chief:	
<input type="checkbox"/> Operations Section Chief:	<input type="checkbox"/> Finance/Admin. Section Chief:	
<input type="checkbox"/> Planning Section Chief:	<input type="checkbox"/> Safety Officer:	
<input type="checkbox"/> Liaison Officer:	<input type="checkbox"/> Other:	
<input type="checkbox"/> Information Officer:	<input type="checkbox"/> Other:	
<b>Summary:</b>		
<p>The objectives of this meeting are to:</p> <ul style="list-style-type: none"> <li>Finalize an Incident Action Plan with the necessary forms based on the objectives, tactics, and strategies outlined from the previous command meetings.</li> <li>Schedule and prepare for the Operations Briefing.</li> </ul>		
<b>Resources:</b>	<b>IAP Checklist (A4) and all associated ICS forms</b>	
<b>Agenda Items:</b>		
<input type="checkbox"/> Review Incident Action Plan forms ( <b>ICS 202, 207, 209, 215, and 215A</b> ).		
<input type="checkbox"/> Review Command's incident objectives, priorities, decisions, and direction.		
<input type="checkbox"/> Provide briefing on current situation, resources at risk, weather forecast, and incident projections.		
<input type="checkbox"/> Operations Section Chief provides briefing on: <ul style="list-style-type: none"> <li><input type="checkbox"/> Current operations.</li> <li><input type="checkbox"/> An overview on the proposed plan including strategy, tactics or work assignments, resource commitment, contingencies, organization structure, and needed support facilities.</li> </ul>		
<input type="checkbox"/> Review the proposed plan to ensure that Command direction, priorities, and operational objectives are met.		
<input type="checkbox"/> Delegate assignments and deadlines to appropriate staff members to assure timely and effective IAP development.		
<b>Key Points:</b>		
<ul style="list-style-type: none"> <li><b>Ensure that the meeting is documented / recorded.</b> (Utilize the back side of this page.)</li> <li>Review IAP Checklist (<b>A4</b>) to ensure that all critical materials have been accounted for in the IAP.</li> <li>Planning Section Chief brings meeting to order, cover ground rules, and review agenda.</li> <li>Planning Section Chief requests tacit Command approval of the plan as presented.</li> <li>Planning Section Chief reviews and validates responsibility for any open actions and management objectives.</li> <li>Planning Section Chief conducts round table of Command and General Staff to solicit their final input and commitment to the proposed plan.</li> </ul>		

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## 2.24 Operations Briefing

<b>Owner: Incident Commander</b>	<b>Date:</b>	<b>Time:</b>
<b>**Roles below will attend only if designated and available**</b>		
<b>Attendees:</b>		
<input type="checkbox"/> <i>Incident Commander:</i>	<input type="checkbox"/> <i>On-Site Group Supervisor</i>	
<input type="checkbox"/> <i>Deputy Incident Commander:</i>	<input type="checkbox"/> <i>Public Safety Group Supervisor</i>	
<input type="checkbox"/> <i>Operations Section Chief:</i>	<input type="checkbox"/> <i>Air Monitor Team Lead</i>	
<input type="checkbox"/> <i>Planning Section Chief:</i>	<input type="checkbox"/> <i>Roadblock Team Lead</i>	
<input type="checkbox"/> <i>Liaison Officer:</i>	<input type="checkbox"/> <i>Rover Team Lead</i>	
<input type="checkbox"/> <i>Information Officer:</i>	<input type="checkbox"/> <i>Telephoner Team Lead</i>	
<input type="checkbox"/> <i>Planning Section Chief:</i>	<input type="checkbox"/> <i>Reception Centre Representatives</i>	
<input type="checkbox"/> <i>Logistics Section Chief:</i>	<input type="checkbox"/> <i>Other:</i>	
<input type="checkbox"/> <i>Finance/Admin. Section Chief:</i>	<input type="checkbox"/> <i>Other:</i>	
<input type="checkbox"/> <i>Safety Officer:</i>	<input type="checkbox"/> <i>Other:</i>	
<input type="checkbox"/> <i>Staging Area Manager:</i>	<input type="checkbox"/> <i>Other:</i>	
<b>Summary:</b>		
<p>The objectives of this meeting are to:</p> <ul style="list-style-type: none"> <li>• Review a summary of the incident status with all responders.</li> <li>• Relay objectives, tactics, and strategies.</li> <li>• Reinforce/relay the safety message.</li> <li>• Assign roles &amp; responsibilities and tasks for all responders to accomplish.</li> <li>• Execute the response.</li> <li>• Tentatively schedule next Objectives Meeting and identify potential problems/issues to address in the next operational period.</li> </ul>		
<b>Resources:</b>	<b>IAP Checklist (A4) and all associated ICS forms</b>	
<b>Agenda Items:</b>		
<input type="checkbox"/> Planning Section Chief briefly walks through the IAP components and makes changes as needed.		
<input type="checkbox"/> Operations Section Chief conducts roll call of the Operation Section Supervisors and provides a briefing on emergency response.		
<input type="checkbox"/> Operations Section Chief briefs supervisory personnel on their assignments along with clarification on any of their issues and concerns.		
<input type="checkbox"/> Safety Officer covers major safety issues.		
<input type="checkbox"/> Logistics Section Chief covers logistical support of operations (communications, supply, transportation, medical, etc.).		
<input type="checkbox"/> Finance / Admin. Section Chief covers time & cost tracking, procurement, and compensation process.		
<input type="checkbox"/> General Staff to cover issues applicable to Operations Section personnel.		
<b>Key Points:</b>		
<ul style="list-style-type: none"> <li>• <b>Ensure that the meeting is documented / recorded.</b> (Utilize the back side of this page.)</li> <li>• Planning Section Chief opens briefing, covers ground rules, agenda, and conducts roll call of Command and General Staff members.</li> <li>• Establish a briefing and message for all responders.</li> <li>• Review pre-determined public and media statements.</li> <li>• Planning Section Chief solicits final comments and adjourns briefing.</li> </ul>		

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## 2.25 Planning “P”

### Initial Response:

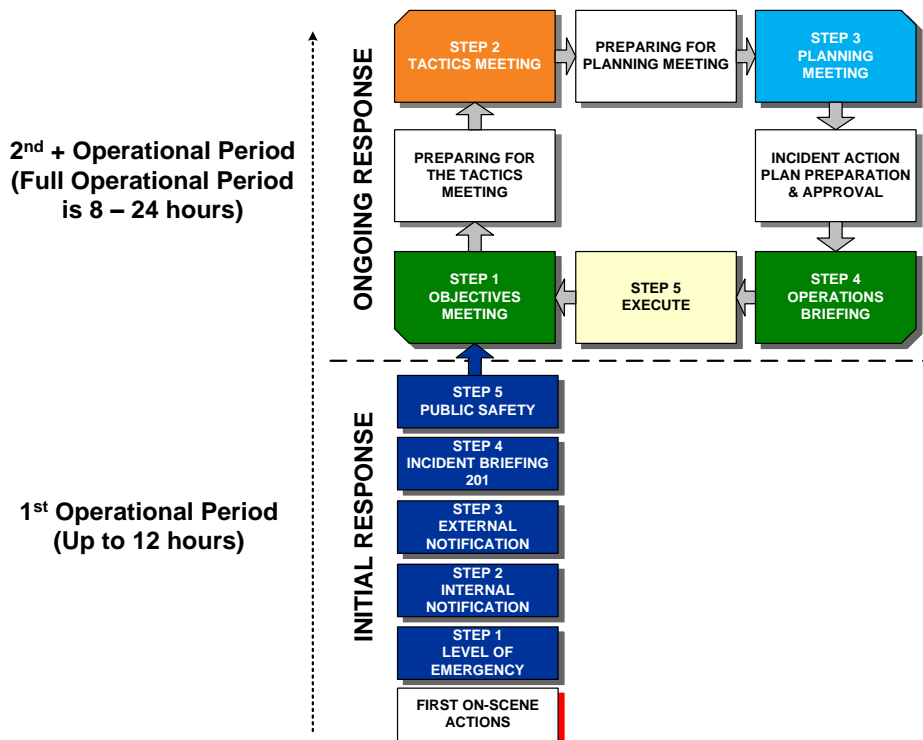
All incidents begin with the initial response (reactive phase) during the first operational period. At the onset of an emergency response an Initial Emergency Report (A1) Form is completed to determine the severity of the emergency and extent of the response. 95% of emergency responses begin and end in the first operational period.

After response personnel ensure their own personal safety by following the First On-Scene Actions, the Five Step Initial Response Guide, and associated tools, provide a structure for the Incident Commander to formulate a response and outlines the steps (key considerations) that need to be addressed and re-addressed when evaluating the incident and associated emergency response.

### Ongoing Response:

An ongoing response (proactive phase) is required for an extended emergency response that spans over multiple operational periods and revolves around establishing the objectives, strategies, and tactics for the next upcoming operational period. 5% of incidents require an ongoing response, but once engaged emergency responders will circulate through this cycle multiple times.

After the initial response has been completed, the Five Step Ongoing Response Guide and associated tools provide a cycle to plan the next steps of the emergency response. This continual cycle provides a structure for the Command Staff and General Staff to complete the Incident Action Plan (IAP) and associated documents. The ongoing response cycle and an associated IAP must be completed for each operational period until the incident is stood down.



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**SECTION 3. GOVERNMENT AGENCY ROLES**

- 3.1 Alberta Lead Agency Roles**
- 3.2 Alberta Supporting Agency Roles**
- 3.3 British Columbia Lead Agency Roles**
- 3.4 British Columbia Supporting Agency Roles**
- 3.5 Federal Agency Roles**
- 3.6 Alberta Lead Agency Phone List**
- 3.7 British Columbia Lead Agency Phone List**
- 3.8 Government Consultation Summary**

**SECTION 3. GOVERNMENT AGENCY ROLES**

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	Before the Incident	During the Incident	After the Incident
<b>Common Tasks</b>	<ul style="list-style-type: none"> <li>All departments/agencies should participate in training and exercises for this plan and the Energy Resources Industry Emergency Support Plan (ERIESP).</li> <li>This plan will be reviewed as required.</li> <li>A joint multi-department/agency exercise will be held as required.</li> </ul>	<ul style="list-style-type: none"> <li>The AER may activate the ERIESP based on the following criteria: <ul style="list-style-type: none"> <li>Level 2 or 3 emergencies (as defined by the AER)</li> <li>Any level of emergency: <ul style="list-style-type: none"> <li>requires coordination of multi-agency response;</li> <li>requires coordination of information and communication between departments/agencies and/or has significant provincial/national media interest.</li> </ul> </li> </ul> </li> <li>Elevations of the POC will be escalated by AEMA. Once the elevations level of the POC has been escalated, provincial-level emergency control will be coordinated by AEMA under the leadership of the lead agency.</li> <li>The AER will develop emergency objectives to guide the GoA response and support to duty holders and local authorities. AEMA will assist the AER by providing leadership and strategic policy direction for the GoA as per the <i>Government Emergency Management Regulation (AR 248/2007)</i>.</li> <li>GoA emergency management assistance will be provided to the local authority as requested and as long as is required by the local authority.</li> </ul>	<ul style="list-style-type: none"> <li>Complete a Post Incident Assessment (PIA) based on the scope of their involvement and the outcome.</li> <li>Integrate PIA into internal response processes.</li> <li>All departments/agencies will participate in a joint PIA to be coordinated by AER. Participation from each department/agency will be determined by the response to the emergency.</li> <li>Reports required by other regulatory authorities must be completed and delivered to the appropriate regulatory body within the time lines they prescribe.</li> </ul>
<b>*Alberta Energy Regulator (AER)</b>	<ul style="list-style-type: none"> <li>Confirm and act as lead Government of Alberta (GoA) organization in energy resources industry emergency preparedness and response.</li> <li>Set requirements for planning for, and responding to energy resources industry emergencies.</li> <li>Participate in exercises of this plan.</li> <li>Review and recommend changes to this plan.</li> <li>Maintain 24/7 telephone contact where energy resources industry emergencies can be reported.</li> <li>Maintain 24/7 emergency contact numbers where resources can be accessed to carry out a response to this plan.</li> <li>Make this plan available to stakeholders.</li> <li>Communicate changes to the plan with stakeholders.</li> <li>Maintain emergency response resources.</li> <li>Act as Subject Matter Expert (SME).</li> </ul>	<ul style="list-style-type: none"> <li>Receive notification of energy resources industry emergencies.</li> <li>Determine the emergency level of an emergency through consultation with the duty holder.</li> <li>Dispatch AER representative to the site of the emergency, as required.</li> <li>Confirm that local resources have been notified as appropriate.</li> <li>Monitoring discharges and ensuring appropriate mitigation and response actions are taken to reduce the impact of liquid releases for land based spills and to ensure watercourses are protected.</li> <li>Confirm, plan and/or implement public safety actions taken to ensure the safety of the public and the environment, including issuing Fire Hazard Orders or requesting NOTAMS.</li> <li>As lead agency, provide coordination for departments/agencies and duty holder on site.</li> <li>Request a local authority liaison officer to be present at the REOC, if necessary.</li> <li>Activate the Energy Resources Industry Emergency Support Plan.</li> <li>Advise AEMA to escalate POC activation (if required).</li> <li>Identify and request initial provincial resources to support the emergency response, to be coordinated at the regional level if necessary through a local or regional EOC.</li> <li>Initiate consolidated Situation Reports through AEMA.</li> <li>Provide Situation Reports to AEMA if requested.</li> <li>Send an AER representative to the emergency location and/or the incident command post.</li> <li>Establish an EOC at the local AER Field Centre until the duty holder or local authority establishes a REOC. AER ECC will be expanded if a REOC is not established.</li> <li>Dispatch an AER representative to the REOC when it opens.</li> <li>Request the deployment of other provincial GoA department/agency representative to be present at the REOC, or the local AER Field Centre ECC.</li> <li>Provide timely situation reports, through AEMA, to other GoA departments/agencies activated by this plan.</li> <li>Notify all participants when the emergency has concluded and there is no longer any hazard to the public.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct the PIA related to the response, as described by the ERIESP.</li> <li>As part of the PIA, recommend any mitigation actions that may improve the coordination of the GoA response, as described by the ERIESP.</li> <li>Establish processes to receive and address community concerns.</li> <li>Review and update the ERIESP, in consultation with AEMA.</li> <li>Communicate any changes to the ERIESP to applicable stakeholders.</li> </ul>
<b>*AEMA</b>	<ul style="list-style-type: none"> <li>Act as the provincial coordinating agency in energy resources industry emergency responses as per the <i>Emergency Management Act</i>.</li> <li>Maintain list of 24 hour emergency contact numbers.</li> <li>Maintain 24 hour duty manager system.</li> </ul>	<ul style="list-style-type: none"> <li>Confirm AER has been notified.</li> <li>Conduct the notification in accordance with Section 5.3.</li> <li>Obtain a situation report from the AER, AEP, local authority, etc.</li> <li>Confirm the level of emergency.</li> <li>Elevate the POC as required.</li> <li>Notify the appropriate provincial officials as per standard operating procedures.</li> <li>Release consolidated Situation Reports in accordance with section 3.4.4.</li> <li>Coordinate the Government of Alberta response including requests for provincial/federal resources.</li> <li>Provide ongoing situation reports or briefing notes to appropriate provincial officials in accordance with the AEP or as requested.</li> <li>Notify partners and stakeholders when the event is over.</li> </ul>	<ul style="list-style-type: none"> <li>Participate in all PIAs related the ERIESP.</li> <li>Complete documentation or reporting in relation to the activation of the ERIESP and the emergency for all GoA-wide PIAs.</li> </ul>
<b>Local Authority</b>	<ul style="list-style-type: none"> <li>Work with the operator to effectively prepare for a petroleum industry incident. Provide input to the industrial operator's site-specific plan to ensure it is compatible with the Municipal Emergency Plan (MEP), where feasible.</li> <li>Participate in industrial operators' preparatory training and exercises where possible.</li> <li>Train personnel to carry out functions as assigned by MEP or procedures.</li> <li>Maintain 24 hour emergency contact numbers.</li> <li>Meaningful planning (including confirmation and coordination of roles and responsibilities) between the local authority and the licensee/operator has taken place.</li> <li>Details on municipal emergency response capacity and planning are found in the applicable municipal emergency plan.</li> </ul>	<ul style="list-style-type: none"> <li>Receive notification and work with the licensee/operator.</li> <li>In a petroleum industry incident, determine if the incident can be managed and the level of support that would be needed if required from AER and AEMA. If the local authority, licensees or operators are unable to manage the response, the AER with assistance from AEMA will manage the response.</li> <li>Send a local authority liaison officer to be present at the AER regional EOC if necessary.</li> <li>If AEMA is providing support provide regular situation reports.</li> <li>Respond to and assess the emergency incident.</li> <li>Establish contact with the industrial operator in order to: <ul style="list-style-type: none"> <li>Obtain additional hazard information.</li> <li>Determine where road blocks should be or are established.</li> <li>Determine the direction of approach to the incident.</li> <li>Determine if there are any injuries.</li> <li>Find out what response and public protection actions have been taken.</li> <li>Identify the location of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs).</li> </ul> </li> <li>Activate the MEP, when required.</li> <li>Manage the Local Authority's emergency response.</li> <li>Activate the emergency public warning system to alert people to life threatening hazards, as required.</li> <li>Activate the Municipal EOC (MEOC), as required.</li> <li>Initiate public protection measures, as necessary.</li> <li>May dispatch a representative to the Provincial Operations Centre (POC), when it is established, to coordinate the response, if requested.</li> <li>If necessary, declare a local State of Emergency.</li> <li>If the hazard area extends beyond the Emergency Planning Zone (EPZ), the county will coordinate evacuation of the public as well as reception centre establishment and maintenance with the industrial operator.</li> <li>When possible, work with all other responders to establish a single Regional EOC (REOC).</li> <li>Establish a public information service, including the use of the news media to inform and instruct the public of the emergency and of any protective actions to be taken.</li> <li>Coordinate news releases with the licensee, if required.</li> <li>Inform AEMA and the public when the emergency is over.</li> </ul>	<ul style="list-style-type: none"> <li>Complete a "lessons learned" process based on the scope of involvement and provide any feedback to the industrial operator.</li> <li>Participate in multi-agency debriefings.</li> </ul>
<b>Alberta Health Services (AHS)</b>	<p>Alberta Health Services (AHS) - Environmental Public Health (EPH) roles and responsibilities in public health emergency preparedness and response to oil and gas industry are outlined below. The provision of services during an emergency depends upon our assessment of legislative responsibilities, impact to services, and business continuity.</p> <p>Environmental Public Health will endeavor to:</p> <ul style="list-style-type: none"> <li>Participate with the licensee in the development of their Emergency Response Plans as it relates to the Environmental Public Health Program's role and responsibility.</li> <li>Provide the AHS Zone Single-Point-of-Contact (SPOC) emergency phone number to enable the Licensee to notify and alert the Zone of an emergency. From the initial notification or alert, AHS emergency response will fan out to and coordinate with other AHS programs and facilities as necessary. The 911 EMS services remain independent of the Zone SPOC notification/alert process.</li> <li>Participate with stakeholders in preparedness training and exercises associated with a Licensee's simulated activation of an Emergency Response Plan in which Environmental Public Health has a role and responsibility.</li> <li>Participate in public information sessions during the Licensee's Emergency Response Plan development process when appropriate and as resources allow.</li> </ul>	<ul style="list-style-type: none"> <li>Provide guidance to stakeholders and local municipal authorities in identifying sites suitable for establishing and operating an evacuation centre and/or reception centre, including operational requirements.</li> <li>Provide guidance to stakeholders on substances that may affect public health in consultation with the Zone Medical Officer of Health (MOH), including Alberta Health Acute Exposure Health Effects for Hydrogen Sulphide and Sulphur Dioxide information.</li> <li>Conduct assessments, inspections and give regulatory direction, when appropriate, to ensure the requirements of provincial legislation and EPH program areas of responsibilities for public health protection and disease prevention are maintained.</li> <li>Notify the Zone Medical Officer of Health of any incident affecting or potentially affecting other AHS programs or facilities. The Zone MOH will notify and coordinate emergency response in other program areas and facilities as necessary.</li> <li>Establish EPH emergency management operations, when appropriate, to support regional efforts and liaise with the Government Emergency Operations Centre, Municipal Emergency Operations Centre and/or Industry Emergency Operations Centre, if needed.</li> <li>Assist the Zone Medical Officer of Health, local municipal authority, and Public Information/Communication officers in the development, issuance, and rescinding of public health, public evacuation, and shelter-in-place advisories.</li> <li>Provide guidance to stakeholders on matters relating to evacuation of the public and/or public facilities, and the re-occupancy of those evacuated areas or facilities.</li> <li>Record and respond to health complaints or concerns from the public during and following an incident.</li> </ul>	<ul style="list-style-type: none"> <li>Record and respond to health complaints or concerns from the public during and following an incident.</li> <li>Participate in stakeholder debriefings as necessary.</li> </ul>

# 3.1 Lead Agency Roles

Note: The roles for the local authority(s) and regional health authority(s) are not outlined in the Energy Resources Industry Emergency Support Plan (ERIESP) Plan and will be coordinated during the public consultation program.  
\*AER - Alberta Energy Regulator \*AEMA - Alberta Emergency Management Agency \*AHS - Alberta Health Services

# 3.1 Lead Agency Roles



## AB Emergency Services

### Before the Incident

The first level of emergency response is provided by fire and/or police services and may involve the activation of the Emergency Operations Centre (EOC). Other first responders, such as the RCMP and Emergency Medical Services, or EMS, have a provincial mandate but with a local presence through detachments or stations. These agencies are usually accessed through 911 and have internal dispatch arrangements.

- First responders work at the site level of an event and include police, fire and ambulance. Activities of first responders include medical response, firefighting and managing crowds or evacuation zones
- When a local authority EOC is activated, police and fire first responder agencies provide situational awareness to the local authority and submit requests for support to the local authority EOC
- First response services provided by a fire department are determined by the local authority responsible, and may include hazardous material incident response, road rescue, and medical rescue
- Emergency Medical Services, or EMS, operates under the authority of the Alberta Health Services. No matter where an emergency happens in Alberta, AHS EMS can transport patients by either a ground ambulance or air ambulance – fixed wing airplane or helicopter.
- AHS EMS staff actively participates in emergency planning, mock emergency exercises and other joint training initiatives to ensure emergency preparedness and response resources are identified and deployed quickly and effectively when they are needed most
- Maintain readiness status for emergency notification
- Participate in industrial operators' exercises where possible
- Maintain 24 hour emergency contact numbers

### During the Incident

#### RCMP

- RCMP or local police would also become involved if there are fatalities, as they are required to participate in the investigations. This could be through the medical examiner.
- Maintain law and order and assist the operator with local security but would require discussion with the local police at the time.
- The Office of the Fire Commissioner (OFC) has a working relationship with the RCMP and the RCMP may conduct selected duties of the Fire Commissioner where the fire's impact is not significant.
- Assist with traffic control, crowd control, evacuation, and residence security.
- Typically would not be involved in setting up or maintaining roadblocks unless the emergencies impacted or required the closure of 1, 2 and 3 digit Provincial or Secondary highways.
- Establish and maintain communications with industrial operator.
- Dispatch a representative to the off-site Regional Emergency Operations Centre, when established, to coordinate the response.
- Coordinate with the industrial operator both the establishment and the administration of reception centres for evacuees.
- Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.

#### Fire

- Respond to and assess emergency incident to the scope of their abilities.
- Establish a unified OSCP / ICP (On-site Command Post / Incident Command Post).
- Communicate to MEOC and provide site reps as required.
- Assist with fire protection where trained personnel are available.
- Provide emergency medical assistance, as required.
- Coordinate news releases with the licensee, if required.

#### EMS

- Respond to and assess emergency incident to the scope of their abilities.
- The Alberta Health Services provides and coordinates ambulance services within Alberta, including triage, treatment, transportation and care of casualties
- Provide emergency medical assistance, as required. Emergency Medical Technicians (EMT) or Emergency Medical Responders (EMR) provide basic patient assessment and treatment including obtaining vital signs, administering oxygen and splinting extremities.
- ALS ambulances have at least one paramedic with expanded training, scope of practice, and can provide advanced treatment in airway management and medication administration.

### After the Incident

- Complete a "lessons learned" process based on the scope of involvement and provide any feedback to the industrial operator.
- Participate in multi-agency debriefings.

Note: The roles for the local authority(s) and regional health authority(s) are not outlined in the Petroleum Industry Incident Support Plan and will be coordinated during the public consultation program.

\*AER - Alberta Energy Regulator (Oil & Gas) / \*AEP - Alberta Environment and Parks

\*AEMA - Alberta Emergency Management Agency

\*EMERGENCY SERVICES – as managed / operated by the Local Authority / Health Authority

		Before the Incident	During the Incident	After the Incident
Common Tasks		<ul style="list-style-type: none"> <li>All departments/agencies should participate in training and exercises for this plan and the Energy Resources Industry Emergency Support Plan (ERIESP).</li> <li>This plan will be reviewed as required.</li> <li>A joint multi-department/agency exercise will be held as required.</li> </ul>	<ul style="list-style-type: none"> <li>The AER may activate the ERIESP based on the following criteria:               <ul style="list-style-type: none"> <li>Level 2 or 3 emergencies (as defined by the AER)</li> <li>Any level of emergency:                   <ul style="list-style-type: none"> <li>requires coordination of multi-agency response;</li> <li>requires coordination of information and communication between departments/agencies and/or has significant provincial/national media interest.</li> </ul> </li> </ul> </li> <li>Elevations of the POC will be escalated by AEMA. Once the elevations level of the POC has been escalated, provincial-level emergency control will be coordinated by AEMA under the leadership of the lead agency.</li> <li>The AER will develop emergency objectives to guide the GoA response and support to duty holders and local authorities. AEMA will assist the AER by providing leadership and strategic policy direction for the GoA as per the <i>Government Emergency Management Regulation (AR 248/2007)</i>.</li> <li>GoA emergency management assistance will be provided to the local authority as requested and as long as is required by the local authority.</li> </ul>	<ul style="list-style-type: none"> <li>Complete a Post Incident Assessment (PIA) based on the scope of their involvement and the outcome.</li> <li>Integrate PIA into internal response processes.</li> <li>All departments/agencies will participate in a joint PIA to be coordinated by AER. Participation from each department/agency will be determined by the response to the emergency.</li> <li>Reports required by other regulatory authorities must be completed and delivered to the appropriate regulatory body within the time lines they prescribe.</li> </ul>
	*OHS	<ul style="list-style-type: none"> <li>Maintain and provide resources to support 24/7 employer reporting of incidents to OHS.</li> <li>Maintain capacity for OHS attendance to a work site when warranted.</li> <li>Maintain a formal Incident Management Program is in place to ensure compliance to OHS requirement to reporting, investigation, risk management, and monitoring.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure appropriate response and management of the scene is conducted:               <ul style="list-style-type: none"> <li>Ensure appropriate medical response is initiated and emergency response is contacted.</li> <li>Ensure safety of those on-site.</li> <li>Ensure security and integrity of the incident site is maintained.</li> </ul> </li> <li>Inspect the work activities and processes to ensure legislative standards are being met by all work site parties. (Attendance to be determined by Occupational Health and Safety management.)</li> <li>Ensure the appropriate provincial/territorial agencies are notified, where required.</li> </ul>	<ul style="list-style-type: none"> <li>Ensure work site parties have implemented appropriate controls prior to re-entry by workers.</li> <li>Investigate the incident if the incident is a reportable incident in line with current Alberta OHS Legislation.</li> <li>Ensure internal investigation has been conducted and that identified corrective actions have been minimized to reduce recurrence of similar incidents.</li> <li>Ensure outcomes and corrective actions are communicated to workers.</li> <li>Ensure health and safety committee or health and safety representative as defined by OHS legislation has been involved in internal investigations.</li> </ul>
	*AAI	<ul style="list-style-type: none"> <li>Act as subject matter expert (SME) relating to agriculture and livestock impacts.</li> <li>Act as the liaison between farming/ranching community and the Government of Alberta (GoA).</li> <li>Maintain emergency response resources.</li> </ul>	<ul style="list-style-type: none"> <li>Act as SME relating to agriculture and livestock impacts.</li> <li>Act as the liaison between farming/ranching community and GoA during energy resources industry emergencies.</li> <li>Provide information relating to agricultural and livestock impacts to the GoA during energy resources industry emergencies.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct agriculture and livestock impact assessments.</li> <li>Implement response activities as required.</li> </ul>
	*AFPT	<ul style="list-style-type: none"> <li>Maintain 24/7 contact numbers and duty officer where resources can be accessed for emergency response.</li> <li>Maintain emergency response resources.</li> <li>Act as subject matter expert (SME).</li> </ul>	<ul style="list-style-type: none"> <li>Notify forestry staff in the area of the emergency.</li> <li>Forest Areas Wildfire Coordination Centres will notify duty holder if energy resources industry infrastructure is threatened by wildfire, where practical and in order of priority. Priority contact will be through the contact information indicated in the company's Industrial Wildfire Control Plan for the identified locations. Can fight wildfires started as the result of the energy resources industry product release.</li> <li>Alberta Wildfire is responsible for managing all wildfires within the Forest Protection Area. Will suppress wildfires caused from industry operations when industry has appropriately shut-in the operation and notified Alberta wildfire to ensure the safety of first responders.</li> </ul>	<ul style="list-style-type: none"> <li>Conduct forest impact assessment. (if applicable)</li> </ul>
	*ATEC	<ul style="list-style-type: none"> <li>Maintain a 24/7 call centre (EDGE - Environmental and Dangerous Goods Emergencies) to receive emergency calls related to the transportation and handling of dangerous goods as well as environmental spills/releases/incidents, and AER emergency notifications.</li> <li>Act as SME for dangerous goods incidents.</li> </ul>	<ul style="list-style-type: none"> <li>Handle inter-departmental communication as needed during energy resources industry emergencies.</li> <li>Maintain ability to process calls for new emergencies.</li> <li>Provide information on the impacts to transportation routes.</li> <li>Provide response support if dangerous goods are released.</li> </ul>	<ul style="list-style-type: none"> <li>Provide a summary of transportation impacts during the PIA process. (if applicable)</li> </ul>
	*CPE	<ul style="list-style-type: none"> <li>Maintain a team of trained Communications and Public Engagement personnel.</li> <li>Activate crisis communications plan and crisis communications response.</li> </ul>	<ul style="list-style-type: none"> <li>Confirm distribution of AER messaging. Provide support as required.</li> </ul>	<ul style="list-style-type: none"> <li>Participate in all PIAs related to the ERIESP.</li> <li>Coordinate key messaging with the AER.</li> </ul>
	Alberta Justice	<ul style="list-style-type: none"> <li>Maintain the list of Critical Infrastructure and key assets in the Province of Alberta.</li> <li>Maintain and regularly test the Emergency Notification System.</li> <li>Maintain awareness of threats, vulnerabilities, and risks related to human induced intentional hazards.</li> </ul>	<ul style="list-style-type: none"> <li>Provide intelligence and threat risk assessments when appropriate and when requested, in relation to critical infrastructure and key assets.</li> <li>Communicate with owners and operators of critical infrastructure and key assets, through normal communication channels, or if necessary through the Emergency Notification System maintained by ASSIST.</li> </ul>	<ul style="list-style-type: none"> <li>Participate in all PIAs related to the ERIESP.</li> <li>Communicate with owners and operators of critical infrastructure and key assets, through normal communication channels, or if necessary through the Emergency Notification System maintained by ASSIST.</li> </ul>

# 3.2 Supporting Agency Roles



\*OHS - Occupational Health & Safety

\*AAI - Alberta Agriculture & Irrigation

\*AFPT - Alberta Forestry, Parks and Tourism

\*ATEC - Alberta Transportation and Economic Corridors

\*CPE - Communications and Public Engagement



# 3.2 Supporting Agency Roles



	Before the Incident	During the Incident	After the Incident
*EPA	<ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain 24 hour emergency contact numbers and duty officer where resources can be accessed for a response related to this plan.</li> <li><input type="checkbox"/> Maintain emergency response resources.</li> <li><input type="checkbox"/> Maintain a specialty air monitoring team and equipment used to oversee and verify air monitoring during incident response.</li> <li><input type="checkbox"/> Act as SME.</li> <li><input type="checkbox"/> Prepare to act as lead agency when appropriate.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Ensure that non-energy industry resources environmental impacts are mitigated.</li> <li><input type="checkbox"/> Provide expertise to mitigate the impacts of non-energy resources industry liquid releases on land and into watercourses.</li> <li><input type="checkbox"/> Provide technical assistance related to emergency drinking water supply engineering.</li> <li><input type="checkbox"/> Notify Fish and Wildlife staff in the area of the emergency.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Compile and maintain environment/emergency related records</li> <li><input type="checkbox"/> Monitor environmental recovery, when required.</li> </ul>
*WCB	<p>The Workers' Compensation Board is a statutory corporation created by government under the Workers' Compensation Act to administer a system of workplace insurance for the workers and employers of the province of Alberta.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> WCB has the overall responsibility for the administration of the workers' compensation system in Alberta.</li> <li><input type="checkbox"/> Be a neutral and autonomous administrator of the worker's compensation system.</li> <li><input type="checkbox"/> Strive to balance the interests of workers and employers.</li> <li><input type="checkbox"/> Delivery of workers' compensation services to the workers and employers of Alberta.</li> <li><input type="checkbox"/> Make decisions based on evidence, law and policy and fair, impartial and transparent processes.</li> <li><input type="checkbox"/> Encourage safer workplaces and promote disability management.</li> </ul>	<p>Employer must report to WCB within 72 hours of being notified of an injury/illness that results in or will likely result in:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Lost time or the need to temporarily or permanently modify work beyond the date of accident</li> <li><input type="checkbox"/> Death or permanent disability (amputation, hearing loss, etc.)</li> <li><input type="checkbox"/> A disabling or potentially disabling condition caused by occupational exposure or activity (poisoning, infection, respiratory disease, dermatitis, etc.)</li> <li><input type="checkbox"/> The need for medical treatment beyond first aid (assessment by a physician or chiropractor, physiotherapy, etc.)</li> <li><input type="checkbox"/> Medical aid expenses (dental treatment, eyeglass repair/replacement, prescription medications, etc.)</li> </ul> <p>Note: Immediately report fatalities and serious injuries to the OHS Contact Centre 1-866-415-8690.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Determines whether the injury or illness is caused by work.</li> <li><input type="checkbox"/> Responds to all client inquiries forwarded by the Minister and all other elected officials.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Compensates injured workers for lost income, health care and other costs related to a work-related injury.</li> <li><input type="checkbox"/> Safely restores injured workers through return-to-work services to a level of competitive employability.</li> <li><input type="checkbox"/> Take reasonable measures to maintain a reasonable quality of life for severely injured workers through the provision of services allowed by legislation and policy.</li> </ul>
*ABSA	<ul style="list-style-type: none"> <li><input type="checkbox"/> Review, accept and register pressure equipment designs and construction procedures that relate to pressure equipment.</li> <li><input type="checkbox"/> Issue certificate of inspection permits for pressure equipment before the equipment is placed into service.</li> <li><input type="checkbox"/> Ensure that regular inspections of in-service pressure equipment are conducted.</li> <li><input type="checkbox"/> Keep records for pressure equipment that has been registered for use, or manufactured, in Alberta.</li> <li><input type="checkbox"/> Examine, certify and register Pressure Welders and Welding Examiners, Power Engineers, and Pressure Equipment Inspectors.</li> <li><input type="checkbox"/> Authorize and monitor, through quality management systems, organizations that have been permitted to conduct some of the activities subject to the regulations.</li> <li><input type="checkbox"/> Conduct safety education and training.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Receive notification of an incident.</li> <li><input type="checkbox"/> As required under the <i>Pressure Equipment Safety Regulation</i> Section 35, the accident scene <b>must not be disturbed</b> (except when it is absolutely necessary to prevent death or injury, or to prevent further property damage) <b>unless</b> approval to do so has been given by an ABSA Safety Codes Officer.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Investigate accidents or unsafe conditions that involve pressure equipment. May: <ul style="list-style-type: none"> <li><input type="checkbox"/> close all or part of the accident site for 48 hours (or longer if authorized by a Justice)</li> <li><input type="checkbox"/> prohibit any person from entering the site for safety reasons or to preserve evidence</li> <li><input type="checkbox"/> be accompanied by any person for assistance</li> <li><input type="checkbox"/> inspect and photograph any thing</li> <li><input type="checkbox"/> require any person to make full disclosure</li> <li><input type="checkbox"/> require closure or disconnection of any thing</li> <li><input type="checkbox"/> require to be performed any tests or evaluations</li> <li><input type="checkbox"/> remove evidence</li> <li><input type="checkbox"/> require production of documents</li> </ul> </li> </ul>

\*WCB - Workers' Compensation Board

\*EPA - Alberta Environment and Protected Areas

\*ABSA - Alberta Boilers Safety Authority



# 3.3 Lead Agency Roles



	Before the Incident	During the Incident	After the Incident
<b>*BCER</b>	<p>The Emergency Response and Safety Department is the lead department responsible for emergency management within BCER. The Department oversees the administration of the EMR. This includes:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Reviewing industry emergency management programs and plans</li> <li><input type="checkbox"/> Participating in permit holder emergency response exercises</li> <li><input type="checkbox"/> Providing 24 hour Emergency Officer services</li> <li><input type="checkbox"/> Leading emergency and incident follow-up and investigation</li> <li><input type="checkbox"/> Administering incident and complaint response services</li> </ul> <p><input type="checkbox"/> BCER uses a combination of reviews, assessments, and field inspections.</p> <p><input type="checkbox"/> To ensure permit holders maintain compliance with the requirements detailed in the Emergency Management Regulation and the Oil and Gas Activities Act. The audit and inspection program objectives are to ensure permit holders have adequate processes and procedures in place.</p> <p><input type="checkbox"/> Participate in selected licensee ERP exercises.</p> <p><input type="checkbox"/> Maintain a 24 hour telephone contact where petroleum industry incidents can be reported.</p>	<p>During emergencies the BC Energy Regulator (BCER) acts as a liaison between industry operators and the provincial emergency management structure to provide situation updates related to threatened oil and gas assets.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Oversee operator's response to an incident.</li> <li><input type="checkbox"/> Notified by EMCR of incidents within BCER's jurisdiction (on lease).</li> <li><input type="checkbox"/> Establish communication with operator.</li> <li><input type="checkbox"/> Confirm incident level with operator.</li> <li><input type="checkbox"/> Confirm downgrade of incident level.</li> <li><input type="checkbox"/> Issue road closure order upon request from operator.</li> <li><input type="checkbox"/> Request NOTAM order upon request from the operator.</li> <li><input type="checkbox"/> May send a BCER representative to operator's On-Site Command Post and / or Evacuation Centre.</li> <li><input type="checkbox"/> May establish a government EOC at the BCER office.</li> <li><input type="checkbox"/> Confirm ignition decision with operator if time permits.</li> <li><input type="checkbox"/> Confirm media releases to be sent out by operator.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Close EOC if established.</li> <li><input type="checkbox"/> Participate in event debriefings.</li> <li><input type="checkbox"/> Receive and review Post-Incident reports.</li> <li><input type="checkbox"/> May audit licensee records.</li> </ul>
<b>*EMCR</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Assist the BCER with planning initiatives regarding petroleum industry emergency response as requested by the BCER.</li> <li><input type="checkbox"/> EMCR Northeast Region receives Industry Facility Emergency Response Plans.</li> <li><input type="checkbox"/> Participate in selected licensee ERP exercises when requested as time permits.</li> <li><input type="checkbox"/> Maintain a 24 "800" telephone contact where petroleum industry spill incidents can be reported.</li> <li><input type="checkbox"/> Maintain 24 hour emergency contact numbers for local governments and provincial emergency responders.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> ECC Victoria will notify the BCER on call Emergency Response Officer and initiate British Columbia's notification of government agencies including MOF, MOE, MOT, Health Unit, WorkSafe BC, affected municipalities and all other level of government and industry, depending on the level of "coding" (notification code 1,2,3 is determined by the Lead Agency MOE or BCER), depending on the code level Standard Operating Procedures (SOPs) in ECC will determine who is notified.</li> <li><input type="checkbox"/> Provide representatives to help coordinate provincial response as required.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> As requested by BCER</li> </ul>
<b>Local Authority / Regional Districts</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Set up and maintain an emergency management organization which can include an executive committee, emergency program management committee, emergency program coordinator or emergency social services director.</li> <li><input type="checkbox"/> Develop and maintain a Hazard, Risk and Vulnerability Analysis (HRVA) to identify potential emergencies and disasters in its jurisdictional area.</li> <li><input type="checkbox"/> Educate community residents and business owners about the need for personal emergency preparedness.</li> <li><input type="checkbox"/> Prepare for emergencies and disasters through mitigation, preparedness, response and recovery planning.</li> <li><input type="checkbox"/> Conduct training and exercises for all emergency response staff.</li> <li><input type="checkbox"/> Establish procedures for implementing, reviewing and revising response and recovery plans.</li> <li><input type="checkbox"/> Complete periodic reviews and updating of the local emergency plan.</li> <li><input type="checkbox"/> Respond to emergencies when required.</li> <li><input type="checkbox"/> Establish procedures for notifying persons threatened by emergencies or impending disasters.</li> <li><input type="checkbox"/> Identify procedures for obtaining emergency resources.</li> <li><input type="checkbox"/> Establish priorities for restoring essential services.</li> <li><input type="checkbox"/> Work with volunteer groups to plan for the provision of food, clothing and shelter to victims.</li> <li><input type="checkbox"/> Participate in industrial operators' preparatory training and exercises where possible.</li> <li><input type="checkbox"/> Maintain 24 hour emergency contact numbers.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Provides the local government response for rural and crown areas.</li> <li><input type="checkbox"/> Assesses the situation.</li> <li><input type="checkbox"/> Provides support to the first responders, including resources.</li> <li><input type="checkbox"/> Provides public information, including media briefings.</li> <li><input type="checkbox"/> Coordinates the provision of food, clothing, shelter and transportation.</li> <li><input type="checkbox"/> Liaises with volunteer groups.</li> <li><input type="checkbox"/> Provides situation reports to the PREOC.</li> <li><input type="checkbox"/> Tracks finances.</li> <li><input type="checkbox"/> Coordinates recovery of essential services.</li> <li><input type="checkbox"/> Coordinates community recovery efforts.</li> <li><input type="checkbox"/> During emergencies and disasters the local authority's primary link to the provincial emergency management structure is the PREOC.</li> <li><input type="checkbox"/> When a local authority EOC is activated, police and fire first responder agencies provide situational awareness to the local authority and submit requests for support to the local authority EOC.</li> <li><input type="checkbox"/> Establish contact with the industrial operator in order to: <ul style="list-style-type: none"> <li><input type="checkbox"/> Obtain additional hazard information.</li> <li><input type="checkbox"/> Determine where roadblocks should be or are established.</li> <li><input type="checkbox"/> Determine the direction of approach to the incident.</li> <li><input type="checkbox"/> Determine if there are any injuries.</li> <li><input type="checkbox"/> Find out what response and public protection actions have been taken.</li> <li><input type="checkbox"/> Identify the location of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs).</li> </ul> </li> <li><input type="checkbox"/> Activate the MEP, when required.</li> <li><input type="checkbox"/> Manage the Local Authority's emergency response.</li> <li><input type="checkbox"/> Activate the emergency public warning system to alert people to life threatening hazards, as required.</li> <li><input type="checkbox"/> Activate the Municipal EOC (MEOC), as required.</li> <li><input type="checkbox"/> May dispatch a representative to the Government EOC (GEOC), when it is established, to coordinate the response, if requested.</li> <li><input type="checkbox"/> If necessary, declare a local State of Emergency.</li> <li><input type="checkbox"/> When possible, work with all other responders to establish a single Regional EOC (REOC).</li> <li><input type="checkbox"/> Inform EMCR and the public when the emergency is over.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Complete a "lessons learned" process based on the scope of involvement and provide any feedback to the industrial operator.</li> <li><input type="checkbox"/> Participate in multi-agency debriefings.</li> </ul>
<b>*BC Emergency Services</b>	<p>The first level of emergency response is provided by fire and/or police services and may involve the activation of the Emergency Operations Centre (EOC). Other first responders, such as the RCMP and British Columbia Ambulance Service, have a provincial mandate but with a local presence through detachments or stations. These agencies are usually accessed through 9-1-1 and have internal dispatch arrangements.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> First responders work at the site level of an event and include police, fire and ambulance. Activities of first responders include medical response, firefighting and managing crowds or evacuation zones.</li> <li><input type="checkbox"/> When a local authority EOC is activated, police and fire first responder agencies provide situational awareness to the local authority and submit requests for support to the local authority EOC.</li> <li><input type="checkbox"/> First response services provided by a fire department are determined by the local authority responsible, and may include hazardous material incident response, road rescue, and medical rescue.</li> <li><input type="checkbox"/> The BC Ambulance Service (BCAS) operates under the authority of the Emergency and Health Services Commission (EHSC) and is tasked with the provision of pre-hospital emergency care and transport of patients across the province.</li> <li><input type="checkbox"/> BCAS staff actively participates in emergency planning, mock emergency exercises and other joint training initiatives to ensure emergency preparedness and response resources are identified and deployed quickly and effectively when they are needed most.</li> <li><input type="checkbox"/> Participate in industrial operators' exercises where possible.</li> <li><input type="checkbox"/> Maintain 24 hour emergency contact numbers.</li> </ul>	<p><b>RCMP</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain law and order and assist the operator with security.</li> <li><input type="checkbox"/> Assist with mobilization of additional resources as directed by EMCR.</li> <li><input type="checkbox"/> Assist with traffic control, evacuation, and residence security.</li> <li><input type="checkbox"/> Assist with setting up and maintaining roadblocks or closures of 1, 2 and 3 digit Provincial or Secondary highways.</li> <li><input type="checkbox"/> Establish and maintain communications with industrial operator.</li> <li><input type="checkbox"/> Dispatch a representative to the off-site Regional Emergency Operations Centre, when established, to coordinate the response.</li> <li><input type="checkbox"/> Coordinate with the industrial operator both the establishment and the administration of reception centres for evacuees.</li> <li><input type="checkbox"/> Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.</li> </ul> <p><b>Fire</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Respond to and assess emergency incident to the scope of their abilities.</li> <li><input type="checkbox"/> Establish a unified OSCP / ICP (On-site Command Post / Incident Command Post).</li> <li><input type="checkbox"/> Communicate to MEOC and provide site reps as required.</li> <li><input type="checkbox"/> Assist with fire protection where trained personnel are available.</li> <li><input type="checkbox"/> Provide emergency medical assistance, as required.</li> <li><input type="checkbox"/> Coordinate news releases with the licensee, if required.</li> </ul> <p><b>EMS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Respond to and assess emergency incident to the scope of their abilities.</li> <li><input type="checkbox"/> The BC Ambulance Service provides and coordinates ambulance services within British Columbia, including triage, treatment, transportation and care of casualties.</li> <li><input type="checkbox"/> The BC Ambulance Service provides situational awareness and coordinates resources through the PREOCs and PECC.</li> <li><input type="checkbox"/> Provide medical aid and transportation of ill or injured workers to a medical facility during high risk operations as required under the WCB Act and WSBC Regulations.</li> <li><input type="checkbox"/> Provide emergency medical assistance, as required.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Complete a "lessons learned" process based on the scope of involvement and provide any feedback to the industrial operator.</li> <li><input type="checkbox"/> Participate in multi-agency debriefings.</li> </ul>

\*BCER - Oil & Gas Commission

\*EMCR - Ministry of Emergency Management and Climate Readiness

\* Emergency Services - as managed / operated by the Local Authority



# 3.3 Lead Agency Roles



Northern Health Authority  
Ministry of Justice

## Before the Incident

Northern Health is the regional health authority responsible for providing health services to 300,000 people over an area of 600,000 square kilometers in the province of British Columbia. Services include:

- Acute (hospital) Care
- Public Health (Protection, Preventive and Population Health services)
- Mental Health and Addictions
- Home and Community Care
- In the event of a major emergency/disaster, Northern Health will provide health care services within its capacity, and will activate its emergency response management plan(s).
- Participate with industry, local authority and other partners in the development of their Emergency Response Plans as it relates to health authority roles and responsibilities.
- Participate in stakeholder training and exercises associated with activation of an Emergency Response Plan, in which Northern Health or HEMBC have a role and responsibility.

The Police and Community Safety Branch of the Ministry of Justice will work with EMCR to:

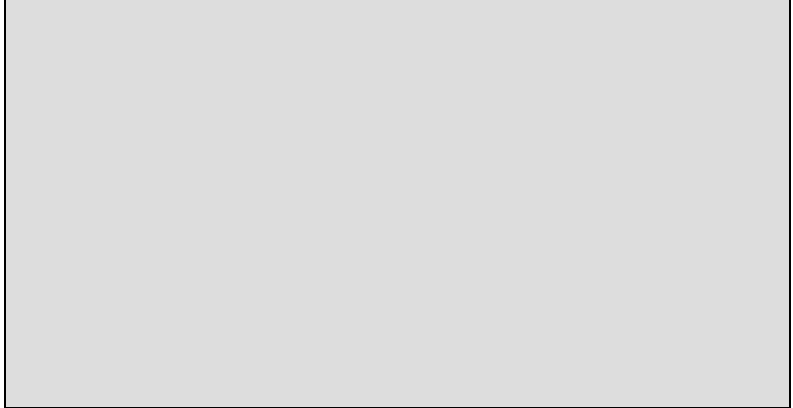
- Prepare, promulgate and implement orders relating to law enforcement and internal security.
- Provide through the jurisdictional police force:
  - Advice to local authorities respecting the maintenance of law and order
  - Reinforcement of local police services
  - Security control of emergency areas; and
  - Traffic and crowd control
- The Ministry of Justice provides legal services to the government. Policy direction and legislative changes are made in consultation with the Ministry of Justice. During emergencies or disasters the Ministry of Justice may be called on to assist with risk management and provide expertise. This could include providing advice to provincial ministries and government corporations on legal matters relating to the preparation and promulgation of emergency orders, regulations, declarations and contractual arrangements.

## During the Incident

- Activate internal emergency response management plans related to ongoing provision of its services
- Provide acute care and emergency services at existing Northern Health hospitals/health centres.
- Work with BC Emergency Health Services (Ambulance) and the BC Patient Transfer Network to transport patients to the appropriate levels of care.
- Apply and enforce the Public Health Act, and associated regulations.
- Provide advice/information to the stakeholders on the existing or potential public health effects of an incident (including drinking water safety, air quality, environmental contaminants, communicable disease prevention, re-occupancy of evacuated areas, etc.).
- Provide advice/information on the best methods for monitoring health effects from an incident.
- Assist in development of (joint) messaging for public information on emergency incidents.
- Provide guidance to stakeholders and local authorities on public health considerations in operating reception and evacuation centres, and group lodging facilities.

- Jurisdictional police forces to task search and rescue services for missing persons on land and in inland waters.
- Before, during and after an emergency the Ministry of Justice could be called upon to provide expertise, technical advice and/or policy direction regarding police and correctional services.
- The Minister of Justice has overall responsibility for emergency management in the province. In the event of a disaster, the Minister may:
  - Declare a provincial state of emergency
  - Make a formal written request for federal assistance or aid from the Government of Canada
  - Direct the establishment of M-DEC
  - Inform his/her colleagues of the situation, and
  - Be available for media interviews

## After the Incident





	Before the Incident	During the Incident	After the Incident
*MECCS	<ul style="list-style-type: none"> <li>Provide regulatory oversight and monitor the situation to ensure that the Responsible Party (RP) is taking appropriate actions.</li> <li><b>Can liaise with Ministry of Forests to provide:</b> <ul style="list-style-type: none"> <li>Species and ecosystem protection policy.</li> <li>Water protection and sustainability policy.</li> <li>Conservation and resource management enforcement.</li> </ul> </li> </ul>	<p>Before, during and after an emergency the Ministry could be called upon to provide expertise, technical advice and/or policy direction regarding:</p> <ul style="list-style-type: none"> <li>Environmental emergency response (including hazardous materials)</li> <li>Air, land and water quality standards</li> <li>Pollution prevention and waste management</li> <li>Water and air monitoring and reporting</li> <li>Environmental assessment</li> <li>Environmental monitoring</li> <li>Parks, wilderness and protected areas.</li> </ul> <ul style="list-style-type: none"> <li>Provide regulatory oversight and monitor the situation to ensure that the Responsible Party (RP) is taking appropriate actions.</li> <li>May provide a representative to the Incident Command Centre, the Off-Site Command EOC and the BCER Emergency Operations Centre (EOC) and / or the Provincial Emergency Operations Centre (PREOC) on a 24-hour basis.</li> <li>In a larger scale incident, based on risk, additional ministry resources such as IMTs (Incident Management Teams) may be deployed to establish unified command and monitor, augment, or take over the response if the RP fails to take appropriate action as deemed necessary by the EERO or Provincial Incident Commander.</li> <li>May assist the RP to ensure that other required agencies and affected stakeholders are contacted.</li> <li>May provide assistance with hazardous waste management.</li> <li>May conduct sampling for monitoring and enforcement purposes.</li> </ul>	
Ministry of Forests	<ul style="list-style-type: none"> <li>Five key agencies are housed within the Ministry of Forests: Wildfire Management Branch, Dam Safety, Flood Safety, GeoBC and the River Forecast Centre.</li> <li>Develop, deliver and promote innovative and effective wildfire management practices to clients.</li> <li>Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.</li> <li>The Ministry of Forests is identified to provide personnel, equipment, supplies, telecommunications equipment, aviation support and weather information to assist in emergency response operations.</li> <li>The Ministry of Forests is the designated key agency for wildfires.</li> </ul>	<p>Before, during and after an emergency the Ministry of Forests could be called upon to provide expertise, technical advice and/or policy direction regarding:</p> <ul style="list-style-type: none"> <li>Forest stewardship policy</li> <li>Land use planning</li> <li>Water use planning and authorizations</li> <li>Drought management</li> <li>Dam and dike safety and regulation</li> <li>Flood plain management</li> <li>GeoBC and information management</li> <li>Pests, disease, invasive plants and species</li> <li>Wildfire management</li> </ul>	<ul style="list-style-type: none"> <li>Participate in event debriefings.</li> <li>Complete a "lessons-learned" process based on the scope of their involvement and the outcome.</li> </ul>
* MOTT	<ul style="list-style-type: none"> <li>Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.</li> <li>In the event of an emergency, the Highway Department's Operations, Maintenance and Re-construction team plays an important role to ensure the public is safe and transportation routes are available for accessing emergency services.</li> <li>Ministry of Transportation and Transit oversees provincial highways identified as emergency response routes - a network of pre-identified routes that can best move emergency services and supplies to where they are needed in response to a major disaster.</li> <li>Disaster Response Routes (DRRs) are a critical part of the overall emergency transportation system.</li> <li>Responsible for the construction, maintenance and operation of public roads.</li> </ul>	<p>Before, during and after an emergency the Ministry of Transportation and Transit (MOTT) could be called upon to provide expertise, technical advice and/or policy direction regarding:</p> <ul style="list-style-type: none"> <li>Highway construction and maintenance</li> <li>Safety and protection of provincial road and bridge infrastructure</li> <li>Transportation planning and policy</li> </ul> <p>MOTT can:</p> <ul style="list-style-type: none"> <li>Authorize the closure of provincial transportation routes, including highways and inland ferries, where the safety of the public is at risk.</li> <li>Assist in public notification through the DriveBC website, as well as posting advisories on overhead message boards along designated routes.</li> <li>Coordinate and arrange for transportation, engineering and construction resources.</li> <li>Rebuild and restore provincial highways that are impacted by an emergency.</li> </ul>	<ul style="list-style-type: none"> <li>Work with appropriate local and federal entities to facilitate the restoration of roadways and utilities.</li> </ul>
*PSPC	<p>The Roles &amp; Responsibilities listed below for Public Services and Procurement Canada (PSPC) are only in relation to the Alaska Highway (97) in British Columbia, north of mile 83.5 (km 133) to the border of British Columbia and Yukon Territories at km 968.</p> <p>In conjunction with the BC Ministry of Transportation &amp; Transit (MOTT) and the provincial maintenance contractor, PSPC may:</p> <ul style="list-style-type: none"> <li>Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.</li> <li>Hold responsibility for the acquisition of contracts for the maintenance and operation of the Alaska Highway.</li> <li>Oversee Alaska Highway response routes - a network of pre-identified routes that can best move emergency services and supplies to where they are needed in response to a major disaster.</li> </ul>	<p>In conjunction with the BC Ministry of Transportation &amp; Transit (MOTT), PSPC, and the provincial maintenance contractor may be called upon to:</p> <ul style="list-style-type: none"> <li>Provide expertise, technical advice and/or policy direction regarding: <ul style="list-style-type: none"> <li>Highway construction and maintenance</li> <li>Safety and protection of provincial road and bridge infrastructure</li> <li>Transportation planning and policy</li> </ul> </li> <li>Play an important role to ensure the public is safe and transportation routes are available for accessing emergency services.</li> <li>Assist in the coordination of roadblock locations along the highway.</li> <li>Authorize closure of the Alaska Highway where the safety of the public is at risk.</li> <li>Assist in public notification of an emergency through the MOTT's DriveBC website, as well as posting advisories on overhead message boards along designated routes.</li> <li>Coordinate and arrange for transportation, engineering and construction resources.</li> <li>Handle inter-departmental communication as needed during energy resources industry emergencies.</li> <li>Maintain ability to process calls for new emergencies.</li> <li>Provide information on the impacts to transportation routes.</li> <li>Provide response support if dangerous goods are released.</li> </ul>	<ul style="list-style-type: none"> <li>Work with appropriate local and federal entities to facilitate the restoration and re-opening of the Alaska Highway.</li> <li>Complete a "lessons learned" process based on the scope of involvement and provide any feedback to the industrial operator.</li> <li>Provide a summary of transportation impacts during the post incident review process.</li> <li>Participate in multi-agency debriefings.</li> </ul>
Technical Safety BC	<ul style="list-style-type: none"> <li>Technical Safety BC (formerly BC Safety Authority) is an independent, self-funded organization mandated to oversee the safe installation and operation of technical systems and equipment across the province.</li> <li>In addition to issuing permits, licenses and certificates, we work with industry to reduce safety risks through assessment, education and outreach, enforcement, and research.</li> </ul>	<ul style="list-style-type: none"> <li>Technical Safety BC implements a business continuity plan in the event of a natural disaster. This plan ensures that Technical Safety BC resumes safety services as soon as possible.</li> <li>Though Technical Safety BC is not a first responder, they will provide technical support including inspection services to the recovery team relating to the technical equipment and systems covered by the Safety Standards Act (e.g., gas, electrical, elevating devices, boiler and pressure vessel technologies) after first ensuring the safety of its employees.</li> <li>Starting in the planning phase and through collaboration with other agencies, Technical Safety BC can provide most value to the public and best support the other agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Technical Safety BC tracks and investigates incidents and hazards that are reported to inform awareness and prevention initiatives</li> <li>Technical Safety BC does not investigate all reported incidents and may not follow-up with a notification unless there is an intention to investigate.</li> <li>Technical Safety BC will contact duty holders within 24 hours of the next regular business day following the report of an incident if more information is required or an investigation is planned to occur.</li> </ul>

# 3.4 Supporting Agency Roles



\*PSPC - Public Services and Procurement Canada

\*MOTT - Ministry of Transportation and Transit

\*MECCS - Ministry of Environment and Climate Change Strategy



# 3.4 Supporting Agency Roles



	Before the Incident	During the Incident	After the Incident
<b>Ministry of Health</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Provide public health measures, including epidemic control and immunization programs.</li> <li><input type="checkbox"/> Provide and coordinate ambulance services and triage, treatment, transportation and care of casualties.</li> <li><input type="checkbox"/> Provide the continuity of care for patients evacuated from hospitals or other health institutions and for medically dependent patients from other care facilities.</li> <li><input type="checkbox"/> Provide standard medical units consisting of emergency hospitals, advanced treatment centres, casualty collection units and blood donor packs.</li> <li><input type="checkbox"/> Monitor potable water supplies.</li> <li><input type="checkbox"/> Inspect and regulate food quality with the assistance of the Minister of Agriculture.</li> <li><input type="checkbox"/> Provide critical incident stress debriefing and counselling services.</li> <li><input type="checkbox"/> Provide support services for physically challenged or medically disabled people affected by an emergency.</li> <li><input type="checkbox"/> Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.</li> <li><input type="checkbox"/> Provide input on public health issues related to a petroleum incident.</li> </ul>	<p>Before, during and after an emergency the Ministry of Health could be called upon to provide expertise, technical advice and/or policy direction regarding:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Health service delivery</li> <li><input type="checkbox"/> Public health planning and response</li> <li><input type="checkbox"/> Community and home support services</li> <li><input type="checkbox"/> Mental health</li> <li><input type="checkbox"/> Communicable disease prevention</li> </ul> <ul style="list-style-type: none"> <li><input type="checkbox"/> During an emergency the Ministry of Health will provide the continuity of care both for patients evacuated from hospitals or other health institutions and for medically dependent patients from other care facilities; The Ministry will also provide emergency psychosocial services.</li> <li><input type="checkbox"/> Ensure appropriate Health entities have been notified of the incident.</li> <li><input type="checkbox"/> Ensure appropriate Executive and Public Health personnel have been notified of the incident.</li> <li><input type="checkbox"/> Carry out evacuation of medically dependent and vulnerable populations, as needed.</li> <li><input type="checkbox"/> Transport incident casualties as required.</li> <li><input type="checkbox"/> Triage and provide medical care to incident casualties as required.</li> <li><input type="checkbox"/> Decontaminate incident casualties that present to health care facilities, as needed.</li> <li><input type="checkbox"/> Relay health hazard information to the public.</li> <li><input type="checkbox"/> Monitor water and air quality, as it relates to public health.</li> <li><input type="checkbox"/> Coordinate the public health response to the incident.</li> <li><input type="checkbox"/> Address the psychosocial aspects of the aftermath of an event.</li> <li><input type="checkbox"/> Arrange with Health Canada and the Public Health Agency of Canada for federal support, if needed.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Participate in event debriefings.</li> <li><input type="checkbox"/> Complete a "lessons-learned" process based on the scope of their involvement and the outcome.</li> <li><input type="checkbox"/> Continue with public health and environmental health monitoring as required.</li> <li><input type="checkbox"/> Continue to address the psychosocial aspects of recovery.</li> </ul>
<b>WorkSafeBC</b>	<p>WorkSafeBC is the BC Health and Safety Regulator. In addition to providing a no-fault insurance system and providing when work-related injuries or diseases occur compensation and support to workers in their recovery, rehabilitation, and safe return to work; WorkSafeBC assists workers in creating and maintaining healthy and safe work workplaces, with Proactive roles which include:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Providing health and safety information to employers, workers, and the public</li> <li><input type="checkbox"/> Establishing standards and guidelines for occupational health and safety</li> <li><input type="checkbox"/> Educating employers, supervisors, and workers on prevention of work-related injury and illness.</li> <li><input type="checkbox"/> Conducting work site inspections to help employers comply with health and safety regulations.</li> <li><input type="checkbox"/> Collaborating with provincial and federal agencies and ministries on matters of occupational health and safety</li> <li><input type="checkbox"/> Providing access to prevention resources for workers and employers</li> </ul>	<p>As required by the Workers Compensation Act (WCA Sec 68) <b>Employers must immediately report the following types of incidents</b> to WorkSafeBC at 1-888-621-7233 (whether there is an injury or not):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Any incident that kills or seriously injures a worker</li> <li><input type="checkbox"/> A major leak or release of a dangerous substance</li> <li><input type="checkbox"/> A major structural failure or collapse of a structure, equipment, construction support system, or excavation</li> <li><input type="checkbox"/> A fire or explosion that had a potential for causing serious injury to a worker</li> <li><input type="checkbox"/> Any blasting accident that results in injury, or unusual event involving explosives (required by regulation)</li> <li><input type="checkbox"/> A diving incident that causes death, injury, or decompression sickness requiring treatment (required by regulation)</li> </ul> <p>This requirement is in addition to the requirement of reporting workplace injuries or disease for claims purposes.</p>	<p>Prompt investigation of incidents must be conducted to identify causation and prevent recurrence. The WCA (sec 69) requires preliminary investigations to be conducted within 48 hours and full investigations completed within 30 days of the following types of incidents:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> is required to be reported under section 68 (specified above),</li> <li><input type="checkbox"/> resulted in injury to a worker requiring medical treatment,</li> <li><input type="checkbox"/> did not involve injury to a worker, or involved only minor injury not requiring medical treatment, but had a potential for causing serious injury to a worker, or</li> <li><input type="checkbox"/> was an incident required by regulation to be investigated.</li> </ul> <p>The investigation process must be carried out by persons knowledgeable about the type of work involved and, if they are reasonably available, with the participation of the employer or a representative of the employer and a worker representative. Full investigations must be submitted to WorkSafeBC.</p>
<b>Ministry of Agriculture and Food</b>	<p>Emergency management support roles for all hazards (upon request of Local Authority, First Nation, EMCR, or other requesting agency):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Provide advice to farmers, aqua-culturalists and fishers on the protection of crops, livestock and provincially managed fish and marine plant stocks.</li> <li><input type="checkbox"/> Coordinate the emergency evacuation and care of poultry and livestock.</li> <li><input type="checkbox"/> Inspect and regulate food quality.</li> <li><input type="checkbox"/> Identify food and potable water supplies.</li> <li><input type="checkbox"/> Assist the Minister of Health in the inspection and regulation of food safety.</li> </ul>	<p>The designated lead provincial ministry for planning and response before, during and after an emergency for:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Diseases and epidemics as specified below: <ul style="list-style-type: none"> <li><input type="checkbox"/> Animal diseases</li> <li><input type="checkbox"/> Plant diseases</li> <li><input type="checkbox"/> Pest infestations</li> </ul> </li> </ul>	
<b>HEMBC North</b>	<p>Health Emergency Management BC (HEMBC) is a program under the Provincial Health Services Authority (PHSA). HEMBC provides the expertise, education, tools, and support specifically for the BC Health Sector to effectively mitigate, prepare for, respond to, and recover from the impacts of emergency events; ensuring the continuity of health services. There is a HEMBC team in each BC health authority. HEMBC-North deals specifically with Northern Health.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Maintain a 24-hour emergency/on call contact number for notification and activation of the health system in Northern BC.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> For emergency events that require immediate connection with Northern Health, please call HEMBC on call (24/7) - <b>855-554-3622</b>. HEMBC will notify / activate the appropriate Northern Health programs (ie. Public Health, Acute Care etc.) based on the nature of the event / emergency. Please include this number in industry ERPs for the use of permit holders in contacting Northern Health on an emergency basis.</li> <li><input type="checkbox"/> Notify/activate the appropriate Northern Health programs (i.e. Public Health, Acute Care, etc.) based on the nature of the incident/emergency event.</li> </ul>	

## Before the Incident

## During the Incident

## After the Incident

\*ECCC

Environment & Climate Change Canada's Environmental Emergencies Program (EEP) protects Canadians and their environment from the effects of environmental emergencies through provision of science-based expert advice and regulations. The key Acts and Regulations that govern ECCC's role in environmental emergencies that allow it to deliver its mandate are:

- Canadian Environmental Protection Act, 1999*
- Fisheries Act—Pollution Prevention Provisions;*
- Migratory Birds Convention Act, 1994;*
- Statutory Notification Requirements—EC's Environmental Notification System.*
- Environmental Emergencies Regulations.*

\*DFO

The Canadian Coast Guard is the lead federal agency for ensuring appropriate response to all ship-source and unknown mystery spills in Canadian waters and waters under international agreements.

- Establishes appropriate and nationally consistent level of preparedness and response services in Canadian waters.
- Design and develop related regulations, policies, strategies and tools.
- Review, assess and monitor activities associated with fish habitat to ensure their compliance with the Fisheries Act and Species at Risk Act.
- Conduct environmental assessments under the Canadian Environmental Assessment Act.
- Design, develop and implement communication and education strategies.

NAV  
Canada

NAV Canada is a private company who coordinates the safe and efficient movement of aircraft in Canadian domestic airspace and international airspace assigned to Canadian control.

**Flight Information Centre (FIC) – FIC Services**  
Each Flight Information Centre is responsible for providing its particular service area with the following services, which pilots rely upon for safe flight planning and operations:

- Emergency
- Aviation Weather Briefing
- Flight Planning
- En-route Flight Information Services
- Remote Aerodrome Advisory Services (RAAS)

Health  
Canada

- Sets national standards to keep the environment healthy, keep water and air pollution low and Canadians safe.
- Maintains a nationwide network of radiation monitoring stations and can act if levels spike.
- Under Chemicals Management Plan, assess health risks from chemicals used in manufacturing and agriculture and require users to prove they actually need the chemicals to make their products
- Sets strict rules on how chemicals are used in order to limit human exposure.
- Preparedness exercises are designed to test how well the plans and procedures work during simulated emergency situations. Such exercises help the government identify strengths as well as any problems or inadequacies in preparedness plans and procedures so that these can be addressed before, not after, an actual emergency.

Public Health  
Agency of Canada

The Centre for Emergency Preparedness and Response (CEPR) is responsible for:

- Developing and maintaining national emergency response plans for the Public Health Agency of Canada and Health Canada.
- Assessing public health risks during emergencies.
- Contribution to keeping Canada's health and emergency policies in line by collaborating with other federal and international health and security agencies.
- The health authority in the Government of Canada on bioterrorism, emergency health services and emergency response.
- Strengthen intergovernmental collaboration on public health and facilitate national approaches to public health policy and planning.
- Manages emergency preparedness and emergency response plans and keeps them up to date.
- Develops and runs exercises to train emergency workers.
- Develops and delivers training courses that teach health workers how to respond to emergencies.

During an environmental emergency, *The National Environmental Emergencies Centre (NEEC)* is the focal point for ECCC.

### ECCC's services during an environmental emergency:

- Collaborate with federal, provincial, territorial and international environmental protection agencies to enable rapid sharing of information.
- Convene and chair a Science Table of experts and stakeholders to develop consensus based advice to the Lead Agency.
- Identify environmentally sensitive areas and priorities (sensitivity and resource at risk mapping).
- Advise on mitigation and cleanup measures.
- Provide support and guidance in the assessment of oiled shorelines to prioritize their protection and cleanup (Shoreline Cleanup Assessment Technique (SCAT)).
- Advice on the fate and behavior of the spilled product.
- Advice on sampling and laboratory analysis.
- Provide weather forecasting and spill dispersion modelling to identify where these substances are likely to move in the environment.
- Provided expertise on the migratory bird resources and species at risk, including on-site assessment and determination of wildlife impact.
- Can conduct post-emergency assessments.

- Any amount of hydrocarbons entering a waterway frequented by fish or occupied by waterfowl is deemed to be in contravention of the Federal Fisheries Act and must be reported to the Department of Fisheries and Oceans.
- Work together with provincial environment protection agencies and may be initially notified by ECCC.
- May send personnel to the site if there has been or could potentially be an impact to fish or fish habitat.
- Monitors and investigates all reports of marine pollution in Canada in conjunction with other federal departments.
- Maintains communications with the program's partners, including Transport Canada and ECCC, to ensure a consistent coordinated approach to marine pollution incident response.
- Aids in search and rescue operations.

- As requested by the oil and gas company, the Flight Information Centre will issue a NOTAM (Notice to Airmen).
- To close air space beyond an airport (e.g. above a sour gas release), Refer to Transport Canada on back side of this page.

- During a health emergency or disaster, Health Canada and the Public Health Agency of Canada are responsible for supporting emergency health and social services in the provinces and territories.

- In an emergency situation, the Office of Emergency Response Services (OERS) is responsible for supporting emergency health and social services in the provinces, territories or abroad. It manages the National Emergency Stockpile System (NESS), which includes medical, pharmaceutical and related emergency supplies. The Office is responsible for the federal response to emergencies that have health repercussions; this includes the deployment of health emergency response teams (HERT).
- If a public health emergency grows beyond one province and/or territory, the Public Health Agency of Canada usually gets involved.

- ECCC can conduct post-emergency assessments.
- Provide specialized advice in shoreline clean-up assessment techniques (SCAT).
- Provide Advise on mitigation and cleanup measures..

- Work closely with ECCC, The Canadian Coast Guard and other provincial environmental agencies.

- Rescind the NOTAM.

- Work collaboratively with the provinces and territories to test ways in which the Canadian health care system can be improved and ensure its sustainability for the future.

- Work with Health Canada to test ways in which the Canadian health care system can be improved and ensure its sustainability for the future.

# 3.5 Federal Agency Roles



	Before the Incident	During the Incident	After the Incident
Transport Canada	<ul style="list-style-type: none"> <li>☐ Maintain a 24 hour emergency telephone service.</li> </ul> <p>*CANUTEC</p> <ul style="list-style-type: none"> <li>☐ Regulate the handling, offering for transport and the transport of dangerous goods by all modes in order to ensure public safety.</li> <li>☐ Federal regulations require that CANUTEC be contacted in the event of an incident or accident involving dangerous goods and infectious substances.</li> <li>☐ Maintains records of over 3 million Safety Data Sheets (SDS).</li> </ul> <p>Aviation Operations Centre (AVOPS)</p> <ul style="list-style-type: none"> <li>☐ Federal regulations require that AVOPS be contacted if there is imminent and immediate threat to aviation and public safety.</li> </ul>	<p>*CANUTEC</p> <ul style="list-style-type: none"> <li>☐ Assist emergency response personnel in handling dangerous good emergencies including advice on                             <ul style="list-style-type: none"> <li>☐ Chemical, physical and toxicological properties and incompatibilities of the dangerous goods</li> <li>☐ Health hazards and first aid</li> <li>☐ Fire, explosion, spill or leak hazards</li> <li>☐ Remedial actions for the protection of life, property and the environment</li> <li>☐ Evacuation distances</li> <li>☐ Personal protective clothing and decontamination</li> </ul> </li> <li>☐ CANUTEC staff does not go to the site of an incident, however, should on-site assistance be required, CANUTEC can assist in the activation or industry emergency response plans.</li> <li>☐ Provide communication links with the appropriate industry, government or medical specialists.</li> </ul> <p>Aviation Operations Centre (AVOPS)</p> <ul style="list-style-type: none"> <li>☐ To close air space beyond an airport in a defined area (e.g. above a sour gas release), AVOPS can be contacted by the oil and gas company.</li> </ul>	<p>*CANUTEC</p> <ul style="list-style-type: none"> <li>☐ Maintain voice communication and written information records for two years for the protection of all parties.</li> </ul> <p>Aviation Operations Centre (AVOPS)</p> <ul style="list-style-type: none"> <li>☐ Rescind the NOTAM and re-open air space that was closed due to emergency.</li> </ul>
*PSC	<ul style="list-style-type: none"> <li>☐ Public Safety Canada works with provincial and territorial officials to ensure first responders and emergency management personnel are well-prepared through education, support and exercises.</li> <li>☐ Responsible for promoting and coordinating the preparation of departmental emergency management plans as well as coordinating the government's response to an emergency through the Government Operations Centre (GOC).</li> </ul>	<ul style="list-style-type: none"> <li>☐ Public Safety Canada houses the Government Operations Centre at the hub of the national emergency management system. It's an advanced centre for monitoring and coordinating the federal response to an emergency.</li> </ul>	<ul style="list-style-type: none"> <li>☐ In the event of a large-scale natural disaster where response and recovery costs exceed what individual provinces and territories could reasonably be expected to bear on their own, PS provides financial assistance to the provincial and territorial governments through the Disaster Financial Assistance Arrangements (DFAA). Assistance is paid to the province or territory – not directly to individuals or communities. The provincial or territorial governments design, develop and deliver disaster financial assistance, determining the amounts and types of assistance that will be provided to those who have experienced losses.</li> </ul>

### \*Canada Energy Regulator Roles & Responsibilities

The CER's top priority in any emergency is to make sure that people are safe and secure, and that property and the environment are protected. Any time there is a serious incident, CER inspectors may attend the site to oversee a company's immediate response. The CER will require that all reasonable actions are taken to protect employees, the public and the environment. Further, the CER will verify that the regulated company conducts adequate and appropriate clean-up and remediation of any environmental effects caused by the incident.

As lead regulatory agency, the CER:

- ☐ Monitors, observes and assesses the overall effectiveness of the company's emergency response in terms of:
  - Emergency Management
  - Safety
  - Security
  - Environment
  - Integrity of operations and facilities; and
  - Energy Supply.
- ☐ Investigates the event, either in cooperation with the Transportation Safety Board of Canada, under the Canada Labour Code, or as per the *Canada Energy Regulator Act or Canada Oil & Gas Operations Act* (whichever is applicable)
- ☐ Inspects the pipeline or facility
- ☐ Examines the integrity of the pipeline or facility
- ☐ Requires appropriate repair methods are being used
- ☐ Appropriate environmental remediation of contaminated areas is conducted
- ☐ Coordinate stakeholder and Aboriginal community feedback regarding environmental clean-up and remediation
- ☐ Confirms that a company is following its Emergency Procedures Manual (s), commitments, plans, procedures, and CER regulations and identifies non-compliances
- ☐ Initiates enforcement actions as required
- ☐ Approves the restart of the pipeline.

If applicable; refer to the CER site section behind the blue Area Specific Information tab for further regulations, definitions and, reporting guidelines for CER related incidents specific to this ERP.

### \*Transportation Safety Board Mandate

The Canadian Transportation Accident Investigation and Safety Board Act provides the legal framework that governs TSB activities. Our mandate is to advance transportation safety in the marine, pipeline, rail and air modes of transportation by:

- ☐ conducting independent investigations, including public inquiries when necessary, into selected transportation occurrences in order to make findings as to their causes and contributing factors;
- ☐ identifying safety deficiencies, as evidenced by transportation occurrences;
- ☐ making recommendations designed to eliminate or reduce any such safety deficiencies; and
- ☐ reporting publicly on our investigations and on the findings in relation thereto.

As part of its ongoing investigations, the TSB also reviews developments in transportation safety, and identifies safety risks that they believe the government and the transportation industry should address to reduce injury and loss.

To instill confidence in the public regarding the transportation accident investigation process, it is essential that an investigating agency be independent and free from any conflicts of interest when investigating accidents, identifying safety deficiencies, and making safety recommendations. As such, the TSB is an independent agency, separate from other government agencies and departments, that reports to Parliament through the President of the Queen's Privy Council for Canada. Our independence enables us to be fully objective in making findings as to causes and contributing factors, and in making transportation safety recommendations.

In identifying the causes and contributing factors of a transportation incident, it is not the function of the Board to assign fault or determine civil or criminal liability. However, the Board does not refrain from fully reporting on the causes and contributing factors merely because fault or liability might be inferred from the Board's findings. No finding of the Board should be construed as assigning fault or determining civil or criminal liability. Findings of the Board are not binding on the parties to any legal, disciplinary, or other proceedings.

<http://tsb-bst.gc.ca/eng/qui-about/index.html>

### \*Indigenous Services Canada, Regional Operations and First Nations and Inuit Health Branch

Since the Government of Canada's renewed commitment to a stronger relationship with Indigenous peoples in Canada, measures were initiated to effect a shift in the way the Government delivers services to Indigenous peoples. This included the creation of two new departments, which was announced on December 4, 2017. The two newly created departments, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and Indigenous Services Canada (ISC), are intended to improve the delivery of services while accelerating movement towards self-government and self-determination of Indigenous peoples.

As part of the departmental transition, both the former Regional Operations (RO) part of Indigenous and Northern Affairs Canada (INAC) and all of First Nations and Inuit Health Branch (FNIHB) of Health Canada have been absorbed into the newly created Indigenous Services Canada (ISC). RO and FNIHB work closely and collaborate towards the provision of emergency preparedness and response activities to First Nations communities in Canada.

In regards to First Nations emergency management, the role of RO is to liaise, communicate, cooperate, coordinate and collaborate with First Nations and public, private, and non-government sector partners in support of on reserve emergency management service delivery. ISC-RO supports First Nations in the four pillars of emergency management through service agreements with partners such as provincial emergency management agencies and the Red Cross.

FNIHB carries out the public health preparedness and response activities related to natural and man-made disasters. This includes Communicable Disease Control and Environmental Public Health Services. In addition, FNIHB administers Non-Insured Health Benefits to First Nations clients, which includes extended coverage for medical transportation, pharma-care, medical devices and mental health supports. During an emergency, FNIHB works with First Nations leadership and health service providers to ensure health needs of First Nations communities are met.

Provincial specific FNIHB roles & responsibilities will be found in this section of the ERP, if applicable or as appropriate.

### \*Indian Oil & Gas Canada

IOGC is an organization committed to managing and regulating oil and gas resources on First Nation reserve lands. It is a special operating agency within Indigenous Services Canada.

IOGC is responsible for oil and gas on First Nation reserve lands across Canada, but only a handful of reserves exist north of the 60th parallel. Therefore, practically all of IOGC's work is south of the 60th parallel, with most of that in the Western Canada Sedimentary Basin.

IOGC's general responsibilities are to:

- ☐ identify and evaluate oil and gas resource potential on Indian reserve lands;
- ☐ encourage companies to explore for, drill and produce these resources through leasing activity;
- ☐ ensure equitable production, fair prices and proper collection of royalties on behalf of First Nations; and
- ☐ secure compliance with and administer the regulatory framework in a fair manner.

IOGC operates pursuant to the *Indian Oil and Gas Act, 2009*, and its associated *Indian Oil and Gas Regulations, 2019*, as well as other relevant legislation and guidelines (see Acts and Regulations) which came into force and became law on August 1, 2019. Oil and gas activity on First Nation reserve lands depends on agreements involving First Nation band councils, oil and gas companies, and Indian Oil and Gas Canada.

Additional information is available at: <http://www.pgic-iogc.gc.ca/eng/1100110010458/1100110010464>  
Acts and Regulations: <https://www.pgic-iogc.gc.ca/eng/1100110010437/1100110010438>

## Contact Information

Note: All numbers, unless otherwise indicated, are 24 hours.

### Canada Energy Regulator (CER)

TSB Incident Line (Pipeline emergencies)

819-997-7887

PipelineNotification@tsb.gc.ca

TSB Fax

403-292-5503

Online Reporting System (OERS) - <https://apps.cer-rec.gc.ca/ers>

### Alberta Energy Regulator (AER)

800-222-6514\*

\* One call number for regulatory agency, Alberta Environment, Spill Reporting & Sustainable Resource Development (Lands, Fish, Forest, Wildlife) and Environment and Climate Change Canada.

### Alberta Health Services (AHS)

844-755-1788

\* Ask to be directed to the Medical Officer of Health

### Indigenous Services Canada - AB First Nations and Inuit Health (FNIH)

780-218-9929

### Indian Oil and Gas Canada (IOGC)

Admin: 403-292-5625

### Alberta Emergency Management Agency (AEMA)

866-618-2362

### Alberta Boilers Safety Association (ABSA)

780-437-9100

### Alberta Environmental and Dangerous Goods Emergencies (EDGE)

800-272-9600

### Alberta Ministry of Transportation and Economic Corridors

780-638-1128

### Alberta Occupational Health and Safety (OHS)

866-415-8690

### Alberta Workers Compensation Board (WCB)

866-922-9221

### Emergency Response Assistance Canada (ERAC)

800-265-0212

ERAP2-0010-175

### Air Traffic Control

NAV Canada\*

866-541-4102

Transport Canada\*\*

877-992-6853

\* If flight information or a NOTAM advisory is required, contact NAV Canada

\*\* if a NOTAM is required for airspace closure, contact the Transport Canada Aviation Operations Centre

### CANUTEC

888-226-8832

### Environment & Climate Change Canada (ECCC)

Meteorological Services

780-951-8907

# 3.6 AB Lead Agency Phone List

# 3.7 BC Lead Agency Phone List

## Contact Information

Note: All numbers, unless otherwise indicated, are 24 hours.

**BC Energy Regulator (BCER / Emergency Management & Climate Readiness (EMCR))**  
Incident Reporting Line 800-663-3456\*

*\*In the event of an emergency, EMCR will notify the BCER, Ministry of Environment, Environment & Climate Change Canada, Ministry of Forests, Northern Health Authority and any affected municipalities.*

**Northern Health Authority (NHA)** HEMBC On Call: 855-554-3622

**First Nation Health Authority** 604-456-7657

**Indian Oil and Gas Canada (IOGC)** Admin: 403-292-5625

**BC Ministry of Environment and Climate Change Strategy**  
Peace Region Office Admin: 250-787-3411  
Spill Reporting Line 800-663-3456  
Report a Poacher 877-952-7277

**Ministry of Forests**  
Peace Forest District - Dawson Creek Admin: 250-784-1200  
Forest Fire Reporting 800-663-5555  
\*5555 (cell)

**Technical Safety BC** 866-566-7233

**WorkSafe BC** 888-621-7233  
Fort St. John

**BC Ministry of Transportation & Infrastructure** 866-707-7862

**Public Services and Procurement Canada (PSPC)\*** 250-774-6956  
George Smith, Contract Asset Performance Manager

*\*Jurisdiction of HWY 77 is with PSPC, (not BC Ministry of Transportation & Infrastructure). Beginning at mile 83.5 (km 133) and ends at the BC / YK border.*

**Emergency Response Assistance Canada (ERAC)** 800-265-0212  
ERAP2-0010-175

**Air Traffic Control**  
NAV Canada\* 866-541-4102  
Transport Canada\*\* 877-992-6853

*\* If flight information or a NOTAM advisory is required, contact NAV Canada*

*\*\* if a NOTAM is required for airspace closure, contact the Transport Canada Aviation Operations Centre*

**CANUTEC** 888-226-8832

**Environment & Climate Change Canada (ECCC)**  
Meteorological Services 604-664-9385

## 3.8 GOVERNMENT CONSULTATION SUMMARY

Type of Agency	Agency Name	Provided Specific Roles	Agreed to Generic Roles	Unable to Contact	Notes
GOVT - BC	Emergency Management and Climate Readiness Prince George Office Heather MacRae, Regional Manager	x			Heather MacRae sent consultation package in February 2025.
GOVT - BC	BC Ministry of Transportation and Infrastructure Hali Davenport	x			Hali Davenport sent consultation package in February 2025.
HEALTH AUTHORITY	Alberta Health Services - Z5 North Zone Shane Hussey, Health Advisor, North Zone	x			Shaun Hussey sent consultation package in February 2025.
HEALTH AUTHORITY	Northern Health Authority	x			Chelan Zirul sent consultation package in February 2025.
LOCAL AUTHORITY	Saddle Hills County Brice Daly, Manager of Protective Services	x			Brice Daly sent consultation package in February 2025.
LOCAL AUTHORITY	Peace River Regional District - Dawson Creek Ryan Kirkham, Protective Services Manager	x			Ryan Kirkham sent consultation package in February 2025.
LOCAL AUTHORITY	Northern Rockies Regional Municipality – Fort Nelson Erin LaVale, Emergency Coordinator		x		Erin La Vale sent consultation package in February 2025.
GOVT – FEDERAL	Public Services Procurement Canada Darcy Cooper, Operations Manager	x			Darcy Cooper sent consultations package in February 2025.

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### Emergency Response Roles & Responsibilities

#### Before An Emergency

- Assist the OGC with planning initiatives regarding upstream petroleum industry emergency response as requested by the OGC
- EMCR Northeast Region receives Industry Facility Emergency Response Plans.
- Participate in selected licensee ERP exercises when requested as time permits.
- Maintain a 24 hour 800 telephone contact where petroleum industry spill incidents can be reported.
- Maintain 24 hour emergency contact numbers for local governments and provincial emergency responders.

#### During an Emergency

- ECC Victoria will notify the OGC on call Emergency Response Officer and initiate British Columbia's notification of government agencies including MOF, MOE, MOT, Health Unit, WorkSafe BC, affected municipalities and all other level of government and industry, depending on the level of "coding" (notification Code: 1,2,3 is determined by the Lead Agency MOE or OGC); depending on the code level Standard Operating Procedures (SOP's) in ECC will determine who is notified).
- Provide representatives to help coordinate provincial response as required.

#### After an Emergency

- As requested by OGC.



## **Ministry of Transportation – Roles & Responsibilities**

### **Before the Incident**

- Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.
- In the event of an emergency, the Highway Department's Operations, Maintenance and Reconstruction team plays an important role to ensure the public is safe and transportation routes are available for accessing emergency services.
- Ministry of Transportation and Infrastructure oversees provincial highways identified as emergency response routes - a network of pre-identified routes that can best move emergency services and supplies to where they are needed in response to a major disaster.
- Disaster Response Routes (DRRs) are a critical part of the overall emergency transportation system.
- Responsible for the construction, maintenance and operation of public roads.

### **During the Incident**

Before, during and after an emergency the Ministry of Transportation and Infrastructure (MoTI) could be called upon to provide expertise, technical advice and/or policy direction regarding:

- Highway construction and maintenance
- Safety and protection of provincial road and bridge infrastructure
- Transportation planning and policy

MoTI can:

- Authorize the closure of provincial transportation routes, including highways and inland ferries, where the safety of the public is at risk.
- Assist in public notification through the DriveBC website, as well as posting advisories on overhead message boards along designated routes.
- Coordinate and arrange for transportation, engineering and construction resources.
- Rebuild and restore provincial highways that are impacted by an emergency.

### **After the Incident**

- Work with appropriate local and federal entities to facilitate the restoration of roadways and utilities.



# Oil & Gas Industry Emergency Preparedness and Response

Alberta Health Services (AHS) - Environmental Public Health (EPH) roles and responsibilities in public health emergency preparedness and response to the oil and gas industry are outlined below. The provision of services during an emergency depends upon our assessment of legislative responsibilities, impact to services, and business continuity.

## EPH will endeavor to:

- Participate with the Licensee in the development of their Emergency Response Plans as it relates to the Environmental Public Health Program's role and responsibility.
- Provide the AHS Zone Single-Point-of-Contact (SPOC) emergency phone number to enable the Licensee to notify and alert the Zone of an emergency. From the initial notification or alert, AHS emergency response will fan out to and coordinate with other AHS programs and facilities as necessary. The 911 EMS services remain independent of the Zone SPOC notification/alert process.
- Participate with stakeholders in preparedness training and exercises associated with a Licensee's simulated activation of an Emergency Response Plan in which EPH has a role and responsibility.
- Participate in public information sessions during the Licensee's Emergency Response Plan development process when appropriate and as resources allow.
- Provide guidance to stakeholders and local municipal authorities in identifying sites suitable for establishing and operating an evacuation centre and/or reception centre, including operational requirements.
- Provide guidance to stakeholders on substances that may affect public health in consultation with the Zone Medical Officer of Health (MOH), including Alberta Health Acute Exposure Health Effects for Hydrogen Sulphide and Sulphur Dioxide information.
- Conduct assessments, inspections and give regulatory direction, when appropriate, to ensure the requirements of provincial legislation and EPH program areas of responsibilities for public health protection and disease prevention are maintained.

Notify the Zone Medical Officer of Health of any incident affecting or potentially affecting other AHS programs or facilities. The Zone MOH will notify and coordinate emergency response in other program areas and facilities as necessary.

## Oil and Gas Industry Emergency Preparedness and Response | 2

- Establish EPH emergency management operations, when appropriate, to support regional response efforts and liaise with the Government Emergency Operations Centre, Municipal Emergency Operations Centre and/or Industry Emergency Operations Centre, if needed.
- Assist the Zone Medical Officer of Health, local municipal authority, and Public Information/Communication officers in the development, issuance, and rescinding of public health, public evacuation and shelter-in-place advisories.
- Provide guidance to stakeholders on matters relating to evacuation of the public and/or public facilities, and the re-occupancy of those evacuated areas or facilities.
- Record and respond to health complaints or concerns from the public during and following an incident.
- Participate in stakeholder debriefings as necessary.

### **24 Hour Emergency Notification**

**Phone: 1-844-755-1788**

**Email: [edp@ahs.ca](mailto:edp@ahs.ca)**

Use the phone number and email for all notifications across Alberta.

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Contact us at 1-833-476-4743 or [submit a request online](#) at [ahs.ca/eph](https://ahs.ca/eph).

PUB-0055-201711

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# Emergency Response Roles & Responsibilities

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## Health Emergency Management BC, North (HEMBC)

HEMBC is a program under the Provincial Health Services Authority (PHSA). HEMBC provides the expertise, education, tools, and support specifically for the BC Health Sector to effectively mitigate, prepare for, respond to, and recover from the impacts of emergency events; ensuring the continuity of health services. There is a HEMBC team in each BC health authority. HEMBC-North deals specifically with Northern Health.

### Roles and responsibilities:

- Maintain a 24-hour emergency/on call contact number for notification and activation of the health system in Northern BC ( appendix I)
- Notify/activate the appropriate Northern Health programs (i.e. Public Health, Acute Care, etc.) based on the nature of the incident/emergency event.

## Northern Health Authority (NH)

Northern Health is the regional health authority responsible for providing health services to 300,000 people over an area of 600,000 square kilometers in the province of British Columbia. Services include:

- Acute (hospital) Care
- Public Health (Protection, Preventive and Population Health services)
- Mental Health and Addictions
- Home and Community Care

In the event of a major emergency/disaster, Northern Health will provide health care services within its capacity, and activate its emergency response management plan(s).

### NH Roles & responsibilities - PREPAREDNESS (PRE-EVENT):

- Participate with industry, local authority and other partners in the development of their Emergency Response Plans as it relates to health authority roles and responsibilities:
- Participate in stakeholder training and exercises associated with activation of an Emergency Response Plan, in which Northern Health or HEMBC have a role and responsibility (as resources allow);

**NH Roles & responsibilities - RESPONSE:**

- Activate internal health emergency management plans related to ongoing provision of services (listed above);
- Provide acute care and emergency services at existing Northern Health hospitals/health centres;
- Work with BC Emergency Health Services (Ambulance) and the BC Patient Transfer Network to transport patients to the appropriate levels of care;
- Apply and enforce the Public Health Act, and associated regulations;
- Provide advice/information to the stakeholders on the existing or potential public health effects of an incident (including drinking water safety, air quality, environmental contaminants, communicable disease prevention, re-occupancy of evacuated areas, etc.);
- Provide advice/information on the best methods for monitoring health effects from an incident.
- Assist in development of (joint) messaging for public information on emergency incidents;
- Provide guidance to stakeholders and local authorities on public health considerations in operating reception and evacuation centres, and group lodging facilities

**NOTE:** British Columbia Emergency Health Services (BCEHS - Ambulance) remains independent of Northern Health. If an ambulance is required please contact BCEHS via 911 (or the local contact number, if 911 is not available in your area).



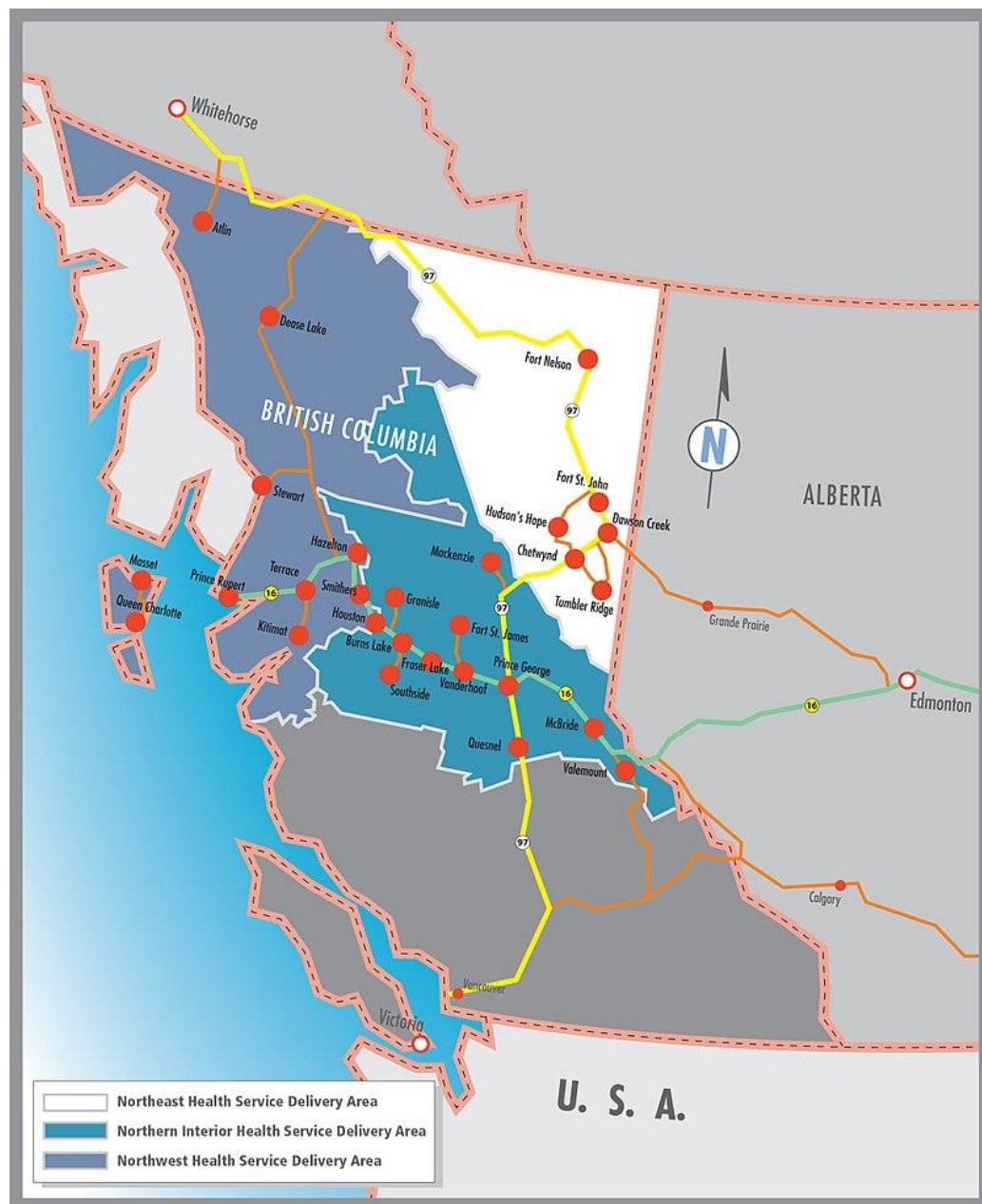
## Appendix I

### Contact information:

- **For Emergency events that require immediate connection with Northern Health, please call :**
  - **HEMBC on call number (24/7) 1-855-554-3622**
    - HEMBC will notify/activate the appropriate Northern Health programs (i.e. Public Health, Acute Care, etc.) based on the nature of the event/emergency.
    - **Please include this number in industry ERPs, for the use of permit holders in contacting Northern Health on an emergency basis.**
    - **Do NOT** include this number on Public Awareness Pamphlets for individual projects; the EMBC/Oil and Gas Commission's emergency number(s) is more appropriate, and the HEMBC 24/7 number is on record with those agencies.
- **For non-urgent requests or emergency exercise planning/information, contact HEMBC North Director Jim Fitzpatrick, at:**
  - Office: 250-565-5584
  - [HEMBC@northernhealth.ca](mailto:HEMBC@northernhealth.ca)
- **Please note that Northern Health does not review or approve emergency response plans (ERPs) unless there is a request made from the regulators or governing agencies (e.g. Oil and Gas Commission, National Energy Board, Ministry of Environment, Environmental Assessment Office, etc.). Northern Health also does not require that general stakeholder consultation/notification packages be sent to Northern Health.**
- **Please make your site and project ERPs available to Northern Health in the event of an emergency to: [HEMBC@northernhealth.ca](mailto:HEMBC@northernhealth.ca)**
- For Environmental assessment inquires and general government consultation questions pertaining to health please email the NH Office of Health and Resource Development at: [resource.development@northernhealth.ca](mailto:resource.development@northernhealth.ca)

## Appendix II

### Northern Health Geography



Author(s): Northern Health Emergency Management  
 Issuing Authority: Northern Health Chief Medical Health Officer  
 Date Issued (I), REVISED (R) Reviewed (r)  
 (I) July 5, 2016,; (R) Oct 5, 2016,; (r) Sept, 2018,; (R) Feb, 2019.



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## MUTUAL AID UNDERSTANDING

### Emergency Notification of Saddle Hills County:

**Saddle Hill County must be contacted at a Level 1 Emergency if any members of the public are notified or road blocks are established on any County road(s) or numbered provincial highways.**

**Saddle Hill County must be contacted automatically at a Level 2 or 3 Emergency.**

**Please note:** Saddle Hills County will dispatch a representative to liaison with the Incident Commander or Operations Chief at the Company Regional Emergency Operations Centre (REOC), Incident Command Post or On Site Command Post as appropriate depending on the location.

### Emergency Contacts

1. Brice Daly – Manager of Protective Services

- Cell (780) 876-2930 (24 hr.)

- Duty Officer Cell (780) 864-0439 (24 hr.)

[bdaly@saddlehills.ab.ca](mailto:bdaly@saddlehills.ab.ca)

2. Cary Merritt – Chief Administrative Officer

- Cell (780) 864-5587 (24 hr.)

[cao@saddlehills.ab.ca](mailto:cao@saddlehills.ab.ca)

3. Ron Pelensky

- Cell (780) 500-7017

[rpelensky@saddlehills.ab.ca](mailto:rpelensky@saddlehills.ab.ca)

County Office (780) 864-3760 (weekdays only)

### Public Information Officer

Monica Randell

- Cell (780) 864-7841

- Office (780) 864-3760

[mrandell@saddlehills.ab.ca](mailto:mrandell@saddlehills.ab.ca)

Please Note: The office number is weekdays only.

### All Emergency Services

Police, Fire, Ambulance

Dial 9-1-1

### Grande Prairie (9-1-1) Dispatch Centre

Direct line (780) 538-0390 (answered as 9-1-1 call)

**Alberta Agriculture & Forestry** – Grande Prairie Wildfire Management Area

Duty Officer - (780) 538-8093 (Fire Centre – GP)

(780) 518-6696 (cell)

**310-Fire** (Fire Centre – Edmonton)

Saddle Hills County is a member of: **Central Peace - Regional Emergency Management Agency** along with Birch Hills County, MD of Spirit River, Town of Spirit River and Village of Rycroft. This partnership enables a seamless response throughout the Central Peace Region.

## Responsibilities

- Initiates and manages the local Emergency Management response in accordance with County Policy.
- May dispatch representative(s) to the Company's Incident command Post (ICP) or Regional Emergency Operations Centre
- Ensures all local emergency and public information services are available in accordance with County Policy. (Public Information Releases will be coordinated with the Companies Public Information Officer to ensure consistency of key messages)
- If required, activates Central Peace - Regional Emergency Operations Centre and coordinate activities at this centre. The Central Peace - Regional EOC, located the Saddle Hills County office at NW9 – 79 – 8 – W6 is available to the Company for use as a REOC subject to limitations as may be imposed by Saddle Hills County due to operational requirements at the time of an incident.
- Upon request, may assist with set-up and administration of a Reception Centre.
- May assist with arrangement of temporary accommodations for residents who have been evacuated in accordance with County Policy.
- May assist with set up and maintenance of road blocks and detours in accordance with County Policy.
- May assist with Fire Protection in accordance with County Policy in areas where accessible.
- If necessary, may declare a "State of Local Emergency" to provide local authorities with special powers.
- Supports the Company in dealing with the emergency in accordance with County Policy.

## Resources

**Fire Departments** - There are 5 County Fire Departments, located at **Bonanza, Blueberry, Happy Valley, Savanna & Woking** and 1 Fire Department on contract from **Tomslake, BC for the Gundy area**, each with approximately 15 - 25 volunteer fire fighters.

### Please note:

The Fire Departments are not equipped for Industrial Fire Protection and would only be responsible for anything off-site or outside the EPZ. Some Fire Department resources may be useful for on-site actions such as Water Tanker Trucks, Portable Tanks, etc and may be made available if requested.

Certain areas of Saddle Hills County have limited access or are extremely remote from any Fire Station, **Alberta Agriculture & Forestry** – GP Wildfire Management Area is responsible for Wildland fire protection in these areas

**Police** - The County currently has 1 Community Peace Officer. Most policing duties are covered by the Spirit River RCMP.

**Public Works** – The County Public Works Department employs about 20 personnel, which expands to 30 employees during the summer.

**Emergency Medical Services** are provided by Alberta Health Services - EMS, however, Saddle Hills County does have

**Medical First Responders (trained and equipped to an FMR level)** in areas of the County that are remote from the Ambulance Station in Spirit River. They are automatically dispatched to all ambulance calls in their area.

**Emergency Social Services** – The Central Peace – Emergency Social Services Group can provide assistance with registration and inquiry services as well as arranging for sheltering and other requirements as may be needed by evacuees.

**Regional Emergency Operations Centre** – 16 work stations (2 people each) with phone; data; & wifi capability.

*(Whenever possible please send ERPs in electronic format/ USB or E-mail only)*

2022/08/18

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**Safe Strong Sustainable**

71977 Range Road 84 • Junction of Hwy 49 and 725 • P: (780) 864-3760 • F: (780) 864-3904 • [www.saddlehills.ab.ca](http://www.saddlehills.ab.ca)  
Mailing Address: RR 1 Spirit River, AB T0H 3G0



## PEACE RIVER REGIONAL DISTRICT

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1981 Alaska Avenue, Box 810, Dawson Creek, BC, V1G 4H8

Tel: 250-784-3200, Fax: 250-784-3201. [www.prrd.bc.ca](http://www.prrd.bc.ca)

### **Local Authority (Regional District)**

Peace River Regional District (PRRD) has a formal Emergency Management Plan, which outlines the measures and sources of assistance that can be obtained to support emergency response efforts, within their jurisdictional boundaries. Upon request from the BC Energy Regulator (BCER), the Regional District may address emergency response capabilities, expectations and preparedness. If required or requested the Regional District may activate their emergency plan in order to achieve any of the following:

- Work with the BCER's Emergency Operations Centre (EOC) if established
  - With remote support as a cooperating agency through the BCER Liaison Officer and/or,
  - In the BCER operations section as an assisting agency
- Provide support and assistance to ensure notification of endangered area residents
  - Mass Alerting
  - Notifications
- Provide support to coordinate the delivery of Emergency Support Services (ESS) to evacuated or effected residents
- If necessary, declaration of a State of Local Emergency to enact legislative powers including but not limited to:
  - Issuance of Evacuation Alerts, Orders and Rescinds (persons, livestock, and animals);
  - Acquire or use any land or personal property considered necessary to prevent, respond or alleviate the effects of an event (following BCEMS Model); and
  - Control or Prohibit Travel in the region for safety
- Assist with public information service (joint, BCER, Industry and local government)
- Assist with the provision of building re-entry procedures jointly with utility providers, industry, Northern Health, and Technical Safety BC.

*Revised July 17, 2023*

**diverse. vast. abundant.**



## **LOCAL AUTHORITY – NORTHERN ROCKIES REGIONAL MUNICIPALITY**

Resources would be provided in support of an upstream emergency on an “as available” basis and in accordance with Local Authority Policy.

### **Before the Event**

- Work with the upstream operator to effectively prepare for an upstream petroleum industry incident. Provide input to the industrial operator’s site-specific plan to ensure it is compatible with the Municipal Emergency Plan (MEP) where feasible.
- Participate in industrial operators’ preparatory training and exercises where possible.
- Train personnel to carry out functions as assigned by MEP or procedures.
- Maintain 24-hour emergency contact numbers.

### **Upon the Notification of and during an Event**

- Respond to and assess the emergency incident only in the Northern Rockies Regional Municipality fire protection area for fires.
- Response to rescue & hazard incidents anywhere within the municipality, where feasible.
- Establish contact with the industrial operator in order to:
  - Obtain additional hazard information.
  - Determine where roadblocks should be or are established.
  - Determine the direction of approach to the incident.
  - Determine if there are any injuries.
  - Find out what response and public protection actions have been taken by the upstream operation.
  - The location of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs).
- Activate the MEP, when required.
- Manage the Local Authority’s emergency response.
- Activate the Municipal EOC (MEOC), as required.
- If necessary, declare a State of Local Emergency.
- Establish a public information service, including the use of the news media to inform and instruct the public of the emergency and of any protective actions to be taken.
- Inform EMBC and the public when the emergency is over.

### **After the Event**

- Complete a “lessons learned” process based on the scope of involvement and provide any feedback to the industrial operator.
- Participate in multi-agency debriefings.





## **Public Services and Procurement Canada (PSPC) – Roles & Responsibilities**

The Roles & Responsibilities listed below for Public Services and Procurement Canada (PSPC) are only in relation to the Alaska Highway (97) in British Columbia, north of mile 83.5 (km 133) to the border of British Columbia and Yukon Territories at km 968.

### **Before the Incident**

In conjunction with the BC Ministry of Transportation & Infrastructure (MOTI) and the provincial maintenance contractor, PSPC may:

- Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.
- Hold responsibility for the acquisition of contracts for the maintenance and operation of the Alaska Highway.
- Oversee Alaska Highway response routes - a network of pre-identified routes that can best move emergency services and supplies to where they are needed in response to a major disaster.

### **During the Incident**

In conjunction with the BC Ministry of Transportation & Infrastructure (MOTI), PSPC, and the provincial maintenance contractor may be called upon to:

- Provide expertise, technical advice and/or policy direction regarding:
  - Highway construction and maintenance
  - Safety and protection of provincial road and bridge infrastructure
  - Transportation planning and policy
- Play an important role to ensure the public is safe and transportation routes are available for accessing emergency services.
- Assist in the coordination of roadblock locations along the highway.
- Authorize closure of the Alaska Highway where the safety of the public is at risk.
- Assist in public notification of an emergency through the MOTI's DriveBC website, as well as posting advisories on overhead message boards along designated routes.
- Coordinate and arrange for transportation, engineering and construction resources.
- Handle inter-departmental communication as needed during energy resources industry emergencies.
- Maintain ability to process calls for new emergencies.
- Provide information on the impacts to transportation routes.
- Provide response support if dangerous goods are released.

### **After the Incident**

- Work with appropriate local and federal entities to facilitate the restoration and re-opening of the Alaska Highway.
- Complete a "lessons learned" process based on the scope of involvement and provide any feedback to the industrial operator.
- Provide a summary of transportation impacts during the post incident review process.
- Participate in multi-agency debriefings.



<b>SECTION 4. INCIDENT CLASSIFICATION .....</b>	<b>1</b>
<b>4.1 Strategic Priorities .....</b>	<b>1</b>
<b>4.2 Situation Assessment .....</b>	<b>1</b>
<b>4.3 Incident Classification.....</b>	<b>2</b>
<b>4.4 Alberta AER Incident Classification Matrix .....</b>	<b>3</b>
<b>4.5 British Columbia BCER Emergency Criteria .....</b>	<b>5</b>
<b>4.6 Approval to Downgrade Emergency Levels .....</b>	<b>9</b>

## **SECTION 4. INCIDENT CLASSIFICATION**

### **4.1 Strategic Priorities**

The four strategic response priorities are:

- 1. Life Safety** – this is always the top strategic priority
- 2. Incident Stabilization** – control and containment
- 3. Environmental protection and property conservation**
- 4. Effective notifications and communications**

Before the situation can be classified by emergency level, the Incident Commander should consider the following questions, as they relate to the four strategic priorities:

### **4.2 Situation Assessment**

***What is the problem?***

- Are there other hazards or potential impacts?
- What is the quantity and nature of product or material?
- What is the type, condition and behaviour of container? (e.g. well, pipeline, vessel)
- Is the situation stable or unstable?
- Is there a potential for escalation of the incident?

***What are the modifying conditions?***

- Location? – remote, populated, difficult terrain, limited access, land or water spill
- Time? - time of day, response time
- Weather conditions? - temperature, wind direction, wind speed, forecast etc.

**What are the current and potential impacts?**

- P** What is the impact to people? Life Safety, injury/fatality, toxic or flammable release, public evacuation, impacts to drinking water
- E** What is the impact to the environment? navigable water, lakes, rivers, and streams, soil/ground water, wildlife/habitat recreational use?
- A** What is the impact to ARC's assets/operations?  
What is the business exposure? Company assets, noncompliance business loss
- R** What is the impact to ARC's reputation?  
What is the external exposure? Media, regulatory, community, government

**How much control do you have?**

- What is the probability that the emergency can be contained or controlled within a short time?
- Internal resources, training and competency of personnel, personal protective equipment, response and control equipment
- External resources - Oil Spill Co-ops, ERAC, municipal emergency responders and government agencies

Once the situation has been assessed, the incident must be classified, as explained below.

### **4.3 Incident Classification**

The Incident Commander activates the emergency response plan and declares the initial incident classification (*Alert – Alberta, or Minor – B.C.*) or Emergency Level). However, the provincial regulatory authority must be contacted to confirm the Emergency Level.

It is the responsibility of the Incident Commander to determine the incident classification based on input from the Section Chiefs, the appropriate oil and gas regulatory authority and the ARC Crisis Manager.

## 4.4 Alberta AER Incident Classification Matrix

ARC must use the AER Assessment Matrix for Classifying Incidents to classify and report an incident to the AER. All incidents are classified as an Alert or Level 1, 2, or 3 Emergency.



### Assessment Matrix for Classifying Incidents

Follow these 3 steps to determine the Level of Emergency

Step 1		Table 1 – Consequence of Incident
Rank	Category	Example of Consequence in Category
1	Minor	<input type="checkbox"/> No worker injuries. <input type="checkbox"/> Nil or low media interest. <input type="checkbox"/> Liquid release contained on lease. <input type="checkbox"/> Gas release impact on lease only.
2	Moderate	<input type="checkbox"/> First Aid treatment required for on-site worker(s). <input type="checkbox"/> Local and possible regional media interest. <input type="checkbox"/> Liquid release not contained on lease. <input type="checkbox"/> Gas release impact has potential to extend beyond site.
3	Major	<input type="checkbox"/> Worker(s) requires hospitalization. <input type="checkbox"/> Regional and national media interest. <input type="checkbox"/> Liquid release extends beyond lease – not contained. <input type="checkbox"/> Gas release impact extends beyond lease – public health / safety could be jeopardized.
4	Catastrophic	<input type="checkbox"/> Fatality. <input type="checkbox"/> National and international media interest. <input type="checkbox"/> Liquid release off lease not contained – potential for, or is, affecting water or sensitive terrain. <input type="checkbox"/> Gas release impact extends beyond lease – public health / safety jeopardized.

Under "Example of Consequence in Category" column, select the box with the worst consequence that currently fits the incident. For example, if there is a fatality on site you must select the "Catastrophic" category which would give you a "Rank" of 4.

Step 2		Table 2 – Likelihood of Incident Escalating *
Rank	Descriptor	Example of Consequence in Category
1	Unlikely	The incident is contained or controlled, and is unlikely to 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 duty holder is probable. It is unlikely that the incident will escalate.
3	Likely	Imminent or intermittent control of the incident is possible. The duty holder has the capability of using internal and 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 duty holder will be able to bring the hazard under control in the near term. The duty holder 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?

#### Sum the "Rank" from Table 1 and Table 2 to obtain the Risk Level and the Incident Classification

Combine the two rankings from the above tables to obtain the "Risk Level" and "Level of Emergency".

For example, if the "Consequence Rank" is 4 and the "Likelihood Rank" is 1 then the combined score or "Risk Level" is 5.

A "Risk Level" of 5 would be classified as a Level 1 Emergency.

Refer to the appropriate column in Table 4 (reverse of this page) for responses to the Level of Emergency that has been determined.

Note:

- In Alberta, the duty holder **must** use the Assessment Matrix for Classifying Incidents to classify an incident.
- In Alberta, the duty holder **must** contact the Alberta Energy Regulator (AER) after it has communicated and activated internal response resources to confirm the level of emergency and convey the specifics of the incident.
- After contacting the Alberta Energy Regulator (AER), the duty holder in Alberta, must notify the local authority, the RCMP/police and the local health authority if the hazardous release goes off lease and has the potential to impact the public or if the duty holder has contacted members of the public or the media.
- Once the situation improves, the duty holder must make the decision to downgrade or stand down an emergency in consultation with the government regulator.

Step 3	Table 3 – Incident Classification
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

The H<sub>2</sub>Safety Services Inc. Emergency Assessment Smart Phone app is the preferred method for determining the level of emergency. Search H<sub>2</sub>Safety or Emergency Assessment in the Apple or Android app store.



**Alberta AER Incident Response Table**

Step 4		Table 4 – Incident Response – Incident Classification			
Responses	Alert	Level – 1 Emergency	Level – 2 Emergency	Level – 3 Emergency	
<b>Communications</b>					
<b>Internal</b>	Discretionary, depending on the duty holder policy.	Notification of off-site management.	Notification of off-site management.	Notification of off-site management.	
<b>Public</b>	Courtesy, at duty holder's discretion.	Mandatory for individuals in the EPZ who have requested notification.	Planned and instructive in accordance with the specific ERP.	Planned and instructive in accordance with the specific ERP.	
<b>Media</b>	Reactive	Reactive, as required.	Proactive media management to local or regional interest.	Proactive media management to national interest.	
<b>Government</b>	Reactive. Notify AER if public or media is contacted.	Notify local AER field centre. Call local authority and health authority if public or media is contacted.	Notify local AER field centre, local authority & health authority.	Notify local AER field centre, local authority & health authority.	
<b>Actions</b>					
<b>Internal</b>	On site, as required by duty holder.	On site, as required by the duty holder. Initial response is in accordance with the AER-approved ERP or corporate ERP.	Predetermined public safety actions are under way. Corporate management team alerted and may be engaged to support on-scene responders.	Full implementation of incident command system.	
<b>External</b>	On site, as required by the duty holder.	On site, as required by the duty holder.	Potential for multiagency response (i.e., operator, municipal, provincial, federal).	Immediate multiagency response (i.e., operator, municipal, provincial, federal).	
<b>Resources</b>					
<b>Internal</b>	Immediate and local. No additional personnel required.	Establish what resources are required.	Limited supplemental resources or personnel are required.	Significant resources are required.	
<b>External</b>	None.	Begin to establish resources that may be required.	Possible assistance from government agencies and external support services.	Assistance from government agencies and external support services are required.	

Responses	Alert	Level – 1 Emergency	Level – 2 Emergency	Level – 3 Emergency
<b>Definition</b>	An incident that can be handled on site by the duty holder through normal operating procedures and is deemed a very low risk to the public.	The incident presents no danger outside the duty holder's property or threat to the public and has a minimal environmental impact. Duty-holder personnel can manage the incident themselves with immediate control of the hazard. There is little or no media interest.	The incident presents no immediate danger outside the duty holder's property but could potentially extend beyond the duty holder's property. Outside agencies must be notified. Imminent control of the hazard is probable, but there is a moderate threat to the public or the environment or both. There may be local and regional media interest in the event.	The safety of the public is in jeopardy from a major uncontrolled hazard. There are likely significant and ongoing environmental impacts. Immediate multiagency municipal and provincial government involvement is required.
<b>Responses</b>	Investigate and escalate level if required initiate control procedures	In addition to Alert level responses: - Isolate the hazard area - Activate the ERP - Conduct public safety actions for special needs residents - If special needs residents decide to voluntarily evacuate, activate a reception centre - Notify appropriate internal personnel and government agencies - Have air monitoring conducted at the site if necessary	In addition to Level-1 responses: - Fully activate emergency response procedures with command centres established or on standby - Inform government agencies of situation and incorporate support (government regulator, local authority, health authority, RCMP) - Identify the hazard and emergency operating areas and take any required action to protect the public through shelter or evacuation. - Prepare ignition team (butane gas related) - Respond to media, company and public questions - Prepare for the potential of the situation to escalate to a Level-3 - Record activities and keep government and municipal agencies advised, if applicable - Establish roadblocks - Activate the EOC, if it has not already been established at a Level-1 emergency	In addition to Level-2 responses: - Emergency response plan and command centres are fully activated - Company Management has been notified and all internal support positions staffed - Continue to monitor and adjust hazard and emergency operating areas (maintain security) - Mobilize additional people and resources - Ignite a gas release if ignition criteria are met - Continue to advise company and government - Activate the reception centre, if it has not already been established at a Level-1 or Level-2 emergency - Continue to maintain the EOC, once it is activated



## 4.5 British Columbia BCER Emergency Criteria

Once you have assessed the situation, the emergency level must be classified as a Minor, Level 1, 2 or 3 using the following criteria. ARC’s Incident Commander will initially declare the Emergency Level but must contact the BCER to confirm the level and clarify the specifics of the incident.

BCER Incident Classification Matrix		Probability					
		4	3	2	1	0	
		Uncontrolled, with control unlikely in near term	Escalation possible; under or imminent control	Escalation unlikely; controlled or likely imminent control	Escalation highly unlikely; controlled or imminent control	Will not escalate; no hazard; no monitoring required	
Consequence	4	<input type="checkbox"/> Major on site equipment or infrastructure loss <input type="checkbox"/> Major act of violence, sabotage, or terrorism which impacts permit holder assets <input type="checkbox"/> Reportable liquid spill beyond site, uncontained and affecting environment <input type="checkbox"/> Gas release beyond site affecting public safety	Level 3	Level 3	Level 2	Level 2	Level 1
	3	<input type="checkbox"/> Threats of violence, sabotage, or terrorism <input type="checkbox"/> Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property <input type="checkbox"/> HAZMAT worker exposure exceeding allowable <input type="checkbox"/> Major on site equipment failure	Level 3	Level 2	Level 2	Level 1	Level 1
	2	<input type="checkbox"/> Major on site equipment damage <input type="checkbox"/> A security breach that has potential to impact people, property or the environment <input type="checkbox"/> Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property	Level 2	Level 2	Level 1	Level 1	Minor Notification Form
	1	<input type="checkbox"/> Moderate on site equipment damage <input type="checkbox"/> A security breach that impacts oil and gas assets <input type="checkbox"/> Reportable liquid spill or gas release on location <input type="checkbox"/> ** Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations	Level 2	Level 1	Level 1	Minor Notification Form	Minor Notification Form
	0	<input type="checkbox"/> No consequential impacts	Level 1	Level 1	Minor Notification Form	Minor Notification Form	No Notification Required
<b>Minor Incidents</b> <ul style="list-style-type: none"> <li>The permit holder must report the minor incident to the BCER within 24 hours by electronic submission through the Online Minor Incident Reporting System, opened through KERMIT.</li> <li>If the minor incident involves a leak or a spill, EMCR must also be called at 1-800-663-3456 so that a Dangerous Goods Incident Report (DGIR) number may be issued.</li> </ul>		<b>Escalating, Downgrading or Standing-Down of Emergency</b> <ul style="list-style-type: none"> <li>The BCER must be notified as soon as possible of any change to the emergency status.</li> <li>The permit holder must consult with the BCER for escalating, downgrading or the standing-down of an incident.</li> </ul>					
<b>Level 1, 2, or 3 Emergency</b> <ul style="list-style-type: none"> <li>If the incident receives a score of Level 1, 2, or 3, it must be <b>reported immediately (within 1 hour)</b> to the BCERs incident reporting line (EMCR 1-800-663-3456).</li> </ul>		<b>Permit Holders Post-Incident Report</b> The <a href="https://bc-er.ca/node/5771">Form D: Permit Holder Post Incident Report Form</a> ( <a href="https://bc-er.ca/node/5771">https://bc-er.ca/node/5771</a> ) must be submitted by the permit holder to the BCER within 60 days for: <ol style="list-style-type: none"> <li>Any Level 1, 2 or 3 emergency incident: complete Part A-P; or</li> <li>Any pipeline incident (including minor notification): complete Part A-U; or</li> <li>Upon request by the BCER</li> </ol> This report and accompanying documentation can be found on the BCERs website under Emergency Response and Planning and must be emailed electronically to <a href="mailto:EMP@bc-er.ca">EMP@bc-er.ca</a> .					

\*\* For this consequence criteria, a probability score of 2 or higher must be used.



### Incident Classification Matrix

**Instructions:** Start at the top and continue down until you check off any one box in both consequence and probability to determine the incident classification. *This matrix is required as an attachment upon submission of an incident through the [Online Minor Incident Reporting System](#).*

**Table 1. Consequence Ranking**

Rank	Consequence (any one of the following)
4	<input type="checkbox"/> Major on site equipment or infrastructure loss <input type="checkbox"/> Major act of violence, sabotage, or terrorism which impacts permit holder assets <input type="checkbox"/> Reportable liquid spill beyond site, uncontained and affecting environment <input type="checkbox"/> Gas release beyond site affecting public safety
3	<input type="checkbox"/> Threats of violence, sabotage, or terrorism <input type="checkbox"/> Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property <input type="checkbox"/> HAZMAT worker exposure exceeding allowable <input type="checkbox"/> Major on site equipment failure
2	<input type="checkbox"/> Major on site equipment damage <input type="checkbox"/> A security breach that has potential to impact people, property or the environment <input type="checkbox"/> Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property
1	<input type="checkbox"/> Moderate on site equipment damage <input type="checkbox"/> A security breach that impacts oil and gas assets <input type="checkbox"/> Reportable liquid spill or gas release on location <input type="checkbox"/> **Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations
0	<input type="checkbox"/> No consequential impacts

\*\* For this consequence criteria, a probability score of 2 or higher must be used.

**Table 2. Probability Ranking**

Rank	Probability (any one of the following)
4	<input type="checkbox"/> Uncontrolled, with control unlikely in near term
3	<input type="checkbox"/> Escalation possible; under or imminent control
2	<input type="checkbox"/> Escalation unlikely; controlled or likely imminent control
1	<input type="checkbox"/> Escalation highly unlikely; controlled or imminent control
0	<input type="checkbox"/> Will not escalate; no hazard; no monitoring required

**Table 3. Incident Risk Score and Classification**

Consequence \_\_\_\_\_ + Probability \_\_\_\_\_ = Risk Score \_\_\_\_\_ (this must be completed)

Risk Score	Assessment Result
Minor (1-2)	<b>Notification Only;</b> permit holder must notify the BCER online within 24 hours using the <a href="https://bc-er.ca/node/11188">Form A: Minor Incident Notification Form (https://bc-er.ca/node/11188)</a> . In addition to Form A, spills must also be reported to EMCR.
Moderate (3-4)	<b>Level-1 Emergency;</b> immediate notification (call EMCR)
Major (5-6)	<b>Level-2 Emergency;</b> immediate notification (call EMCR)
Serious (7-8)	<b>Level-3 Emergency;</b> immediate notification (call EMCR)



The H<sub>2</sub>Safety Services Inc. Emergency Assessment Smart Phone app is the preferred method for determining the level of emergency. Search H<sub>2</sub>Safety or Emergency Assessment in the Apple or Android app store.

### Spill Reporting Criteria

Where the permit holder holds or maintains rights, the permit holder must report to the BC Energy Regulator, all spills of materials as identified below:

- A spill or release of any amount of materials which impacts water ways
- Hydrocarbons; 100 litres where the hydrocarbon contains no toxic materials and does not impact water ways
- Produced/salt water; 200 litres where the fluid contains no toxic materials
- Fresh water; 10,000 litres
- Drilling or invert mud; 100 litres
- Sour Natural gas; 10 kg or 15 m<sup>3</sup> by volume where operating pressure is >100 PSI
- Condensate; 100 litres
- Any fluid including hydrocarbons, drilling fluids, invert mud, effluent, emulsions, etc. which contain toxic substances; 25 litres

Please refer to the BC Environmental Management Act; [Spill Reporting Regulation](#), Schedule "Reporting Levels for Certain Substances" for determining reportable spillage amounts of other substances:

### Other Reportable Incidents

The BCERs Incident Risk Classification Matrix is designed to assist permit holders in determining which incidents must be reported. However, some incidents, which do occur, may not meet the criteria outlined in the Incident Classification Matrix but still require notification to the BCER as a minor notification. These include the following:

- Spills or release of hazardous substances which are not provincially regulated, such as radioactive substances;
- Major damage to oil and gas roads or road structures;
- Drilling kicks when any one of the following occur:
  - pit gain of 3 m<sup>3</sup> or greater
  - casing pressure 85% of MA
  - 50% out of hole when kicked
  - well taking fluid (LC)
  - associated spill
  - general situation deterioration, i.e. leaks, equipment failure, unable to circulate, etc
- All pipeline incidents, such as spills during construction phase, exposed pipe caused by flooding, pipeline over pressure, failure (without release) of any pressure control or ESD device during operations
- Security related issues which are relatively minor; such information may be required for tracking and monitoring purposes only

### Sour Gas

When a sour gas product is released, any measurement of 10 ppm or greater measured at 1 metre from the source of the leak requires reporting as an incident.

### Releases Near Airports

If the emergency involves the release of flammable vapour at the site of an oil and gas activity that is located within 2 kilometres of an airport, immediately notify the operator of the airport.

## Oil and Gas Road Closures

In emergency situations, permit holders must phone the BCERs 24 hour Incident Reporting line to notify the BCER of needed emergency oil and gas road closures.

## Special Sour Wells

During an emergency involving a special sour well, a permit holder must do all of the following:

1. Ensure that a person certified in accordance with subsection (4) is available and equipped to ignite the well within the time limits set out in the plan in respect of which the emergency planning zone was determined;
2. Ensure that a dual ignition system is on site during:
  - a. Drilling or completion operations, or
  - b. Workover operations being carried out at any time when the wellhead is not in place;
3. Ensure that a person authorized to ignite flammable liquids or ignitable vapours released from the well is on site.

For the purposes of subsection (2), a sour well is special if either of the following applies:

1. The hydrogen sulphide release rate from the well is equal to or greater than 2.0 m<sup>3</sup>/s;
2. The hydrogen sulphide release rate from the well is less than 2.0 m<sup>3</sup>/s but greater than 0.5 m<sup>3</sup>/s and the well is located within a distance that is twice the hazard planning distance from the corporate boundaries of an urban centre.

For the purposes of subsection (2) (a), the person must have vapour plume ignition certificate issued by a training association.

**Note:** Refer to the *Petroleum Industry Spill / Release Reporting Requirements in Section 4: Emergency Response Procedures* for further spill reporting criteria and the *Government Notification Matrix in Section 5: External Agencies for other reportable incidents*.

## **4.6 Approval to Downgrade Emergency Levels**

Any decision to downgrade or stand-down an emergency must be done in consultation with the provincial or federal regulator.

- In Alberta, the AER will consult with other applicable agencies and confirm with ARC that the emergency downgrade or stand-down is appropriate.
- In British Columbia, this consultation is done in conjunction with BCER and Ministry of Emergency Management and Climate Readiness (EMCR) Provincial Emergency Coordination Centre (PECC).

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## **SECTION 5. FORMS**

### **DOCUMENTATION DURING AND AFTER AN INCIDENT**

#### **FORM DESCRIPTIONS**

#### **INCIDENT COMMAND SYSTEM (ICS) FORMS**

ICS 201 Incident Briefing  
ICS 202 Incident Objectives  
ICS 207 Incident Organization Chart  
ICS 209 Incident Status Summary  
ICS 211 Check-In / Out List  
ICS 214 Activity Log  
ICS 215 Operational Planning Worksheet  
ICS 215A IAP Safety Analysis

#### **EMERGENCY FORMS**

A1 Initial Emergency Report Form  
A2 Odour Complaint Script  
A3 AER Regulatory First Call Communication  
A4 Incident Action Plan Checklist  
A5 Air Monitoring Log  
A6 Threatening Call / Bomb Threat  
A7 STARS Landing Zone Card  
A8 Spill Report Form  
A9 Post Incident Learning Form  
A10 BCER Emergency Incident Form (Form C)

#### **RESIDENT FORMS**

B1 Reception Centre Registration Log  
B2 Resident Compensation Log  
B3 Resident Contact Log  
B4 Roadblock Log  
B5 Evacuation Notice  
B6 Early Notification / Voluntary Evacuation Phone Message  
B7 Shelter-In-Place Phone Message  
B8 Evacuation Phone Message

#### **MEDIA FORMS**

C1 Preliminary Media Statement  
C2 Media Contact Log  
C3 Government Agency Contact Log  
C4 Media Centre Site



## DOCUMENTATION DURING AND AFTER AN INCIDENT

All personnel are required to document their actions on the ICS 214 – Activity Log throughout the duration of the incident. Additionally, note takers should be assigned to take notes at meetings and to document the discussions, decisions, overall activities, etc. at the Incident Command Post (ICP) and Emergency Operations Centre (EOC). The status of any changing documents such as status boards, wall charts, laminated maps with mark-ups, etc. should be captured prior to each set of new changes. It is essential that all documentation is correctly dated, and time stamped to provide the correct order and time of events.

It is imperative that accurate documentation is kept throughout the duration of an incident for record keeping purposes. Records kept may be used for legal, investigation, audits, historical and/or analytical purposes. All documentation must be held for a minimum of 5 years as it may be requested by the regulatory agency at any point during that time.

It is the Documentation Units responsibility to collect documentation (forms, checklists, event logs, etc.) from response team members and maintain a consistent system for organizing the data.

## FORM DESCRIPTIONS

The ICS uses a series of standard forms and supporting documents that convey directions for the accomplishment of the objectives and distributing information. Listed below are the standard ICS form titles and descriptions of each form that h2safety utilizes.

Standard ICS Form Title	ICS Form Description
ICS 201 Incident Briefing	Provides the Incident Command and General Staffs with basic information regarding the incident situation and the resources allocated to the incident. This form also serves as a permanent record of the initial response to the incident.
ICS 202 Incident Objectives	Describes the basic strategy and objectives for use during each operational period.
ICS 207 Incident Organization Chart	A complete picture of the organizational structure for the incident.
ICS 209 Incident Status Summary	Summarizes incident information for staff members and external parties, and provides information to the Public Information Officer for preparation of media releases.
ICS 211 Check-In/Out List	Used to check in personnel and equipment arriving at or departing from the incident. Check-in/out consists of reporting specific information that is recorded on the form.
ICS 214 Activity Log	Provides a record of unit activities. Unit Logs can provide a basic reference from which to extract information for inclusion in any after-action report.
ICS 215 Operational Planning Worksheet	Documents decisions made concerning resource needs for the next operational period. The Planning Section uses this Worksheet to complete Assignment Lists, and the Logistics Section uses it for ordering resources for the incident. This form may be used as a source document for updating resource confirmation on other ICS forms such as the 209 Incident Status Summary.



**FORM DESCRIPTIONS, continued**

<b>Emergency Form Title</b>	<b>Emergency Form Description</b>
ICS 215A Incident Action Plan Safety Analysis	Used to communicate to the Operations and Planning Section Chiefs the potential hazards identified by the Safety Officer. It identifies mitigation measures to address the identified hazards.
A1 Initial Emergency Report Form	Used by recipient of a phone call from either a member of the public or other company personnel to record detailed information about incident.
A2 Odour Complaint Script	Used to record odour information from a member of the public as well as scripts to follow.
A3 AER Regulatory First Call Communication	A regulatory required form created by the AER used to send detailed information to the AER about an emergency used for assessment, historical, and analytical purposes following an incident.
A4 Incident Action Plan Checklist	A checklist of other forms and information required to accurately create an incident action plan.
A5 Air Monitoring Log	A form used by designated Air Monitor personnel to log information about air quality readings.
A6 Threatening Call/Bomb Threat	Detailed point driven form used to document incoming phone calls pertaining to personnel threats and bomb threats.
A7 Stars Landing Zone Card	An information card utilized if medical evacuation is required via STARS Air Ambulance.
A8 Spill Report	Used by recipient of a phone call from either a member of the public or other company personnel to record detailed information about spills.
A9 Post Incident Learning	Used after the incident to document any positive results and opportunities for improvement during the incident.
A10 BCER Emergency Incident Form (Form C)	A regulatory required form created by the BCER used to send detailed information to the BCER about an emergency used for assessment, historical, and analytical purposes following an incident.
<b>Resident Form Title</b>	<b>Resident Form Description</b>
B1 Reception Centre Registration Log	Log used by Reception Centre Rep to record information from evacuees being received at the reception centre. Can also be faxed to reception centre in case a representative has not been identified or cannot make it before evacuees start arriving.
B2 Resident Compensation Log	Detailed spreadsheet for expenses incurred by evacuees so that compensation may be properly dealt with.
B3 Resident Contact Log	A log used by various company personnel to record contact made with residents, whether they're sheltered/evacuated and if assistance is required.
B4 Roadblock Log	A log used by designated Roadblock personnel to identify details about vehicles and persons entering or exiting a hazard area.

**FORM DESCRIPTIONS, continued**

<b>Resident Form Title</b>	<b>Resident Form Description</b>
B5 Evacuation Notice	A document to be left in doors/windows of surface developments that are unable to be contacted as a way to issue evacuation instructions
B6 Early Notification/Voluntary Evacuation Message	A script and document filled out by Telephoner personnel issuing calls to residents for early notification and voluntary evacuation purposes.
B7 Shelter-In-Place Message	A script and document filled out by Telephoner personnel issuing calls to residents with shelter-in-place instructions.
B8 Evacuation Phone Message	A script and document filled out by Telephoner personnel issuing calls to residents with evacuation instructions.
<b>Media Form Title</b>	<b>Media Form Description</b>
C1 Preliminary Media Statement	A generic script used by the Media Spokesperson to issue media statements until which time more detailed information is known and can be issued.
C2 Media Contact Log	A log used to identify what media outlets/persons have contacted the company and their contact information.
C3 Government Agency Contact Log	A log used to identify what government agencies have been notified about the incident.
C4 Media Centre Site	A document to distribute to media outlets/persons about the location for further media enquiries and press releases as well as details to get there.



**Summary of Current Actions**

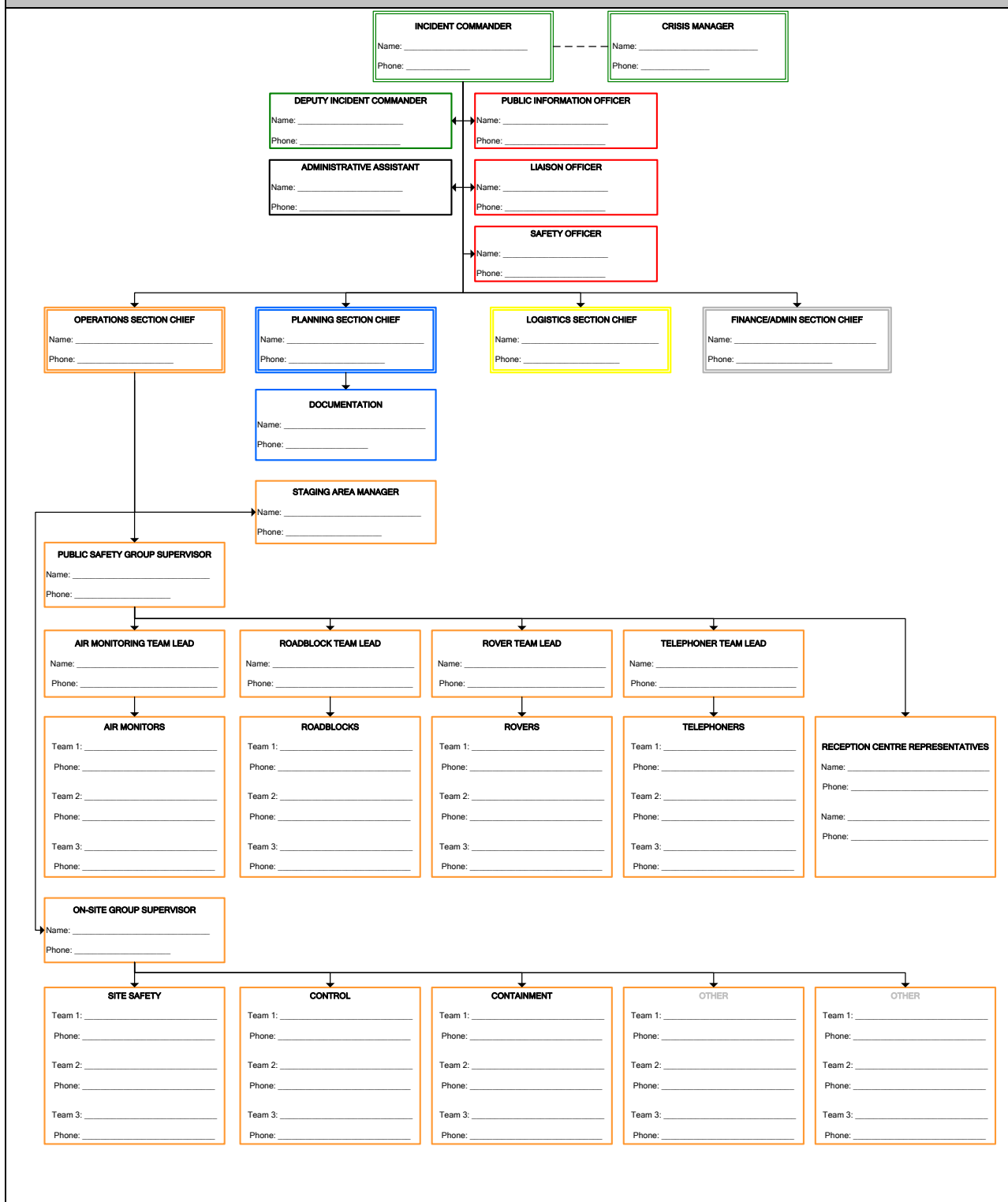
<b>Impacts (PEAR)</b>	
<b>People</b> Workers / Responder Priority	
<b>Priority Public Protection</b>	
<b>Environment</b>	
<b>Asset Integrity</b>	
<b>Reputation</b>	

<b>OBJECTIVES (Non-prioritized)</b>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

<b>Current Actions (Strategies &amp; Tactics)</b>

<b>Planned Actions (Strategies &amp; Tactics)</b>

**Current Organizational Structure: (draw in current response structure)\***



*Note: Refer to ICS 207 Incident Organization Chart in SECTION 5: FORMS for full command structure.*

**Resource Summary: A=Assigned (In Service) AV=Available (Staged) O=Out of Service**

Supplier/Company/Agency	Resource Type	Date/Time Ordered	ETA	Status (See Legend Above)	Notes (Location/Assignment/Status/Date/Time)

**External Notifications: (Government)**

Agency	Time Called	Notes

<b>Site Type: (Select only 1)</b>			
<input type="checkbox"/> Well (Active)	<input type="checkbox"/> Well (Abandoned/Suspended)	<input type="checkbox"/> Remote Sump	
<input type="checkbox"/> Well (Drilling & Completions): Rig Name:			
<input type="checkbox"/> Battery/Plant/Facility	<input type="checkbox"/> Tank Farm/Storage	<input type="checkbox"/> Pipeline	
<input type="checkbox"/> Other – Specify:			
<b>Incident Type: (Check all that apply)</b>			
<input type="checkbox"/> Sour Gas Release	<input type="checkbox"/> Sweet Gas Release	<input type="checkbox"/> Liquid Spills	
<input type="checkbox"/> Natural Disaster/Weather	<input type="checkbox"/> Fire/Explosion	<input type="checkbox"/> Drilling Kick	
<input type="checkbox"/> Worker Injury/Fatality	<input type="checkbox"/> Security (theft, threat, terrorism)	<input type="checkbox"/> Induced Seismicity	
<input type="checkbox"/> Well Bore Communication	<input type="checkbox"/> Pipeline Boring	<input type="checkbox"/> Vehicle/Transportation	
<input type="checkbox"/> Equipment/Structural Damage	<input type="checkbox"/> Pipeline Break	<input type="checkbox"/> Well Control	
<input type="checkbox"/> Other – Specify:			
<b>Activity: (Check all that apply)</b>			
<input type="checkbox"/> Construction (Road, Lease, Pipe)	<input type="checkbox"/> Drilling/Exploration	<input type="checkbox"/> Waste Management	
<input type="checkbox"/> Processing	<input type="checkbox"/> Well Fracturing	<input type="checkbox"/> Servicing	
<input type="checkbox"/> Repair	<input type="checkbox"/> Flaring (Emergency)	<input type="checkbox"/> Well Testing	
<input type="checkbox"/> Pressure Testing	<input type="checkbox"/> Transportation		
<input type="checkbox"/> Other – Specify:			
<b>Material Information:</b>			
Is spill off lease? <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Liquid Hydrogen (Crude, Oil, Diesel, Fuel)	
<input type="checkbox"/> Acid	<input type="checkbox"/> Emulsion (Oil, Gas, Water)	<input type="checkbox"/> Non-Toxic Gases (Nitrogen, Carbon Dioxide, Inert Gases)	
<input type="checkbox"/> Methanol	<input type="checkbox"/> Non-Toxic Liquids	<input type="checkbox"/> Fresh Water	<input type="checkbox"/> Salt Water
<input type="checkbox"/> Sour Natural Gas	<input type="checkbox"/> Sour Liquids (<1% H <sub>2</sub> S)	<input type="checkbox"/> Sweet Natural Gas	
<input type="checkbox"/> Toxic Gas Liquid (>1% Different Toxins)		<input type="checkbox"/> Other – Specify:	
<b>Area Information:</b>			
Land Type: <input type="checkbox"/> Private Land <input type="checkbox"/> Crown Land		Field Name:	
Area Type: <input type="checkbox"/> Forest <input type="checkbox"/> Muskeg <input type="checkbox"/> Farmland <input type="checkbox"/> Residential <input type="checkbox"/> Other			
Access: <input type="checkbox"/> Helicopter <input type="checkbox"/> ATV <input type="checkbox"/> 4WD <input type="checkbox"/> 2WD <input type="checkbox"/> Unknown			
Name of road the asset is located on:			
KM where the incident occurred:			
Distance to nearest residence/public facility:			
Nearest City/Town/Open Camp:			
<b>Weather Conditions:</b>			
Weather Conditions <input type="checkbox"/> Clear <input type="checkbox"/> Cloudy <input type="checkbox"/> Other:			
Wind Direction N NE NW E SE S SW W			Temp: oC
Wind Strength <input type="checkbox"/> Calm <input type="checkbox"/> Moderate <input type="checkbox"/> Strong <input type="checkbox"/> Gusty			
<b>Medical:</b>			
Public Health and Safety:		Worker Injuries:	
<input type="checkbox"/> Could be jeopardized	<input type="checkbox"/> Is jeopardized	<input type="checkbox"/> First Aid	<input type="checkbox"/> Fatality <input type="checkbox"/> Hospitalization

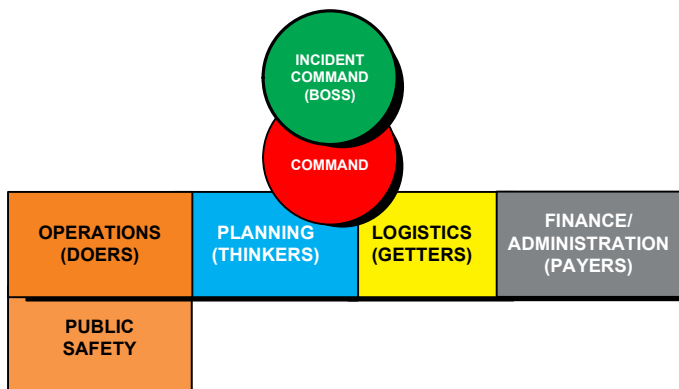


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**ICS 202 INCIDENT OBJECTIVES**

Incident Name:	
Date / Time Initiated:	
Prepared by:	ICS Position:
<b>General Control Objectives for the Incident:</b>	
1	
2	
3	
4	
5	
<b>Weather Forecast:</b>	
<b>General Safety Message:</b>	
<p><i>Note: Create and prioritize SMART (Specific, Measureable, Attainable, Realistic, &amp; Time-Sensitive) objectives that address the incident issues and utilize the solutions identified on the Operations Briefing page.</i></p>	

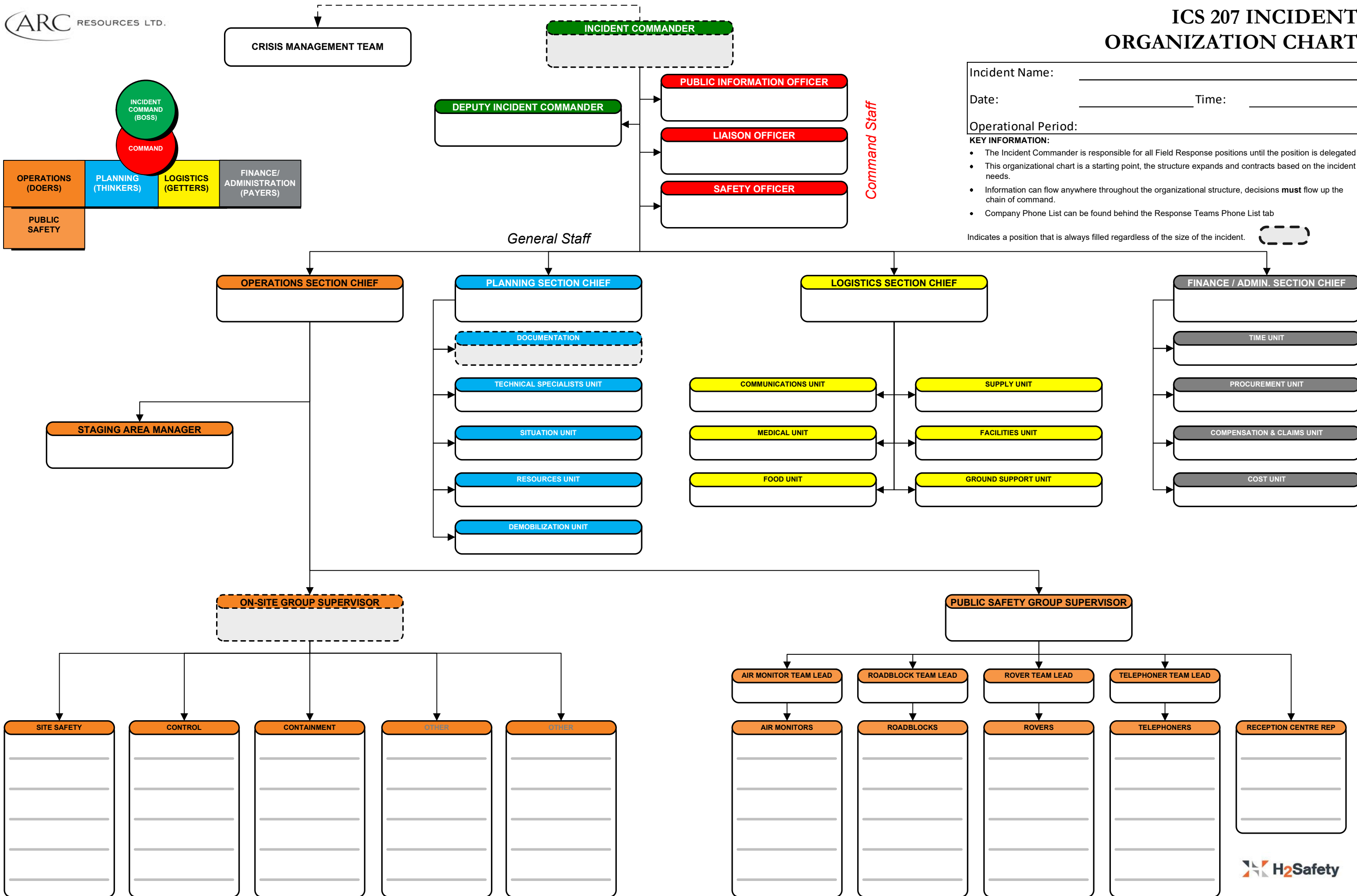




Incident Name: \_\_\_\_\_  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_  
 Operational Period: \_\_\_\_\_

- KEY INFORMATION:**
- The Incident Commander is responsible for all Field Response positions until the position is delegated.
  - This organizational chart is a starting point, the structure expands and contracts based on the incident needs.
  - Information can flow anywhere throughout the organizational structure, decisions **must** flow up the chain of command.
  - Company Phone List can be found behind the Response Teams Phone List tab

Indicates a position that is always filled regardless of the size of the incident.





**ICS 209 INCIDENT STATUS SUMMARY**

Incident Name:		Location of Incident:	
Date / Time Initiated:		(LSD / NTS)	
Prepared by:		ICS Position	
<b>Incident Details:</b>			
Gas readings:	H <sub>2</sub> S	SO <sub>2</sub>	LEL
<b>Level of Emergency:</b>			
Incident Severity:	<input type="checkbox"/> Alert / Minor	<input type="checkbox"/> Level 1	<input type="checkbox"/> Level 2 <input type="checkbox"/> Level 3
<b>Affect Medium: (Check all that apply)</b>			
<input type="checkbox"/> Air	<input type="checkbox"/> Water	<input type="checkbox"/> Soil	<input type="checkbox"/> Other – Specify:
<b>Site Type: (Select only 1)</b>			
<input type="checkbox"/> Well (Active)	<input type="checkbox"/> Well (Abandoned/Suspended)	<input type="checkbox"/> Remote Sump	
<input type="checkbox"/> Well (Drilling & Completions): Rig Name:			
<input type="checkbox"/> Battery/Plant/Facility	<input type="checkbox"/> Tank Farm/Storage	<input type="checkbox"/> Pipeline	
<input type="checkbox"/> Riser (Pipeline)			
<input type="checkbox"/> Road or Road Structure	Name:	Location on Road:	
<input type="checkbox"/> Other – Specify:			
<b>Incident Type: (Check all that apply)</b>			
<input type="checkbox"/> Sour Gas Release	<input type="checkbox"/> Sweet Gas Release	<input type="checkbox"/> Liquid Spills	
<input type="checkbox"/> Natural Disaster/Weather	<input type="checkbox"/> Fire/Explosion	<input type="checkbox"/> Drilling Kick	
<input type="checkbox"/> Worker Injury/Fatality	<input type="checkbox"/> Security (theft, threat, terrorism)	<input type="checkbox"/> Induced Seismicity	
<input type="checkbox"/> Well Bore Communication	<input type="checkbox"/> Pipeline Boring	<input type="checkbox"/> Vehicle/Transportation	
<input type="checkbox"/> Equipment/Structural Damage	<input type="checkbox"/> Pipeline Break	<input type="checkbox"/> Well Control	
<input type="checkbox"/> Other – Specify:			
<b>Activity: (Check all that apply)</b>			
<input type="checkbox"/> Construction (Road, Lease, Pipe)	<input type="checkbox"/> Drilling/Exploration	<input type="checkbox"/> Waste Management	
<input type="checkbox"/> Processing	<input type="checkbox"/> Well Fracturing	<input type="checkbox"/> Servicing	
<input type="checkbox"/> Repair	<input type="checkbox"/> Flaring (Emergency)	<input type="checkbox"/> Well Testing	
<input type="checkbox"/> Pressure Testing	<input type="checkbox"/> Transportation		
<input type="checkbox"/> Other – Specify:			

# NEBC Emergency Response Plan



### Consequence or Impacts: (Check all that apply, if none, leave blank)

- Worker Safety (Injuries, Fatalities)     Property  
 Economic (Loss of and/or damage to equipment or infrastructure, loss of production, work stoppage)  
 Other – Specify:

### Material Information:

- Is spill off lease?     Yes - Estimated spill quantity:     No  
 Liquid Hydrogen (Crude, Oil, Diesel, Fuel)     Toxic Gas Liquid (>1% Different Toxins)  
 Acid     Emulsion (Oil, Gas, Water)     Non-Toxic Gases (Nitrogen, Carbon Dioxide, Inert Gases)  
 Methanol     Non-Toxic Liquids     Fresh Water     Salt Water  
 Sour Natural Gas     Sour Liquids (<1% H<sub>2</sub>S)     Sweet Natural Gas  
 Other – Specify:

### Area Information:

- Land Type:     Private Land     Crown Land    Field Name:  
 Area Type:     Forest     Muskeg     Farmland     Residential     Other  
 Access:     Helicopter     ATV     4WD     2WD     Unknown  
 Name of road the asset is located on:  
 KM where the incident occurred:  
 Distance to nearest residence/public facility:  
 Nearest City/Town/Open Camp:

### Weather Conditions:

- Weather Conditions     Clear     Cloudy     Other:  
 Wind Direction    N    NE    NW    E    SE    S    SW    W  
 Wind Strength     Calm     Moderate     Strong     Gusty  
 Temperature    °C

### Public / Worker Injuries / Medical Emergencies:

- First Aid     Hospitalization     Fatality     Other – Specify:

### Notification: (Notify all agencies as required)

<input type="checkbox"/> 911 (Police/RCMP, Fire, EMS)	<input type="checkbox"/> Energy Regulator (BCER, AER*, etc.)	<input type="checkbox"/> Local Authority (MD, County, Town, City)	<input type="checkbox"/> Health Authority
<input type="checkbox"/> Canada Energy Board (CER)	<input type="checkbox"/> Occupational Health & Safety (OH&S)	<input type="checkbox"/> Emergency Management Agency	<input type="checkbox"/> Ministry of Transportation
<input type="checkbox"/> Workers' Compensation Board (WCB)	<input type="checkbox"/> Emergency Response Assistance Canada (ERAC)	<input type="checkbox"/> Western Canadian Spill Services (WCSS)	<input type="checkbox"/> CANUTEC
<input type="checkbox"/> Transportation Dangerous Goods (TDG)	<input type="checkbox"/> <i>Other</i>	<input type="checkbox"/> <i>Other</i>	<input type="checkbox"/> <i>Other</i>

\*Request that the AER notify Alberta Environment & Parks (Forestry/Fish/Wildlife/Lands), Environment & Climate Change Canada (ECCC) and the Department of Fisheries and Oceans as required.

**Refer to the Government Notification Matrix and External Agencies Contact List or Area Specific Information for complete list of agencies requiring contact.**

**Agency Notification**

Agency Name	Contact Name	Contact Number	Notified (Y/N)

Collect all completed C3 Government Agency Contact Logs from responders for full documentation.

**Notes:**

**Roadblock Locations:**

Roadblock Number	Name	Location/LSD

Collect all completed B4 Roadblock Logs from responders for full documentation.

**Notes:**



**Air Monitor Locations:**

Air Monitor Number	Name	Location/LSD

**Collect all completed A5 Air Monitoring Logs from responders for full documentation.**

**Notes:**

--

**Reception Centres**

Name	Location	Phone Number

**Collect all completed B1 Reception Centre Registration Logs from responders for full documentation.**

**Notes:**

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***NEBC Emergency Response Plan***









***NEBC Emergency Response Plan***







***NEBC Emergency Response Plan***



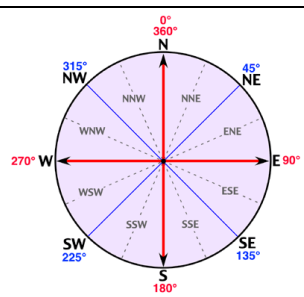
**A1 INITIAL EMERGENCY REPORT FORM**

**FIRST ON-SCENE ACTIONS**

<b>Evacuate</b>	<input type="checkbox"/> Get to a safe area immediately. <input type="checkbox"/> Move upwind if release is downwind of you. <input type="checkbox"/> Move crosswind if a release is upwind from you. <input type="checkbox"/> Move to higher ground if possible.
<b>Alarm</b>	<input type="checkbox"/> Call for help (“Man Down”). <input type="checkbox"/> Sound bell, horn or whistle, or call by radio. <input type="checkbox"/> For medical emergencies, call 911.
<b>Assess</b>	<input type="checkbox"/> Take head count, locate any casualties. Consider all of the hazards. <input type="checkbox"/> Fill out information below to complete assessment.
<b>Protect</b>	<input type="checkbox"/> Put on breathing apparatus before attempting rescue.
<b>Rescue</b>	<input type="checkbox"/> Remove any casualties to a safe area.
<b>First Aid</b>	<input type="checkbox"/> Follow the standard first aid protocols at worksite. (CPR, etc.)
<b>Medical Aid</b>	<input type="checkbox"/> Arrange transport of casualties to medical aid. <input type="checkbox"/> Provide information to Emergency Medical Services (EMS).

<b>INCIDENT DETAILS</b> <i>To be completed by the person involved or notified</i>	
Report taken by	Date / Time
Name of person calling	Caller Telephone
Incident Location  (LSD / NTS)	
Event Summary          	
<b>Agencies Notified</b>	<input type="checkbox"/> Yes Who? <input type="checkbox"/> No
<b>Event Status</b>	<input type="checkbox"/> Incident contained or controlled <input type="checkbox"/> Intermittent control possible <input type="checkbox"/> Imminent control possible <input type="checkbox"/> Incident is uncontrolled
<b>Site Type</b>	<input type="checkbox"/> Well <input type="checkbox"/> Pipeline <input type="checkbox"/> Tank Farm/Storage <input type="checkbox"/> Battery/Plant/Facility <input type="checkbox"/> Other _____
<b>Incident Type</b>	<input type="checkbox"/> Sour Gas Release <input type="checkbox"/> Sweet Gas Release <input type="checkbox"/> Pipeline Break <input type="checkbox"/> Security (theft, threat, terrorism) <input type="checkbox"/> Loss of Containment <input type="checkbox"/> Fire/Explosion <input type="checkbox"/> Worker Injury/Fatality <input type="checkbox"/> Vehicle/Transportation <input type="checkbox"/> Liquid Spill <input type="checkbox"/> Other _____

IMPACTS						
PEOPLE	<b>Public Health and Safety</b> <input type="checkbox"/> Could be jeopardized <input type="checkbox"/> Is jeopardized					
	<b>Public Protection Measures Taken</b> <input type="checkbox"/> Notification <input type="checkbox"/> Evacuation <input type="checkbox"/> Shelter-in-place <input type="checkbox"/> Roadblocks					
	<b>Worker Injuries</b> <input type="checkbox"/> First Aid <input type="checkbox"/> Hospitalized <input type="checkbox"/> Fatality <input type="checkbox"/> Other _____					
	Distance to nearest surface development _____ km      Distance to nearest urban centre _____ km Details					
ENVIRONMENT	<b>Release Impact</b> <input type="checkbox"/> On-Lease <input type="checkbox"/> Off-Lease      Product _____      Amount _____					
	<b>Gas Readings</b> H <sub>2</sub> S _____      SO <sub>2</sub> _____      LEL _____      Other _____					
	Distance to nearest watercourse _____ km      Weather Conditions					
	Details					
ASSETS	Details					
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 33%; padding: 5px;"> <b>Media Involvement?</b>      <input type="checkbox"/> Yes      <input type="checkbox"/> No             </td> <td style="width: 33%; padding: 5px;"> <b>Regulator Involvement?</b>      <input type="checkbox"/> Yes      <input type="checkbox"/> No             </td> <td style="width: 33%; padding: 5px;"> <b>Public Affairs/Community Relations Issues?</b>      <input type="checkbox"/> Yes      <input type="checkbox"/> No             </td> </tr> <tr> <td colspan="3" style="padding: 5px;">               Details             </td> </tr> </table>	<b>Media Involvement?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Regulator Involvement?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Public Affairs/Community Relations Issues?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	Details	
<b>Media Involvement?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Regulator Involvement?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	<b>Public Affairs/Community Relations Issues?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No				
Details						
<b>NOTES / INSTRUCTIONS PROVIDED:</b>						



**DISTRIBUTE THIS COMPLETED REPORT TO ALL KEY RESPONSE PERSONNEL**

*Note: Ensure the First On-Scene Actions have been completed before proceeding to the Five Step Initial Response Guide.*

**A2 ODOUR COMPLAINT FORM**

When receiving an odour complaint call, document as much applicable information as possible so the company representative investigating it can do so safely.

Complaints will be prioritized based on level of perceived hazard to the public.

Company representatives will be dispatched to investigate complaints received by outside sources (member of the public, 3rd party company, etc.). If H2S is suspected, personnel should be dispatched in teams of two (2). Any company representative who is to investigate a complaint must be trained and prepared to assume the role of Incident Commander if any of the emergency conditions are met.

Once a complaint has been investigated, the company must report the results of the investigation to the outside source who alerted the company about the situation.

Date:	Prepared by:
Time: <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Duration of call:

To help us understand your immediate needs, we need to know:

*Name:* \_\_\_\_\_

*Contact number:* \_\_\_\_\_

*Description of the concern:* \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**How many people are you with right now?**

*Adults* \_\_\_\_\_ *Children* \_\_\_\_\_

**Can you provide the location of the incident?**

*Location of the incident (address, legal, landmark, etc.):* \_\_\_\_\_

\_\_\_\_\_

**Where are you right now?**

Home / Work     In a Vehicle     Outside     Other \_\_\_\_\_

*If the resident is at home / work / outside tell them:*

The company will send someone to investigate. To be safe, you and anyone that you may be with need to go inside and stay inside. Close all doors and windows and turn off any appliances that blow out indoor air (i.e. clothes dryer) or suck in outside air (i.e. heating / air conditioning). Do not go outside or attempt to start any vehicles until you are told it is safe to do so.

*If the resident is in a vehicle and cannot shelter-in-place tell them:*

The company will send someone to investigate. To be safe, you and anyone that may be with you need to get inside the vehicle and stay inside. Keep all doors and windows closed and shut off the air conditioning / heat. If you see or hear anything that might indicate where the incident is occurring, travel in the opposite direction of the hazard; otherwise, continue travelling on your current course which will likely take you out of the hazard area.

**Someone will call you back with further instruction so please stay off of the phone so that we can contact you. If you have any urgent questions please call the company at \_\_\_\_\_.**



# A3 First Call Communication



This form is to be used when taking information for spills/releases. It will assist in consistent gathering of data and should be attached to the FIS record.

General Incident Information			
AER contact:		Field centre:	
Licensee:	Caller:	Phone:	
E-mail address for release report:			
Licence #:	Pipeline line #:	Approval #:	
Incident location: ___/___/___/___ W ___ M			
Emergency level:			
Serious event? <input type="checkbox"/> Yes <input type="checkbox"/> No			
If yes, what kind of serious event? <input type="checkbox"/> Blowout <input type="checkbox"/> Explosion <input type="checkbox"/> Fire <input type="checkbox"/> Other control loss <input type="checkbox"/> Fracking <input type="checkbox"/> Casing failure			
Land type (jurisdiction): <input type="checkbox"/> Freehold <input type="checkbox"/> First Nations <input type="checkbox"/> Métis <input type="checkbox"/> CFB <input type="checkbox"/> Crown – Disposition #:			
Agencies notified:		Date:	
FIRST duty office (DO) contacted: <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, date & time DO was contacted:			
DO contact name:			

Release Details			
Volumes			
Substance*	Released (m <sup>3</sup> /10 <sup>3</sup> m <sup>3</sup> )	Recovered (m <sup>3</sup> /10 <sup>3</sup> m <sup>3</sup> )	Disposal/storage location
* For emulsion, break down oil & water if possible.			
Description of how the release volume was determined and verified (including calculations; e.g., spill length x width x depth):			
Area affected (length x width):                      m <sup>2</sup>			
How was the area affected determined? (Aerial survey, perimeter walk, range finder, samples taken, etc.):			
Who delineated the spill area (environmental technologist, operator, etc.) and what process was used?			

<input type="checkbox"/> Reminded licensee to update the AER immediately if release volumes or area changes from what was originally reported.
<input type="checkbox"/> Asked for the immediate submission of photos of the entire spill site to the AER and communicated that photos of the cleanup will need to be submitted with the release report.
Cause of release (suspected or actual):

**Impact**

Release off lease? <input type="checkbox"/> Yes <input type="checkbox"/> No (pipeline right-of-way is off lease)		
If yes, was the landowner notified? <input type="checkbox"/> Yes <input type="checkbox"/> No		Name of landowner/agency:
Release within disposition boundary? <input type="checkbox"/> Yes <input type="checkbox"/> No		
Outside disposition – was leaseholder notified? <input type="checkbox"/> Yes <input type="checkbox"/> No		Name of leaseholder:
<input type="checkbox"/> If outside disposition, reminded licensee that they will need a TFA.		
Actual incident H <sub>2</sub> S concentration (if applicable):                      % / ppm / mol/kmol		
Nearest town:	Distance and direction to town:	
Environment affected: <input type="checkbox"/> Air <input type="checkbox"/> Land <input type="checkbox"/> Water		
Distance of release to the nearest water body, watercourse, or waterway:		
How was this distance determined?		
Wildlife/waterfowl/livestock affected: <input type="checkbox"/> None <input type="checkbox"/> Habitat affected <input type="checkbox"/> Animals injured/killed		
Notes/description:		
Confirm how the release has been or will be contained:		
Confirm how the release has been or will be cleaned up:		
Evacuees (#):	People injured (#):	Fatalities (#):
Were members of the public affect? <input type="checkbox"/> Yes <input type="checkbox"/> No		
If yes, indicate if they were		
<input type="checkbox"/> notified <input type="checkbox"/> instructed to shelter in place <input type="checkbox"/> advised to evacuate		

Notes/description:

Media interest?  None  Local  Regional  National

Damage to public property?  Minor/no damage  Substantial (home covered in oil)  Extensive (home destroyed)

**Pipeline Specific**

Hit?  Yes  No Line #: Test failure?  Yes  No

Normal operating pressure: kPa Maximum operating pressure: kPa

Is the pipeline shut in, depressured, and isolated?  Yes  No

If yes, date & time:

What is the total volume of liquid in the pipeline?

Are there isolation valves?  Yes  No If yes, have they been activated?  Yes  No

Are there any other pipelines that tie into the failed line?  Yes  No If yes, have they been shut in/isolated?  Yes  No

Reminded the company to contact the AER before excavating the pipeline.

Reminded, advised, or directed the company that the pipeline is not to be returned to service without the AER's permission.

**Right-of-way (ROW)**

Licensee has confirmed when the pipeline ROW and well were last checked. Date:

How was the ROW surveillance conducted (from the air, by quad, on foot, using infrared, etc.)?

Requested that daily production volumes for the well/pipeline be submitted within 24 hours.

**Investigation information**

What operations are currently taking place (containment, sampling, line locating, retaining contractors/consultants, pipeline excavation, repair, site access, EM survey, etc.)?





**A4 INCIDENT ACTION PLAN CHECKLIST**

IAP Checklist Items:	Comments:
<input type="checkbox"/> ICS 202 – Incident Objectives	
<input type="checkbox"/> ICS 207 – Incident Organizational Chart	
<input type="checkbox"/> ICS 209 – Incident Status Summary	
<input type="checkbox"/> ICS 215 – Operational Planning Worksheet	
<input type="checkbox"/> ICS 215A – IAP Safety Analysis	
<input type="checkbox"/> Emergency Status Board	
<input type="checkbox"/> Map: _____	
<input type="checkbox"/> Map: _____	
<input type="checkbox"/> Map: _____	
<input type="checkbox"/> Other: _____	
<input type="checkbox"/> Other: _____	
<input type="checkbox"/> Other: _____	

**Notes:**





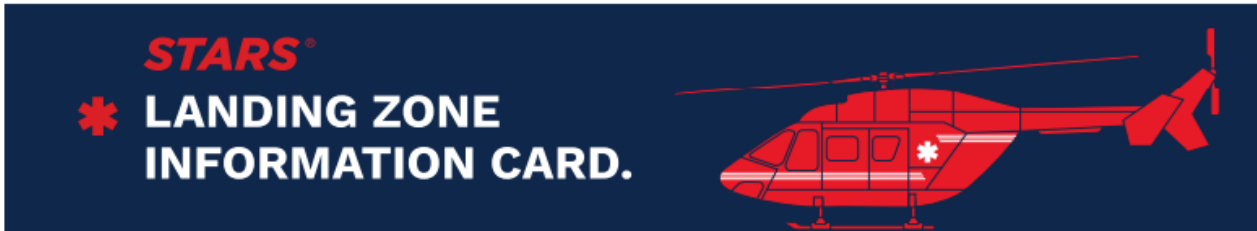


## A6 THREATENING CALL / BOMB THREAT

Date:		Time Call Received:		Time Call Reported:	
Person Receiving Call:			What/Whom Call Directed To:		
Caller's Sex: <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Unknown			Approximate Age:		
Accent: <input type="checkbox"/> Yes <input type="checkbox"/> No Type:		Familiar voice: <input type="checkbox"/> Yes <input type="checkbox"/> No Who:			
Threat (Exact Wording):					
<p><b>TIPS:</b></p> <ul style="list-style-type: none"> <li>Listen carefully and remain calm.</li> <li>Do not interrupt caller.</li> <li>Attempt to keep caller talking.</li> <li>Attempt to ask questions below.</li> <li>Obtain as much information as you can while call is in progress.</li> <li><b>Signal someone to call your supervisor; give him / her this information.</b></li> <li><b>Do not hang up or disconnect your phone</b>, even after the caller hangs up.</li> <li>For telephone tracing, call the local telephone company and local police.</li> </ul>					
<b>IF BOMB THREAT, ASK THE FOLLOWING QUESTIONS:</b>					
WHEN WILL THE BOMB GO OFF? <i>(Date and Time)</i>					
WHERE IS IT LOCATED?					
WHY DID YOU PLACE IT?					
WHAT KIND OF BOMB IS IT?					
WHAT DOES IT LOOK LIKE?					
WHAT IS YOUR NAME?					
WHERE ARE YOU CALLING FROM?					
Was the caller familiar with company facilities, or employees? (e.g.: nicknames, familiarity with staff, etc.)					<input type="checkbox"/> Yes <input type="checkbox"/> No
Did caller appear familiar with building / facility by the description of the bomb location?					<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>IDENTIFYING CHARACTERISTICS OF CALLER</b>					
<b>VOICE</b>		<b>SPEECH</b>		<b>LANGUAGE</b>	
<b>MANNER</b>		<b>BACKGROUND</b>			
<input type="checkbox"/> Loud	<input type="checkbox"/> Fast	<input type="checkbox"/> Excellent	<input type="checkbox"/> Calm	<input type="checkbox"/> Office Machines	
<input type="checkbox"/> Soft	<input type="checkbox"/> Slow	<input type="checkbox"/> Good	<input type="checkbox"/> Angry	<input type="checkbox"/> Factory Machines	
<input type="checkbox"/> High Pitched	<input type="checkbox"/> Distinct	<input type="checkbox"/> Fair	<input type="checkbox"/> Rational	<input type="checkbox"/> Street Traffic	
<input type="checkbox"/> Deep	<input type="checkbox"/> Distorted	<input type="checkbox"/> Poor	<input type="checkbox"/> Irrational	<input type="checkbox"/> Airplanes	
<input type="checkbox"/> Raspy	<input type="checkbox"/> Stutter	<input type="checkbox"/> Foul Language	<input type="checkbox"/> Coherent	<input type="checkbox"/> Trains	
<input type="checkbox"/> Pleasant	<input type="checkbox"/> Nasal	<input type="checkbox"/> Accent	<input type="checkbox"/> Incoherent	<input type="checkbox"/> Animals	
<input type="checkbox"/> Intoxicated	<input type="checkbox"/> Slurred	<input type="checkbox"/> _____	<input type="checkbox"/> Deliberate /	<input type="checkbox"/> Party	
<input type="checkbox"/> _____	<input type="checkbox"/> _____	<input type="checkbox"/> _____	<input type="checkbox"/> Serious	Atmosphere	
			<input type="checkbox"/> Emotional	<input type="checkbox"/> Music	
			<input type="checkbox"/> Laughing	<input type="checkbox"/> Voices	
			<input type="checkbox"/> Nervous	<input type="checkbox"/> Quiet	
			<input type="checkbox"/> _____	<input type="checkbox"/> _____	
<p><b>Notify proper authorities as soon as possible. Have employees take a look around their immediate work stations for unusual packages. Evacuate building if necessary.</b></p>					
Name of the supervisor first notified:					

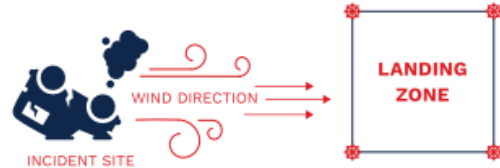


A7 STARS LANDING ZONE CARD

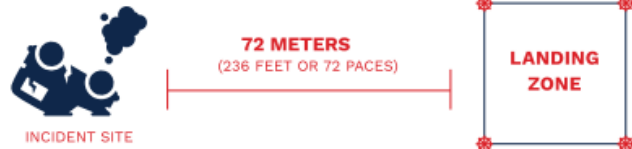


**\* STEP 1**  
 Advise your dispatch centre which channel you will be using to communicate with STARS.

**\* STEP 2**  
 Select an area for the landing zone that is downwind from the incident site (unless hazardous materials or gases are present).



**\* STEP 3**  
 Select an area for the landing zone that is a minimum of 72 metres (or 236 feet, or 72 paces) from the incident site.



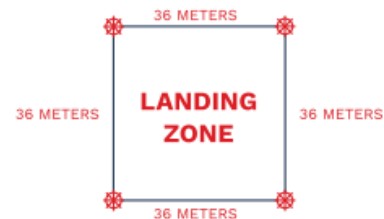
**\* STEP 4**  
 Select a flat, level surface for the landing zone; preferably pavement or concrete, if available.



**\* STEP 5**  
 Ensure the landing zone area is clear of wires, poles, trees and debris.



**\* STEP 6**  
 Mark out a 36 metre by 36 metre (120 feet x 120 feet, or 36 paces x 36 paces) square, and mark the corners with LED beacons, heavy pylons or any other bright conspicuous objects easily seen from the air.



**\* STEP 7**  
 Brief STARS crew via radio or cell phone and stand at the middle of the upwind side of the landing zone with the wind at your back.  
 Monitor radio frequency to communicate with the STARS team.  
 As the helicopter approaches, go down on one knee and DO NOT MOVE from your position.  
 Do not approach the helicopter at any time unless escorted by the STARS crew.

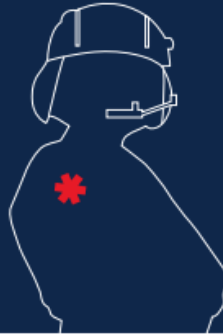
LANDING ZONE HAND SIGNALS



ALL CLEAR TO LAND ALL CLEAR TO DEPART ABORT LANDING



**STARS®**  
**\* LANDING ZONE BRIEFING FOR STARS CREW.**



**\* STEP 1**

Identify yourself and confirm the Landing Zone Officer is present with the landing zone secure.

**\* STEP 2**

Communicate the location of the landing zone using N/E/S/W to reference the accident scene or other landmarks.

**\* STEP 3**

Identify the type of surface for the landing zone (field, road, other).

**\* STEP 4**

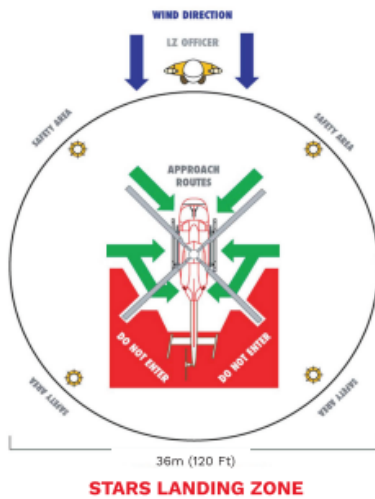
State what marking the corners of the landing zone: LED beacons, heavy pylons or any other bright conspicuous objects easily seen from the air.

**\* STEP 5**

Communicate the wind direction and approximate speed.

**\* STEP 6**

Identify the hazards in the area of the landing zone such as wires, poles, trees, or hazardous materials using N/E/S/W in reference to the landing zone.



**SPECIAL CONSIDERATION**

Remove any loose debris and indicate if there is snow or dust in the landing zone. If dusty, water down the landing zone if possible prior to the helicopter's arrival. As marshaller, maintain your position at the middle of the upwind side of the landing zone, knees and **DO NOT MOVE** from your position as the helicopter lands.

If you have any questions or comments regarding this landing zone information card or would like to watch our landing zone video, please visit [www.stars.ca](http://www.stars.ca)



**INDUSTRY EMERGENCY LINE 1-888-888-4567**

This number can also be used to provide a landing briefing to the STARS crew if radio communications are not available.

**WE ARE ALL STARS®**

**A8 SPILL REPORT FORM**

Date spill occurred:		Time spill reported:			
<b>INFORMATION ON SPILL PROVIDED BY</b>					
Name:				Phone No.:	
Address:					
<b>SPILL ASSESSMENT</b>					
Legal Description:	LSD:	Sec:	Twp:	Rge:	W _____ M
	NTS: _____ - _____ - _____ / _____ - _____ - _____				
Location (Field name/Geographic location): <input type="checkbox"/> On-lease <input type="checkbox"/> Off-lease (provide site drawing for either)					
Type of Spill (i.e. condensate, oil, produced water):					
Amount of spill: (estimate)		<input type="checkbox"/> cubic metres <input type="checkbox"/> barrels		or Length _____ Width _____ Depth _____ <input type="checkbox"/> metres <input type="checkbox"/> feet	
Source of Spill (i.e. truck, pipeline, tank, etc.):					
Details:					
Source Status (i.e. still flowing, spreading, entering water course):					
Soil Conditions before spill (i.e. wet, moist, dry):					
Land Use (i.e. cultivated, pasture, hay, bush, slough, etc.):					
Vegetation Type present:			Effect (i.e. kill, discolour, none):		
Damages to Property:					
Potential Impacts (i.e. livestock, drinking water, fire, H <sub>2</sub> S, etc.):			Land Ownership: <input type="checkbox"/> Crown <input type="checkbox"/> Private		
Owner's Name (if private):			Phone Number:		
Has Owner been Notified? <input type="checkbox"/> Yes <input type="checkbox"/> No					
Action Taken:					
Action Proposed:					
<b>EMERGENCY NOTIFICATION</b>					
<b>AGENCY</b>	<b>NOTIFIED BY</b>	<b>NAME OF PERSON NOTIFIED</b>	<b>LOCATION OF PERSON NOTIFIED</b>	<b>DATE AND TIME</b>	
AER/BCER					
Alberta Environment 1.800.222.6514					
EMCR 1.800.663.3456					
AREA SPILL CO-OP					

**(Under Privilege)**



**A9 POST INCIDENT LEARNING FORM**

Date:	Prepared by:
Time:	Response Team Function:

In the space provided below document the response features that were positive / well done.

Positive Results	Comments

In the space provided below document the opportunities for improvement.

Issue / Opportunities for Improvement	Comments

Upon completion of this form attach all documentation completed during the emergency and forward it to the Incident Commander or Crisis Manager, as appropriate.

**(Under Privilege)**







**FORM C**  
**EMERGENCY INCIDENT FORM**

BC Energy Regulator  
6534 Airport Road  
Fort St. John BC V1J 4M6  
Phone: (250) 794-5200  
emp@bc-er.ca

**This is an internal BCER document provided to Industry for reference purposes only.**

This document outlines the information that will be requested by BCER emergency management staff following any Level 1, 2 or 3 incident, as defined in the [Emergency Management Matrix](#) available on the BCER's website.



**FORM C  
EMERGENCY INCIDENT FORM**

BCOGC  
6534 Airport Road  
Fort St. John BC V1J 4M6  
Phone: (250) 794-5200  
emp@bcogc.ca

This form is to be used for emergencies which meet OGC Level 1, 2, or 3 Classification.

**The emergency must be reported to the BCER within 1 hour of the incident.**

BCER 24 hour Emergency Number: 250-794-5200

EMBC 24 hour Emergency Number: 1-800-663-3456

**MISCELLANEOUS INFORMATION**

DGIR #:	Ledger Number:	Kermit Number:
Incident Date (YYYY-MM-DD):	Incident Time (24 hour clock): <input type="checkbox"/> PST <input type="checkbox"/> MST	
Received Date (YYYY-MM-DD):	Received Time (24 hour clock): <input type="checkbox"/> PST <input type="checkbox"/> MST	

**INFORMATION OF PERSON REPORTING INCIDENT TO OGC**

Permit holder Name:	Reported by (name):
Phone Number:	Alternate Number:
E-mail:	Fax Number:

**INCIDENT DETAILS**

--

**LEVEL OF EMERGENCY**Risk Score: (attach risk matrix)  Level 1  Level 2  Level 3 Informed company they must contact the OGC to downgrade or stand down the level.**SITE TYPE (Select one only)** Well (Active)  Well (Abandoned/Suspended)  Remote Sump Well (Drilling & Completions): Rig Name: Battery/Plant/Facility  Tank Farm/Storage  Pipeline Riser (Pipeline) Road or Road Structure: Name: Location on road: Other -Specify:**INCIDENT TYPE (check all that apply)** Spill (releases and discharges)  Fire/Explosion  Drilling Kick Worker Injury  Security (theft, threat, sabotage, terrorism)  Induced Seismicity Well Bore Communication  Pipeline Boring  Vehicle Equipment/Structural Damage Other -Specify:**ACTIVITY (check all that apply)** Construction (road, lease, pipeline, facility)  Drilling/Exploration  Waste Management Processing (natural gas, petroleum liquids, other)  Well Fracturing  Servicing Repair  Flaring (emergency)  Well Testing Pressure testing  Transportation Other: Specify:**CONSEQUENCE OR IMPACTS (check all that apply)(If none, leave blank)** Worker Safety (fatality, injuries)  Property (government, public, private)  Economic (loss of and/or damage to equipment or infrastructure, loss of production, work stoppage) Other -Specify:**AREA INFORMATION**Land Type:  Private Land  Crown Land Field Name:Area Type:  Forest  Muskeg  Farmland  Residential  Other



Access:	<input type="checkbox"/> ATV	<input type="checkbox"/> Helicopter	<input type="checkbox"/> Four-wheel-drive	<input type="checkbox"/> Two-wheel-drive	<input type="checkbox"/> Unknown
Name of road the asset is located on:					
Km where the incident occurred:					
Distance to nearest residence/public facility:					
Nearest City/Town/Open Camp:					
<b>CAUSE (check all that apply)</b>					
<input type="checkbox"/> Third Party	<input type="checkbox"/> Manufacturing Defect	<input type="checkbox"/> Corrosion (internal, external)			
<input type="checkbox"/> Employee (negligence, procedural, behavioural)	<input type="checkbox"/> Natural (weather, flood, fire)	<input type="checkbox"/> Failure (materials, mechanical, equipment, system)			
<input type="checkbox"/> Geological	<input type="checkbox"/> Over Pressuring Equipment				
<input type="checkbox"/> Unknown at this time Explain:					
<input type="checkbox"/> Other Factors -Specify:					
<b>CAUSE/REMEDIAL ACTIONS</b>					
Describe the cause and <b>remedial actions</b> in more detail:					
<b>WEATHER</b>					
Weather Conditions:	<input type="checkbox"/> clear	<input type="checkbox"/> cloudy	<input type="checkbox"/> other		
Wind Direction: From:	<input type="checkbox"/> N	<input type="checkbox"/> NE	<input type="checkbox"/> NW	<input type="checkbox"/> E	<input type="checkbox"/> SE
	<input type="checkbox"/> S	<input type="checkbox"/> SW	<input type="checkbox"/> W		
Wind Strength	<input type="checkbox"/> calm	<input type="checkbox"/> moderate	: <input type="checkbox"/> strong	<input type="checkbox"/> gusty	
Temperature:	°C				
Comments:					
<b>PUBLIC INJURIES / MEDICAL EMERGENCIES</b>					
<input type="checkbox"/> First Aid	<input type="checkbox"/> Hospitalization	<input type="checkbox"/> Fatality			
Other:					

**NOTIFICATION**

What government agencies has the permit holder notified?

<input type="checkbox"/> EMBC	<input type="checkbox"/> Ministry of Environment	<input type="checkbox"/> Ministry of Transportation
<input type="checkbox"/> Public Works	<input type="checkbox"/> WorkSafe BC	<input type="checkbox"/> Local Health Authority
<input type="checkbox"/> Regional/Municipal Authority	<input type="checkbox"/> RCMP	<input type="checkbox"/> Ministry of Forest
<input type="checkbox"/> National Energy Board	<input type="checkbox"/> Other Specify:	

Permit Holder Instructed to call:

**MATERIAL INFORMATION**

Is spill off lease?  Yes  No

Spill Material Type:  Corrosive Acid  Emulsion (oil, gas, water)  
 Fresh Water  Liquid Hydrocarbon (crude, oil, diesel, fuel)  Methanol  
 Non-Toxic Gases (Nitrogen, Carbon Dioxide, Inert Gases)  Non Toxic Liquids  Salt Water  
 Sour Natural Gas  Sour Liquid (H2S)  Sweet Natural Gas  Toxic Gas  Toxic Liquid  
 Other

**GAS**

Does Material contain any H2S?  Yes  No  Unknown  N/A

If Yes, how much? \_\_\_\_\_ ppm

Gas Rate: \_\_\_\_\_ 10<sup>3</sup>m<sup>3</sup>3d or mmcf/d      Gas Volume : \_\_\_\_\_ 10<sup>3</sup>m<sup>3</sup> or mmscf

Can you hear/smell gas?  Yes  No      Propane/NGLs/LPSs?  Yes  No

**LIQUID**

Does Material contain any H2S (Oil, water, condensate)?  Yes  No  Unknown  N/A

If Yes, how much? \_\_\_\_\_ ppm

Liquid Rate: \_\_\_\_\_ m<sup>3</sup>/d or BPD      Liquid Volume : \_\_\_\_\_ m<sup>3</sup> or bbls or litres

Other (Describe):

Has spill been cleaned up?  Yes  No  N/A

Date of Clean Up/Proposed Clean Up: \_\_\_\_\_ (mmm dd, yyyy)

Estimated Cost of clean-up: \$ \_\_\_\_\_

## SAFETY ISSUES

Hazard Response Zone Size: \_\_\_\_\_ km

Are responders in danger?  Unknown  No  Yes:

Are public in danger?  Unknown  No  Yes

First Nations Band Affected:  No  Yes Name of Band: \_\_\_\_\_

Public safety actions taken:

Evacuation  Sheltering (**Instruct Permit holder to contact Local Authority**)

Roadblocks  Do you need or do you have a Closure Order ? (**Instruct Permit holder to contact MOT up to mile 82 on Alaska Highway or Public Works from 82 north on Alaska highway for any public roads, and the OGC for Petroleum Development Resource roads , or Ministry of Forestry for forestry roads**)

Do you need or do you have a NOTAM?

Have you conducted a Transient Survey?

Any Media Releases must be done in conjunction with OGC

Have you or do you need to dispatch a Mobile Air Quality Monitoring (**Instruct Permit holder to contact Health Authority if public are involved**)

Have you or will you need to Ignite?

Have you notified all tenure holders? Non-resident landowners/Trappers/Guide-Outfitters/Range Allotments/Grazing Lease

## ASSETS

### GEOPHYSICAL PROGRAM (A UTM location is required)

Geophysical #:

Program Name:

Client Name:

UTM (NAD 83): \_\_\_\_\_ m easting \_\_\_\_\_ m northing

(Place on the program that incident happened REQUIRED)

### SITE (On lease equipment, wells, or facilities) Fill information in for asset with incident.

Location of asset: NTS \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ / \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ or  
DLS \_\_\_\_\_, SEC \_\_\_\_\_, TWP \_\_\_\_\_, RGE \_\_\_\_\_ W6M

OGC Site #:

Site Detail (on lease equipment):

### WELL

Well Authorization #:

Status of well:

Depth/Perforation: \_\_\_\_\_ m KB

Wellbore Fluid Density: \_\_\_\_\_ kg/m<sup>3</sup>

Pit Gain	m	Kill Fluid Density	kg/m <sup>3</sup>
*SIDPP/SITP	kPa	*SICP	kPa
*RSPP	kPa	Equipment:	
Operating Pressure:	kPa	Shut In Pressure:	kPa
*SIDPP - Shut in Drill Pipe Pressure/SITP – Shut in Tubing Pressure/SICP – Shut in Casing Pressure/RSPP – Reduced Speed Pump Pressure			
<b>FACILITIES</b>			
OGC Facility Code # :		Equipment on Site :	
Design Capacity:		Actual Throughput:	
Operating Pressure:		Operating Temperature:	
<b>PROJECT (PIPELINES) (A UTM location is required)</b>			
Project Location	NTS From _____ - _____ - _____ / _____ - _____ - _____ NTS To _____ - _____ - _____ / _____ - _____ - _____ or  DLS From _____, SEC _____, TWP _____, RGE _____ W6M DLS To _____, SEC _____, TWP _____, RGE _____ W6M		
UTM (NAD 83):	m easting	m northing	
(Place on Pipeline where incident happened REQUIRED)			
Project #	Pipeline Segment #		
Product:	Line Length between valves: km		
ID	mm	OD	mm
Operating Pressure	kPa	Maximum Operating Pressure	kPa
ESD or Block Valve Closure? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown			

**OTHER LOCATION**

(Any asset that does not apply to above such as a road, remote sump, borrow pit, etc)

(A UTM location must be filled out in the Location Section.)

Location Type:	Location Description :		
Location of asset:	NTS _____ - _____ - _____ / _____ - _____ - _____ or		
	DLS _____, SEC _____, TWP _____, RGE _____ W6M		
UTM (NAD 83):	m easting	m northing	REQUIRED
GPS:	Latitude:	Longitude:	





**B2 RESIDENT COMPENSATION LOG**

Resident's Name:	Home Address:	Home Telephone #:	Location of Land (LSD):
		Business Telephone #:	
Number of Residents Evacuated:	Evacuated to:	Telephone # While Evacuated:	

No.	DATE	LOCATION	TRANS.	ACCOM.	MEALS	PHONE	SUNDRY	TOTAL	DETAILS OF EXPENSE
<b>TOTAL REPORTED EXPENSES</b>									

Approved By: \_\_\_\_\_

Date: \_\_\_\_\_



# NEBC Emergency Response Plan



Resident's Name:	Home Address:	Home Telephone #:	Location of Land (LSD):
		Business Telephone #:	
Number of Residents Evacuated:	Evacuated to:	Telephone # While Evacuated:	

No.	DATE	LOCATION	TRANS.	ACCOM.	MEALS	PHONE	SUNDRY	TOTAL	DETAILS OF EXPENSE
<b>TOTAL REPORTED EXPENSES</b>									

Approved By: \_\_\_\_\_

Date: \_\_\_\_\_









**B5 EVACUATION NOTICE**

DATE: \_\_\_\_\_

TIME: \_\_\_\_\_

# **EVACUATION NOTICE**

**ARC Resources has an emergency at its nearby location.**

**As a safety precaution, please leave the area in a  
(north / east / south / west) direction and proceed to the  
Reception Centre located at**

\_\_\_\_\_.

ARC Resources representatives will be available at the Reception Centre to address your questions or concerns.

For assistance, call ARC Resources at

\_\_\_\_\_.

**Thank you for your cooperation.**

---



**B6 EARLY NOTIFICATION / VOLUNTARY EVACUATION PHONE MESSAGE**

Before calling, determine a safe evacuation route for the residents to travel, away from the emergency hazard area, upwind if possible, towards the reception centre.

Hello, this is                     *(your name)*                     calling from                     *(company name)*                     .  
 Is this the                     *(name of residence / business)*                     at                     *(telephone number)*                     ?  
                    *(Company name)*                     is responding to a *(potential)* emergency at                     *(location)*                     in your area.

You are in no danger at this time. All efforts are being made to resolve the problem and this phone call is only to inform you and provide you with an early notification.

To help us understand and your immediate needs we need to know:

**How many people are at your location now?**

*Adults* \_\_\_\_\_

*Children* \_\_\_\_\_

**Do you wish to leave your residence at this time?**

**IF YES**      Please travel in a *north / east / south / west* direction to our reception centre located at:

\_\_\_\_\_

**IF NO**      Please standby for further contact. Please do not use your telephone for outgoing calls as this may prevent us from contacting you with updated information or when the problem has been eliminated.

**If you have urgent questions, please contact**                     *(company name)*                     **at**                     *(telephone number)*                     .

**Thank you for your cooperation.**

***(Pass on all information regarding this call to the Public Safety Group Supervisor immediately)***





**B7 SHELTER-IN-PLACE PHONE MESSAGE**

Hello, this is \_\_\_\_\_ *(your name)* \_\_\_\_\_ of \_\_\_\_\_ *(company name)* \_\_\_\_\_.

Is this the \_\_\_\_\_ *(name)* \_\_\_\_\_ residence at \_\_\_\_\_ *(telephone number)* \_\_\_\_\_?

\_\_\_\_\_ *(Company name)* \_\_\_\_\_ is responding to a *(potential)* emergency at \_\_\_\_\_ *(location)* \_\_\_\_\_ in your area.

For your safety, it is extremely important that you, and those with you, stay indoors until the potential hazard no longer exists, or you are advised to evacuate.

To help us understand your immediate needs, we need to know:

**How many people are at your location now?**

*Adults* \_\_\_\_\_

*Children* \_\_\_\_\_

Is there anyone in your household that you cannot contact to inform them of the situation and advise them to get in doors or stay out of the area?

*Yes*       *No*

**IF YES**      *Whom?* \_\_\_\_\_

*Location of the person(s)* \_\_\_\_\_

We will send someone to find them as soon as possible.

**Do you have children in school at this time?**

*Yes*       *No*

**IF YES**      *What school?* \_\_\_\_\_

*Children's names* \_\_\_\_\_

We will contact the school to ensure the safety of your children. Buses will be directed to leave the area immediately. If school is in session, your children will be redirected to the reception centre by their regular bus driver when the school day is over.

**Do you have the "Shelter-in-Place" instructions previously provided to you by \_\_\_\_\_ *(company name)* \_\_\_\_\_?**

*Yes*       *No*

**IF YES**      Please follow the Shelter-in-Place instructions located inside the resident pamphlet.

**IF NO**      *Verbally walk the resident through the Shelter-in-Place instructions on the next page.*

**Do you understand what I have told you?**

Is there an alternate number we can contact you at? \_\_\_\_\_

If you have any urgent questions, please contact \_\_\_\_\_ *(company name)* \_\_\_\_\_ at \_\_\_\_\_ *(telephone number)* \_\_\_\_\_.

**Thank you for your cooperation.**

*(Pass on all information regarding this call to the Public Safety Group Supervisor immediately)*

## SHELTER-IN-PLACE INSTRUCTIONS

For your safety:

- Immediately gather everyone indoors and stay there
- Close and lock all windows and outside doors
  - If convenient, tape the gaps around the exterior door frames
- Leave open all inside doors
- Extinguish indoor wood burning fires
  - If possible, close flue dampers
- Turn off appliances or equipment that either:
  - Blows out or uses indoor air, such as:
    - Bathroom and kitchen exhaust fans
    - Built-in vacuum systems
    - Clothes dryers
    - Gas fireplaces and gas stoves
  - Sucks in outside air, such as:
    - Heating, ventilation and air conditioner (HVAC) systems for apartments, commercial or public facilities
    - Fans for heat recovery ventilators or energy recovery ventilators (HRV / ERV)
- Turn down furnace thermostats to the minimum setting and turn off air conditioners
- Avoid using the telephone, except for emergencies, so that you can be contacted by company emergency response personnel
- Call the company emergency numbers you have been provided:
  - If you are experiencing symptoms or smelling odours (so that we can address your concerns and adjust our response priorities)
  - If you have contacted fire, police or ambulance (so that we can coordinate our response)
- Stay tuned to local radio and television for possible information updates
- Do not leave your residence, even if you see people outside, until you are told to do so
- After the hazardous substance has passed through the area you will receive an “all-clear” message from the company emergency response personnel. You may also receive, if required, instructions to:
  - Ventilate your building by opening all windows and doors; turning on fans and turning up thermostats. During this time the air outside may be fresher and you may choose to leave your building while ventilating.
  - Once the building is completely ventilated return all equipment to normal settings & operation.
- Do not leave your sheltered location or attempt to start any vehicle until a company representative advises you that the area is safe.

**If you are unable to follow these instructions, please notify company emergency response personnel.**

---



**Do you require evacuation / transportation assistance?**

Yes     No

**IF YES**    We are sending someone to assist you. Please stay indoors and close all doors and windows until a Rover or the local police arrive to evacuate you.

**IF NO**    *Provide the resident with:*

- Directions to safely travel to the reception centre*
- A list of items to bring with them to the reception centre (medications, cell phone, etc.)*
- An idea of how long they may be expected to stay at the reception centre*
- The option to bring their house pets to the reception centre*

Please contact  (company name)  if you are unable to make it to the reception centre for any reason. Please keep your phone line free so that we can contact you if necessary.

Is there an alternate number we can contact you at? \_\_\_\_\_

A company representative at the reception centre will address any questions you may have and will make arrangements for your temporary accommodations. Do you understand everything I have told you? Are you leaving immediately?

**If you have any urgent questions, please contact  (company name)  at  (telephone number) . Thank you for your cooperation.**

***(Pass on all information regarding this call to the Public Safety Group Supervisor immediately)***

**C1 PRELIMINARY MEDIA STATEMENT**

Date:(YY/MM/DD)	Responder Name:
Responder Position:	Responder Phone No.:

**This is the information I can give you so far:**

At (time – 24hr local clock) on (date), a(n) (fire, explosion, gas release, spill) occurred at the Company's (location name) site, located (distance) kilometres (east / west / north / south) of (nearest town or city).

Presently, (number of personnel) workers are being treated for injuries. The names and condition of the injured cannot be released until their families have been contacted.

The (well site, plant, pipeline, office, drilling location) has been (shut down, isolated, or is still flowing).

Company staff have been activated and are directing emergency response procedures to protect the public, our workers and the environment.

The cause of the (fire, explosion, gas release, spill) is not yet known and no estimate of damage is available. As information becomes available, news releases will be issued from the Information Office.

Any further inquiries should be directed to the Emergency Support Team, who will issue a press release at a later time.

**Contact:**

\_\_\_\_\_ Office: \_\_\_\_\_

\_\_\_\_\_ Fax: \_\_\_\_\_

*Note: Only the **Media Spokesperson** designated by the Crisis Management Team is to provide any specific information to the public or the media. Refer to page 12 of SECTION 8: MEDIA & STAKEHOLDER RELATIONS for the generic media statement to be used by all other response personnel.*



**C2 MEDIA CONTACT LOG**

Date: \_\_\_\_\_ Responder Name: \_\_\_\_\_

Page \_\_\_\_\_ of \_\_\_\_\_ Responder Position: \_\_\_\_\_ Responders Phone No.: \_\_\_\_\_

If you feel you are not the appropriate person to be answering the media agencies questions, use the following series of statements.

*Note:* "ARC Resources has an Information Officer to answer all media questions."  
 "May I request the following information to expedite your request?" (complete the form below).  
 "Thank you. ARC Resources appreciates your cooperation and I will pass on this information to the appropriate person."

Time	Call To	Call From	Media Outlet	Reporter / Contact Name	Telephone Numbers		Remarks / Information Required
					Work	Fax	

Document all key events, conversations, and meetings on this form. Where lengthy notes are necessary, use additional copies or the back of the page.













<b>SECTION 6. INCIDENT SPECIFIC GUIDELINES</b>	<b>1</b>
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## SECTION 6. INCIDENT SPECIFIC GUIDELINES

### 6.1 Calgary Office Medical Emergency

- Dial 911 to report the injury or illness and request an ambulance.
- Give the dispatcher:
  - Your name
  - Telephone number
  - Floor location and if known, the type of emergency
  - Building address: 308 – 4<sup>th</sup> Avenue SW, Calgary
- Notify Reception who in turn will notify the Office Services Supervisor or secondly, the Facilities Coordinator. If neither is available, Reception will notify Bentall Security.

Office Services Supervisor will call Quadreal Security and advise that an ambulance has been called.

Quadreal Security will:

- Dispatch someone to your location to assist
- Secure an elevator
- Meet the EMS attendants
- Direct EMS to the location of the medical emergency
- Assist the EMS to transport the person from the building.

For after-hours emergencies contact Bentall Security Services directly at 403-503-9100.

## 6.2 Medical Emergency

- Follow First Response - 7 Steps (Section 1.2)
- Notify your immediate Supervisor and / or Incident Commander
- Call for help provide first aid to the best of your ability (e.g. CPR if appropriate and you are trained to do so, control of bleeding, maintaining an open airway, and spinal protection), until trained personnel and equipment arrive.
- Request any other resources required and confirm that help is on the way.
- If safe to do so, move casualty(s) to safe area(s) for further medical assessment and treatment.
- Organize ambulance or Medivac by calling Emergency Services from a land line; or the STARS Emergency Centre at 1-888-888-4567 or 403-299-0932.
- Identify the properties of any spilled materials or product, when applicable, by reviewing the SDS. SDSs for all ARC materials and products can also be accessed at <http://arc.msdsbinders.com>
- Casualty(s) should be assessed by medical personnel in order to provide necessary treatment, monitor progress and follow up

### Rescue Plan

Depending on the situation, a site specific Rescue Plan will be developed by the Incident Commander, if deemed necessary.

Ensure rescue and first aid personnel are aware of hazards such as, H<sub>2</sub>S, fire / explosion, wildlife, asphyxiation, falling, etc. and that they have the proper PPE to protect themselves. Initiate rescue operations (only when safe to do so).

A rescue team is comprised of a minimum of two personnel and a minimum of two backup with medical aid standing by.

When choosing to rescue personnel, be sure of the following factors:

- Is the team properly trained?
- Is the team competent and confident in dealing with this type of situation?
- Is the appropriate equipment available to do the rescue?
- Are there standby personnel in the event of escalation?
- Is an Incident Commander available to take control of an emergency situation and direct the members towards their defined objectives?

### Communication

An important component to the success or failure of a rescue operation will be communication between the members and the Incident Commander. Methods of communication during this type of operation need to be appropriate for the situation, known and understood by all the responders. The types used may include the following:

- Verbal or audible signals
- Visual signals
- Tactical and audible signals

## Equipment

It is important to use the appropriate equipment for the task to be performed. Some equipment may have a specialized function, while other pieces may be utilized in many different situations. Always keep equipment properly maintained and readily available. Examples of equipment for conducting extrication is:

- Basket Stretcher
- Full Body Harness
- Flashlight and other lighting systems
- Tripod and Rigging
- Ropes
- Communication Systems

## Body Recovery

In the event that a rescue situation turns into a body recovery event, local authority (i.e. RCMP) will be notified; the site will be secured and made safe for their arrival.

## 6.3 Motor Vehicle Accident

This is a general guideline for any accident involving company personnel, company vehicles, or company operated roads.

- Follow First Response - 7 Steps (Section 1.2)
- Notify your immediate Supervisor and / or Incident Commander
- Move the vehicle out of the traveled roadway, if it is clear, safe and legal.
- Turn off the ignitions of the cars involved, if safe to do so.
- Notify your immediate supervisor and / or designated Incident Commander.
- Secure the area and make sure that people are not out in traffic (in harm's way) to prevent potential additional accidents.
- Mark the scene of the accident with flares or reflective triangles.
- Call Emergency Services or STARS Emergency Link Centre, to notify the police and, if necessary, emergency medical services.
- Assess hazards and, if safe to do so:
  - Make a first aid check of all persons involved in the accident.
  - Get medical attention for anyone who may need it.
  - If a person is unconscious or complains of neck or back pain, it best not to move them until qualified medical personnel arrive.
  - In some situations, you may have no choice but to move them for their own safety. If you are in that type of situation, try to move them as steadily and slowly as possible while supporting their neck and back. The less movement, the better.
- Complete all required ARC accident documentation.
- Exchange insurance information with any other parties involved in the collision.
- Obtain the names and contact information of any witnesses to the collision.
- Make a quick diagram of where the vehicle occupants were seated and indicate the vehicles' direction of travel and lane. Also note the date, time and weather conditions.



**Alberta:**

In Alberta, a report to Police is required when:

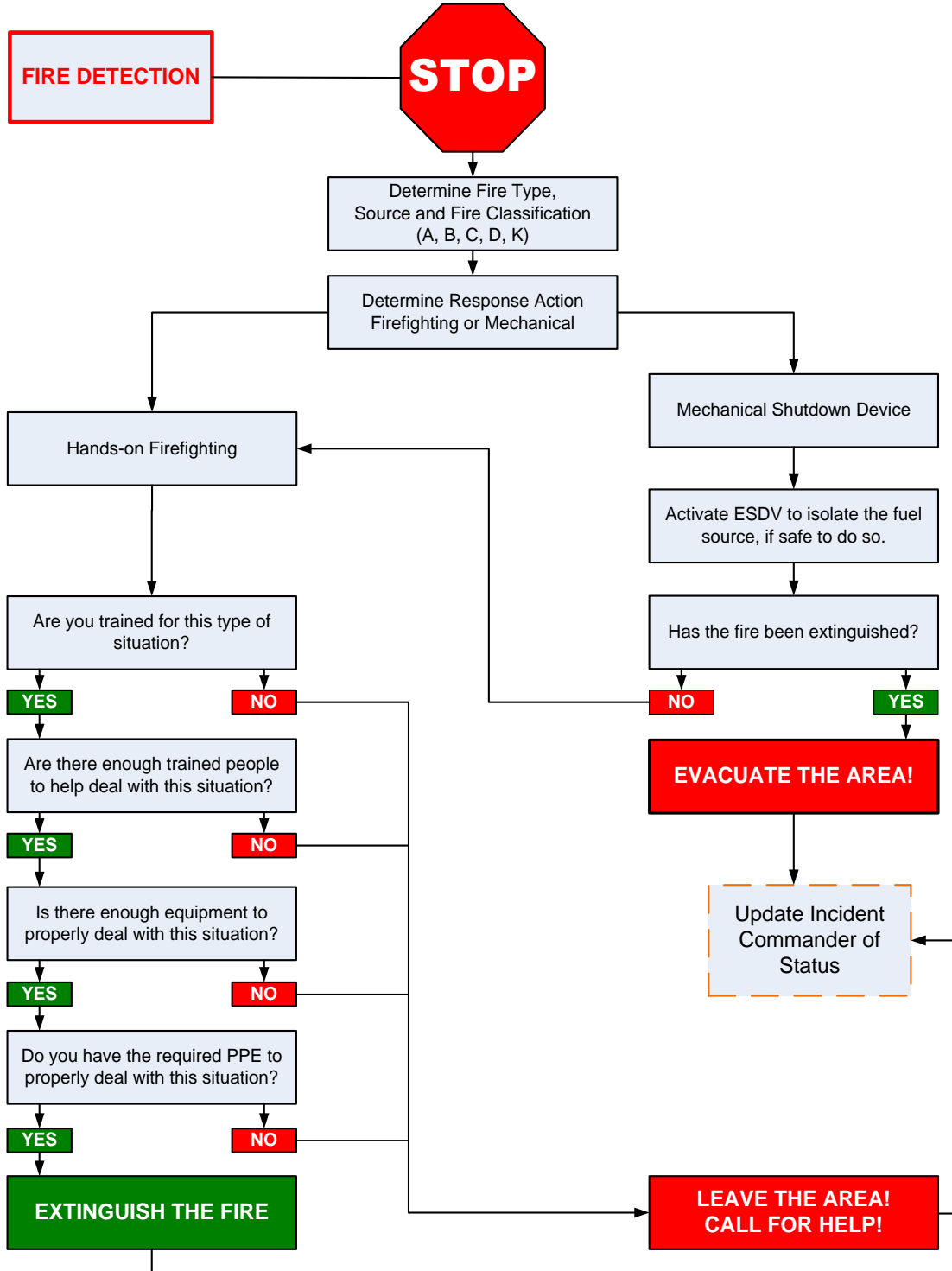
- Anyone is injured
- If any driver does not have documentation such as driver's license, registration or insurance
- If one or more of the vehicles isn't drivable
- If the total damage to all vehicles and property appears to be more than \$2,000.
- You must tell the Police or accident investigator of any course of action you took. e.g. move vehicles, turned off ignition, applied brake, moved casualties, etc.
- If possible, get a copy of the police report of the accident.

**British Columbia:**

If someone was injured in the accident or the damage is likely to be more than \$1,000, you must report the accident to the police. Also report the accident to the [of British Columbia \(ICBC\)](#) as soon as you can.

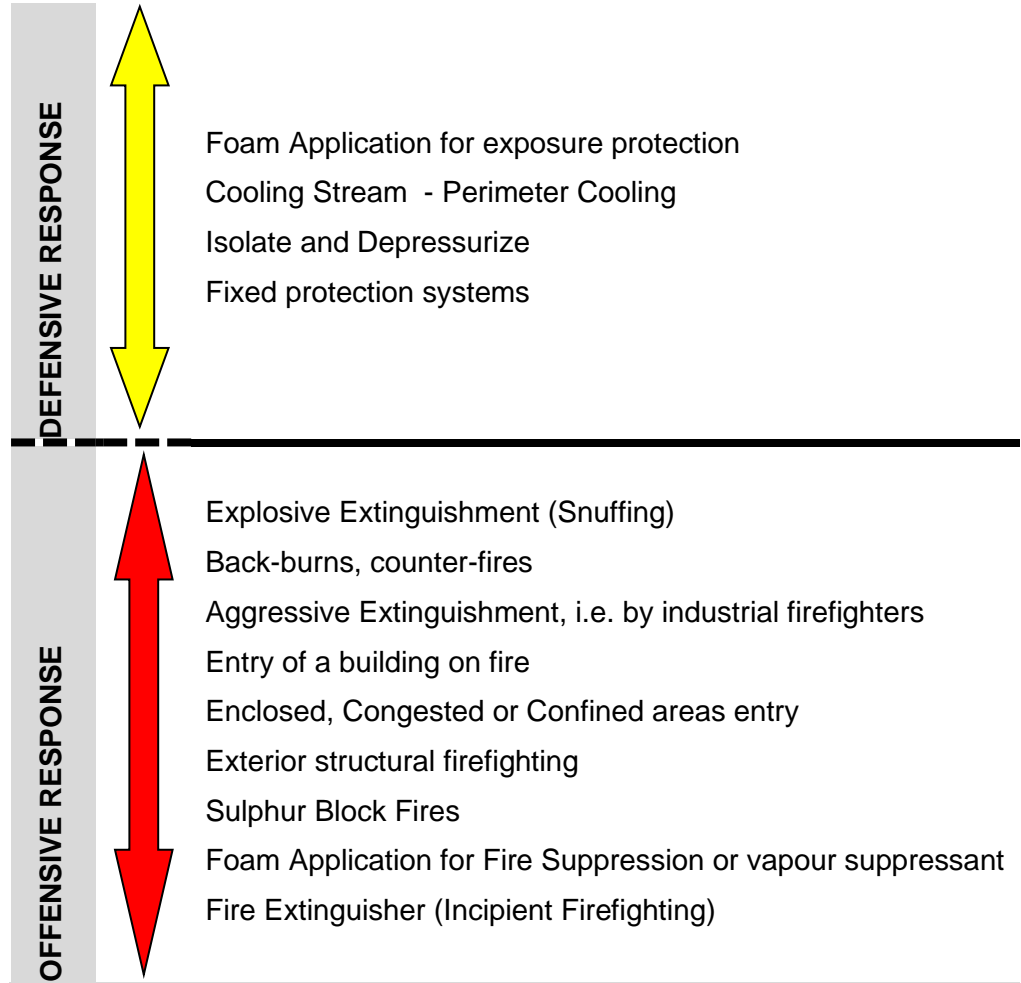
## 6.4 Fire / Explosion

### Fire Response Guidelines - Decision Tree



**Fire Response – Defensive and Offensive**

The following diagram shows examples of offensive and defensive response scenarios.



**IMPORTANT:** Other than small incipient fires, ARC’s philosophy to fire will be primarily defensive.

The following guidelines and checklists are not designed to instruct or enable personnel to become professional firefighters. They are designed to allow personnel to attempt to prevent a small fire from becoming a large-scale fire.

**YOUR PERSONAL SAFETY IS PRIORITY.** For all types of fires, personnel **MUST NOT** attempt to fight any fire unless they have been trained and are competent to do so, using the correct extinguishing medium.

**Process Fire Checklist**

- Follow First on Scene - 7 Steps (Section 1.2)
- Notify your immediate Supervisor and / or Incident Commander
- Breathing apparatus (SCBA or SABA) must be worn.
- Isolate fuel source or extinguish fire if safe to do so.
- Do NOT extinguish a flaming gas fire unless the leak can be immediately and safely isolated.
- Confirm situation and location.
- Call for assistance and equipment, as required.
- For hydrocarbon release fires, proactively mobilize industrial fire responders with proper training and equipment as required.
- Notify the local fire department.
- Establish Responder Safety Control Zone perimeters.
- Shut down, isolate and depressurize related process equipment, if safe to do so.

**Unit Fires**

The primary fire risks in process units are hydrocarbons above their flash points. It is crucial that Process Operators know how to immediately safely isolate every line and vessel in either unit and to prevent a fire from spreading.

If a large fire occurs, do the following:

- Follow First on Scene - 7 Steps (Section 1.2).
- Notify your immediate Supervisor and / or Incident Commander
- From a safe, upwind location, open up the hydrant monitors (where installed) and cool the fire and adjacent exposures.
- For hydrocarbon release fires, proactively mobilize industrial fire responders with proper training and equipment as required.
- Whenever possible and if safe to do so, prevent any hydrocarbon spills from entering water courses and sewers.
- Notify the local fire department.
- If any activities are conducted downwind of the fire, consideration should be given to wearing breathing apparatus.
- If safe to do so, shut down and depressurize the unit immediately.

**Flare Line**

- Follow First on Scene - 7 Steps (Section 1.2)
- Notify your immediate Supervisor and / or Incident Commander
- Initiate emergency response in accordance with operating procedures.
- Initiate alternative measures required to isolate and depressurize units without accessing the failed part of the flare system.
- Manually activate the quick seals if automatic controls fail.
- For hydrocarbon release fires, proactively mobilize industrial fire responders with proper training and equipment as required.
- Notify the local fire department.

**Well Control Fires**

- Follow First on Scene - 7 Steps (Section 1.2).
- Notify your immediate Supervisor and / or Incident Commander
- Well control without fire (uncontrolled release):
- Position vehicles for quick escape in an upwind location.
- Observe incident (e.g. with binoculars) to assess the situation:
- Response actions being undertaken.
- Point of release.
- Apparent damage.
- Well components: valves (surface, wellhead).
- Subsurface safety control valves: installed, holding, not holding, flow lines.
- For hydrocarbon release fires, proactively mobilize industrial fire responders with proper training and equipment as required.
- Notify the local fire department.

**ESDVs:**

- Installed, activated, not activated, holding, not holding.
- Isolate area and deny or restrict entry
- Establish control perimeters.
- Eliminate all ignition sources, where possible.
- Make internal notifications and contact well control responders.

Where possible and safe to do so:

- Isolate downstream piping and valves.
- Depressurize downstream equipment.
- Prepare to ignite; be prepared for possible auto-ignition.
- Monitor for H<sub>2</sub>S and LEL.
- Activate ESDs.
- Monitor and control runoff.

## Fires involving Dangerous Goods

### IMPORTANT: ALWAYS REFER TO THE SAFETY DATA SHEET (SDS).

- Follow the First on Scene – 7 Steps (Section 1.2).
- Notify your immediate Supervisor and / or Incident Commander
- If you are unsure of the chemical or the procedure DO NOT attempt to extinguish a fire or approach a chemical spill.
- Some extinguishing agents can adversely react with chemicals causing violent and / or toxic reactions.
- Fires involving a spill of flammable liquids are generally controlled by applying a fire fighting foam to the surface of the burning material. Fighting flammable liquid fires requires foam concentrate which is chemically compatible with the burning material; correct mixing of the foam concentrate with water and air, and careful application and maintenance of the foam blanket. This should only be carried out by trained firefighters.
- When specific hazardous materials at a storage facility are known, the facility should pre-select and stockpile vapour control agents in case of a spill to assist the responding emergency services.

### *Vapour Control*

- Limiting the amount of vapour released from a pool of flammable or corrosive liquids is an operational concern. It requires the use of specialized equipment, appropriate chemical agents, and skilled personnel wearing proper protective clothing.
- For small spills, if it is safe and you have been trained to do so, personnel may use the appropriate extinguishing medium to control the vapour from a liquid spill. Breathing apparatus (SCBA or SABA) must be worn.

### *Fire Involving Electrical Systems*

- Follow First on Scene - 7 Steps (Section 1.2).
- Notify your immediate Supervisor and / or Incident Commander
- All electrical equipment needs to be treated as energized until proven otherwise by testing.
- Most electrical buildings have multiple power sources.
- All potential sources need to be considered before response action is taken.
- Do not fight any fire on an electrical system until that electrical system is isolated and has been confirmed as isolated by testing for absence of voltage.
- Battery Banks:** Most electrical rooms have UPS battery banks. The UPS system needs to be isolated by turning off the DC output of the UPS before attempting firefighting.
- Carbon dioxide extinguishers have a refrigerating effect, which might damage the battery cases.
- Damaged battery cases may leak acid onto the floor and equipment.
- Transformers:** Oil filled transformers need to be isolated at two points before attempting to fight a transformer fire.
- The transformer's high voltage feeder and the associated low voltage breaker need to be isolated

These isolation points may or may not be in the immediate vicinity of the transformer itself.

**Vehicle Fires**

- Follow First On-Scene - 7 Steps (Section 1.2).
- Notify your immediate Supervisor and / or Incident Commander
- Vehicle fires are extremely dangerous. Some modern plastics, foams, upholstery, etc. may contain polychlorinated biphenyl (PCB) or other chemicals which are extremely harmful. These chemicals may be present in the smoke from a vehicle fire.

**Grass / Forest Fires****Small grass fires (primarily along roadways):**

- Contact the local fire department.
- Use shovels, back pack water sprayers and / or ABC type handheld portable fire extinguishers.
- Use only a defensive strategy.
- Consider all other potential hazards such as overhead power lines, electrical equipment, drop off areas, etc.

**Large Grass / Forest Fires:**

- Do not attempt to extinguish. This could be potentially dangerous.
- Contact Alberta Environment and Parks (AEP) at 310.FIRE for assistance.

**Alberta Industrial Wildfire Control Plan Requirements**

The Industrial Wildfire Control Plan (IWCP) is a mandatory requirement under the Forest and Prairie Protection Act. Submissions are required from companies operating within one kilometer of public land from March 1st – November 31st. If activities are restricted to outside of this period then no submission is required. The intent is to identify and update your values at risk information and flaring operations for the coming fire season.

One company plan per Alberta Environment and Parks (AEP) area is to be submitted annually to AEP through the Alberta Wildfire System prior to the end of February. If there are deficiencies, the plan will not be approved and the applicant will be required to re-submit.

If operations fall within multiple AEP Areas, an individual may submit multiple applications or as one combined online application on the company's behalf. If you have questions on how to complete this submission, please contact local Area Staff.

## 6.5 Petroleum Spill

The types of emergency containment and recovery efforts depend on the type of spill. Containment and recovery response actions focus on minimizing the effects of the spill on the surrounding area.

Clean-up activities will be conducted after containment and recovery actions are completed. Clean-up and disposal of contaminated material and site remediation work will continue until the spill site is returned as nearly as possible to pre-spill conditions and company environmental specialists and regulatory agencies are satisfied.

ARC is an active member of Western Canadian Spill Services (WCSS) and of area oil spill co-operatives. The Western Canadian Spill Services (WCSS) provides detailed procedures for conducting spill containment and recovery operations under a variety of conditions (e.g. on land, on water, under ice etc.) Cooperative members may be available to assist ARC with initial spill control, but the company responsible for the spill assumes liability.

ARC retains WCSS Manuals applicable to each area of operations at the corporate office. These binders contain maps of spill control points for the entire region, and will be used by WCSS and ARC in the event of an incident.

Alternative procedures may be considered in conjunction with the regulatory agencies and with WCSS on an incident-specific basis.

### **Cooperative Spill Response**

Cooperative volunteers on behalf of WCSS may be involved in spill response activities under the following conditions:

- Spills of unknown origin: At the request and under direction from the lead regulatory agency
- Initial spill response: To assist a member company with initial spill response in a watercourse.

The WCSS Oil Spill Contingency Plans use a modified version of the Incident Command System that closely aligns with ARC's Incident Command System.

The following pages contain reference information for petroleum spills that may be encountered in various terrain conditions. For more detailed information, refer to the applicable local Oil Spill Co-op Contingency Plan. For more information regarding oil spill co-operatives, contact ARC Environmental Department or go to Western Canadian Spill Services Ltd. web page at: <http://www.wcss.ab.ca/>

### **Initial Spill Response Actions**

- Follow First on the Scene - 7 Steps (Section 1.2).
- Notify your immediate Supervisor and / or Incident Commander
- Size up considerations for a spill site:
  - Are there any nearby public (workers, traffic, residents) that would need to be evacuated or diverted from the spill area?
  - Is there a fire or explosion hazard? What is the ignition source?
  - Is there H<sub>2</sub>S or other toxin present?
  - Are concentrations safe or is additional PPE needed?
  - Are there any areas deemed hazardous? (Mark with flags).
  - What are the ground and weather conditions? (snow, gravel, sand etc.)



- Where is the location of the leak, the type of release and the volume released? Is it reportable? Has it been reported to the regulator?
- How long has the spill been taking place?
- Are air monitoring trailers required?
- Is the spill into a watercourse, watershed or a water body?
- Is the spill contained or migrating? Which direction? How far can it go?
- If the spill is not contained, determine and prioritize the containment points and methods to be used.
- What lands or water bodies may be affected? (farm land, livestock, brush, drinking water, etc.)
- How is it going to be contained and cleaned up?
- How to access the spill site, the source of the spill and recovery points?
- What equipment is required? Is oil spill equipment (oil spill co-op) required?
- Where can spill responders park so as not to interfere with spill equipment? (Minimize vehicular traffic as much as possible at the spill site.)
- Are there any residences in the area? Do they have water wells that could be affected?
- Should the spill site be cordoned off to prevent wildlife / livestock from entering?
- Will a media response be required?

Relay information to Incident Commander, government agencies and if required, landowner, spill response contractors.

### ***Spill Control and Containment***

- If possible, immediately shut off the source of the spill ensuring your own safety.
- Prioritize and set up containment points
- Where possible, prevent a spill from entering a watercourse.
- Use safest and simplest method to get job done within resource and safety capabilities.
- Contain the spill – containment is a priority for limiting environmental damage.
- Contain as close to source as safe and practical.
- Avoid excessive walking or driving on the spill area.
- Consider ground disturbance guidelines.
- Determine where bell holes or trenches would be most effective.
- Keep trenches as shallow and narrow as possible, to prevent additional clean-up and minimize groundwater impact. Supplement with berms where possible.
- Use practical containment tools and equipment including shovels, dump trucks, sand bags, plastic bags, heavy earth moving equipment, "Plug and Patch", foam, salvage covers, adsorbents, booms, hose, redwood plugs, etc.
- If weirs are installed, they should be able to handle large flow rates and surges.
- Surface run off may have to be diverted from the spill site if wet conditions are present.

**Recovery of product and / or clean-up of the spill**

- Ensure the health and safety of the persons responding to the spill.
- Once containment has been achieved, recovery and clean-up operations begin immediately.
- Recover as much product and saturated debris as possible.
- Keep environmental disturbance to a minimum.

**Land Spills**

Land spills will spread outward from the initial spill point toward lower-lying areas. Penetration downward into the soil will also occur at a rate that is dependent on the soil type and the nature of the product spilled. During spills in winter, petroleum will spread under the snow making definition of the extent of the spill area difficult.

The Incident Commander and the Operations Section Chief personnel should:

- Attempt to restrict spills on land to as small an area as possible based on site conditions.
- Prevent the spill from entering water bodies or flowing watercourses or flowing into manholes or culverts, within the bounds of safety and practicality.

The method chosen for land containment and recovery is dependent on site conditions and the equipment available. A summary of common options is presented in the following table:

<b>Land Containment Options</b>		
<b>Containment Method</b>	<b>Technique Description</b>	<b>Comments</b>
Earth or Sand Dike (All seasons)	Earth or sand at or near the site is used to contain spilled material on flat or sloped surfaces. Sandbags filled with soil or sand are used to contain spill. Augment with poly-sheeting if available.	Sufficient dry earth, gravel or sand needs to be available to contain spill. Earth may be frozen.  Surface disturbance to remove earth or sand may result in erosion, especially on steep slopes.  Work crews and/or earth-moving equipment are required to build a dike.
Snow or Ice Dike (Winter only)	Snow or ice at or near the site is used to contain spilled material on flat or sloped surfaces. Augment with poly-sheeting if available.	Sufficient snow or water needs to be available to contain spill. Snow or ice dike will melt quickly in warm weather.  Contaminated snow or ice may need to be removed or stored for treatment.  Work crews and/or earth-moving equipment are required to build snow dike. Water spraying equipment may be required to construct ice dike.

<b>Land Containment Options</b>		
<b>Containment Method</b>	<b>Technique Description</b>	<b>Comments</b>
Sorbent Dike (All seasons)	Sorbent material is used to contain spill.	<p>Useful only in small spills, as purchase of large quantities of sorbent is expensive and impractical. Contaminated sorbent may need to be replaced or squeezed out during incident.</p> <p>Contaminated sorbents need to be disposed in compliance with government legislation.</p> <p>Sufficient sorbent or sorbent boom, work crews and storage containers or a lined storage area for contaminated sorbents needs to be available to build sorbent dike.</p>
Trench or Sump (All seasons)	A trench or sump is excavated downslope on sloping terrain to limit surface or subsurface spill movement. Work crews and/or earth-moving equipment are required to build trench or sump, as well as plastic or other impermeable sheeting for a trench liner.	<p>Clean topsoil should be removed before trench construction. Frozen soil, bedrock close to the surface or soil type (e.g. sand) may make this option impractical.</p> <p>Surface disturbance to remove earth or sand may result in erosion or further penetration in sandy soil.</p> <p>Ensure no other pipelines or underground utilities are in the excavation area.</p>
<b>Land Recovery Options</b>		
<b>Recovery Method</b>	<b>Technique Description</b>	<b>Comments</b>
Vacuum Truck	A vacuum truck is used to recover spilled material from a dike or trench in areas accessible by trucks or heavy equipment.	<p>The method depends on site access.</p> <p>Surface disturbance and soil damage may result from movement of the vacuum truck to and from the site. Topsoil may need to be stripped from the site before starting recovery activities.</p>
Pumping Spilled Material into Storage	A pump is used to recover spilled material from a dike or trench in areas not accessible by vacuum trucks.	<p>Pumps need to be safe for use at the spill site and compatible with the product to be pumped.</p> <p>Surface disturbance and soil damage may result from movement of the pump and storage equipment to the site.</p> <p>Skid tanks, tanker trucks, port-a-tanks, fuel bladders, permanent tanks, or a lined excavated area need to be available to provide storage for the recovered material.</p> <p>A work crew and power supply for the pump needs to also be available.</p>

# BERMS

Sorbents can be used to recover oil product that can not be easily recovered using mechanical methods. They are predominately single-use products. When allowed to come in contact with oil on water, they will absorb or adsorb the oil over time.

## Objectives

- To halt the advance of spilled product and allow for the recovery of the spilled product.
- Contain and prevent further migration of released products by channeling the spill in a particular direction
- Create a pooled area for recovery of released product.
- Diversion of surface flows from impacted area.

## Safety

- Identify hazards and complete a site safety plan.
- Consider toxic and flammable vapours.
- Adjacent infrastructure such as powerlines, pipelines, and underground services.
- Establish communications in remote areas.
- Be cautious of wildlife.

## Environmental Consideration

- Utilize existing access and routes to minimize disturbance of soils. Consider environmental sensitivities such as vegetation soil types and wildlife/ fish habitat.
- If possible, remove and conserve topsoil for reclamation activities. Avoid constructing berms with topsoil material.
- Ensure decontamination areas have been established to minimize transfer of released product during construction of berm.
- Handle and dispose of contaminated wastes in an approved manner.

## Procedure

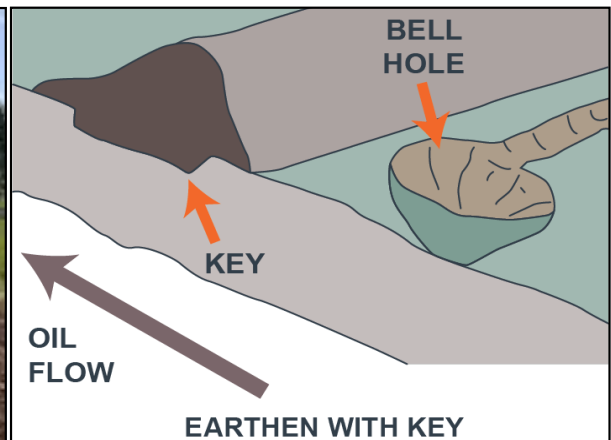
- Lay plastic on ground, across expected route of spill travel.
- Pile non-porous materials on downstream side of plastic (away from approaching oil).
- Flip upstream side of plastic sheet over berm to prevent contamination of berm contents.
- Hand dig small bell hole upstream of berm recovery.
- Ensure waste disposal bags and tags if sorbents are to be used.

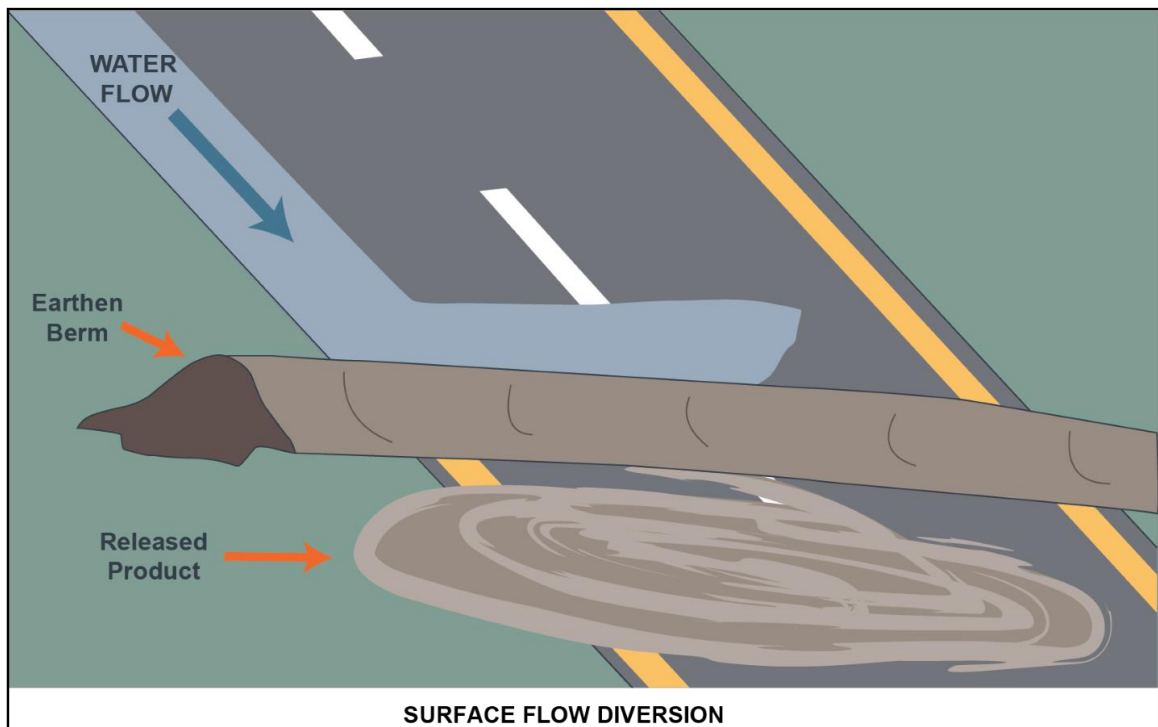
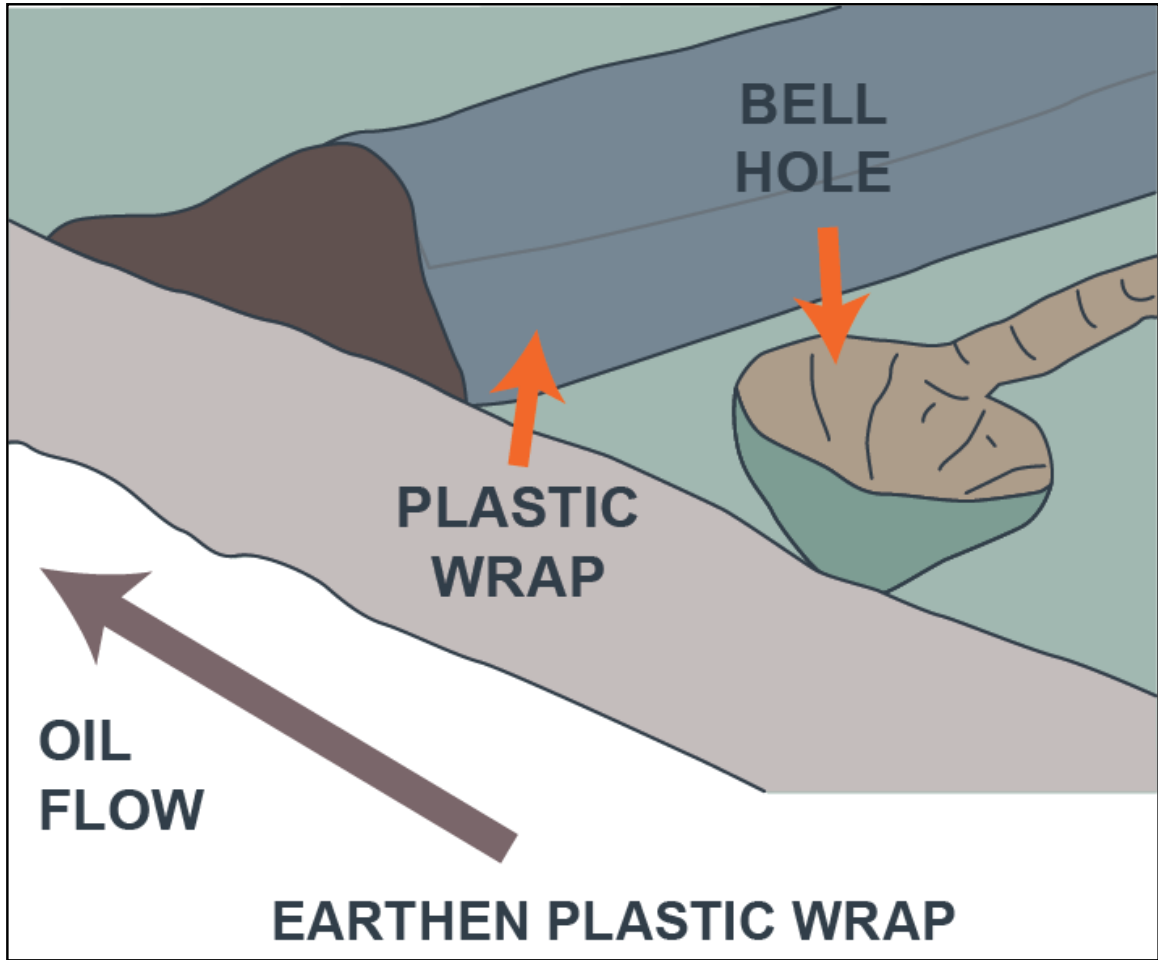
## Personnel

- Supervisor / lead
- Site safety
- Labourers
- Vacuum truck operator

## Equipment / Resources

- Shovels and/or earth moving equipment
- Plastic sheeting
- Sorbents
- Vacuum truck / portable vacuum unit







# CULVERT BLOCK

Culverts that allow a watercourse to pass under or through obstacles present an opportunity for controlling the spread of oil. If water flows are sufficiently low, they can be blocked entirely with boards or plywood to contain oil above the culvert. In higher flow situations, partial culvert blocks can be installed to create underflow dams.

## Objectives

- Contain and prevent further migration of released products using sandbags / plywood.
- Create pooled area to allow recover of released product.

## Safety

- Identify hazards and complete a site safety plan.
- Consider toxic and flammable vapours.
- Adjacent infrastructure such as powerlines, pipelines, and underground services.
- Establish communications in remote areas.

## Environmental Consideration

- Utilize existing access and routes to minimize disturbance of soils. Consider environmental sensitivities such as vegetation soil types and wildlife/ fish habitat.
- Ensure decontamination areas have been established to minimize transfer of released product during site assessment and site preparation activities.
- Consider air quality issues and proximity of stakeholders.
- Manage board level to allow water to pass through culvert, reducing flooding upstream and maintain downstream flow.

## Procedure

- Using earthen materials or sandbags, completely block the culvert or,
- Using plywood on upstream side of culvert. Secure in place with two stakes driven into bed of ditch, creek or stream. Raise board enough to allow passage of water under the board's lower edge. Secure in place with driving nails through stakes into the plywood.
- Monitor water levels to ensure sufficient flow and to prevent washouts.
- Utilize vacuum unit or skimmer to recover pooled fluids and dispose at appropriate location.
- Utilize containment boom to protect banks from oil impacts.

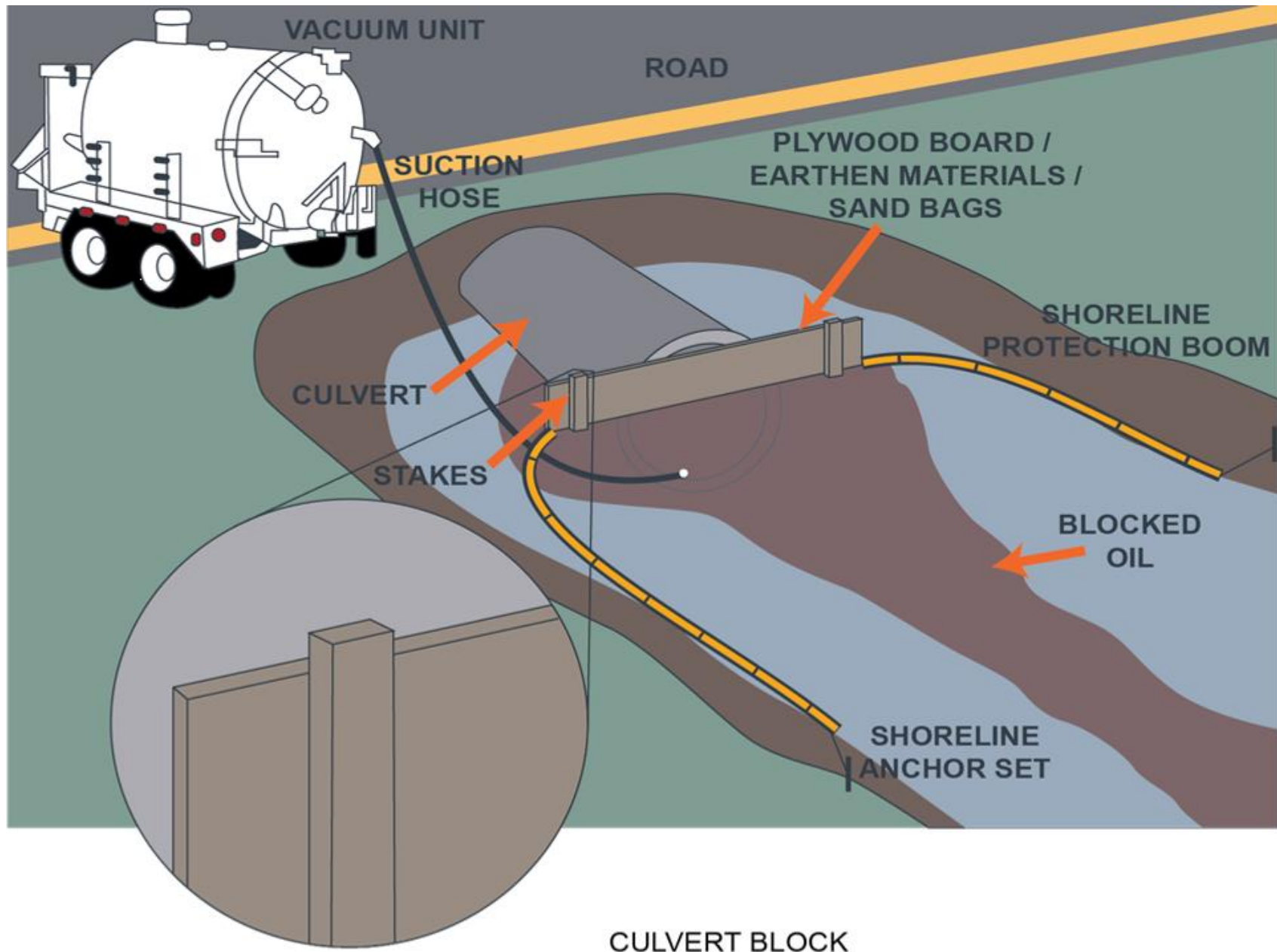
## Personnel

- Track hoe operator
- Vacuum operator
- Supervisor / lead
- Site safety
- Labourers

## Equipment / Resources

- Track hoe
- Sorbents
- Shovels
- Earthen materials or sandbags
- Vacuum truck / portable vacuum unit
- Skimmer
- Temporary storage
- Plywood, stakes, nails





# BOOM DEPLOYMENT

Larger watercourses are those where any combination of water depth, river or stream width, or current velocity would make the installation of bottom-founded or rigid fixtures impractical. The tactics that follow rely on the installation of flexible, floating barriers to redirect or divert surface contaminants.

## Objectives

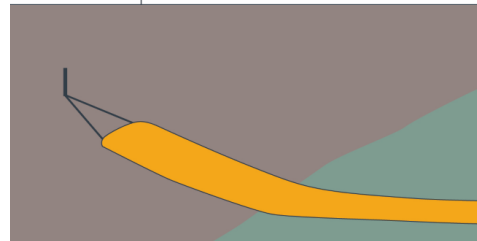
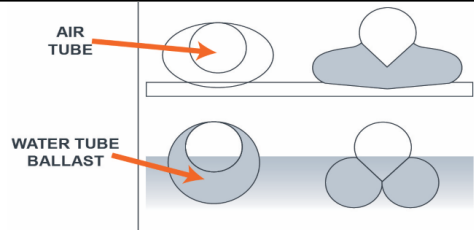
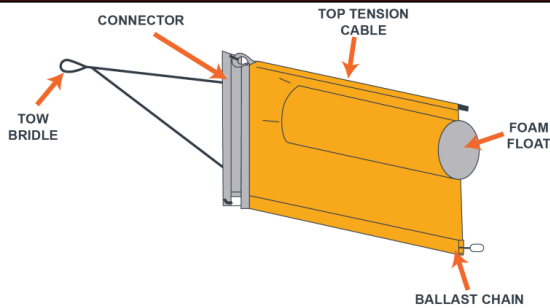
- Divert surface contaminants from sensitive resources.
- Divert surface contaminants to areas of quiet water where velocities are slower and contaminants may be collected.

### Floating Containment Boom

- Identified by the overall height of the boom or by the diameter of the float and the depth of the skirt.
- Shallow skirts are advised for fast moving waters, because their reduced drag makes them easier to deploy and secure. Deeper skirts are advised where waves may be encountered.

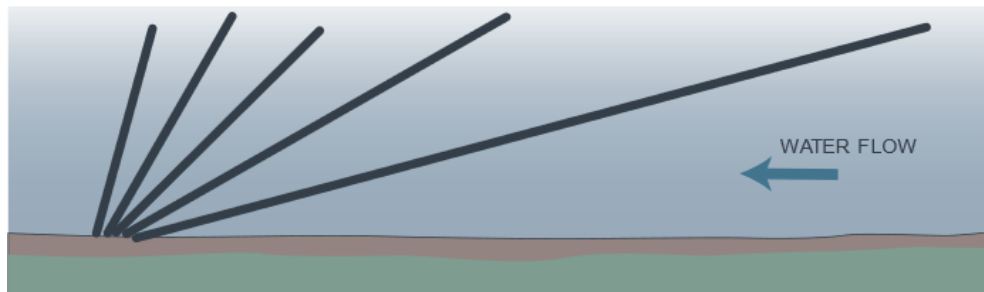
### Shore Seal Boom

- Provides an effective barrier to control the spread of oil in the critical region where water meets the shoreline.
- A floating barrier with integral water bags that provide an effective seal when grounded.
- A smaller tube is fitted into a larger tube. The larger outer tube is filled with water and the smaller inner tube is filled with air.
- Shore seal boom can adjust to fluctuating water levels.
- Plywood, stakes, nails



Boom Property	Static Water	Moving Water
Overall height (in)	6 - 24	8 - 32
Minimum gross buoyancy to weight ratio	3:1	4:1
Minimum total tensile strength (lbs)	1,500	5,000

75°	60°	45°	30°	15°
1.4 kph	1.6 kph	2.0 kph	2.8 kph	5.4 kph
0.9 mph	1.0 mph	1.2 mph	1.7 mph	3.3 mph





Time in seconds stick travels 30 m (100 ft)	Current km/hr	Current mph	Current (metres per second)	Current (feet per second)	Boom angle (degrees to current)
216 108 72 54	0.5 1.0 1.5 2.0	0.31 0.62 0.93 1.25	0.14 0.28 0.42 0.56	0.46 0.92 1.38 1.84	30 degrees
43 36 31 27	2.5 3.0 3.5 4.0	1.5 1.9 2.2 2.5	0.69 0.83 0.97 1.11	2.26 2.72 3.18 3.60	20 degrees
24 22 18	4.5 5.0 6.0	2.8 3.1 3.7	1.25 1.39 1.67	4.10 4.56 5.48	15 degrees
15 14 12 11	7.0 8.0 9.0 10.0	4.3 5.0 5.6 6.2	1.94 2.22 2.50 2.78	6.36 7.28 8.20 9.12	10 degrees

## Considerations

When determining the type of containment operation to be utilized on a watercourse, the following should be considered:

- The slower the current and deeper the water, the more effective the containment and recovery operations will be.
- Chose a location where the current is directed towards the recovery area.
- Consider access and staging when selecting a recovery location.
- On larger watercourses chose a location that is on the side as the spill.
- Boom should be a straight as possible to defect oil to recovery areas.
- Boom angle is critical for ongoing maintenance of containment and recovery operations.
- In faster moving water, consider additional containment boom downstream to capture any flow through.
- If not feasible to boom entire channel, select as site that will capture most of the released product and consider further downstream containment and recovery areas.
- Select boom anchoring methods considering the following:
  - Shoreline Pins can be used on narrow slow-moving watercourses and installed along the banks and include drive pin, screw, wing pin anchors, trees, or large rocks.
  - Trolley Line can be deployed across large, moderate to fast moving watercourses and can be used with split pulley to deploy and adjust the boom angle.
  - Bridge Pier Bridle can be installed on large, moderate to fast moving watercourse with the use of workboats
  - In-Stream anchors and chain sets can be deployed within the watercourse by workboat crews and include sarca, danforth and rake anchors.
  - Boom Vane can be deployed from shore and utilizes the instream current and mooring lines to set boom angles.

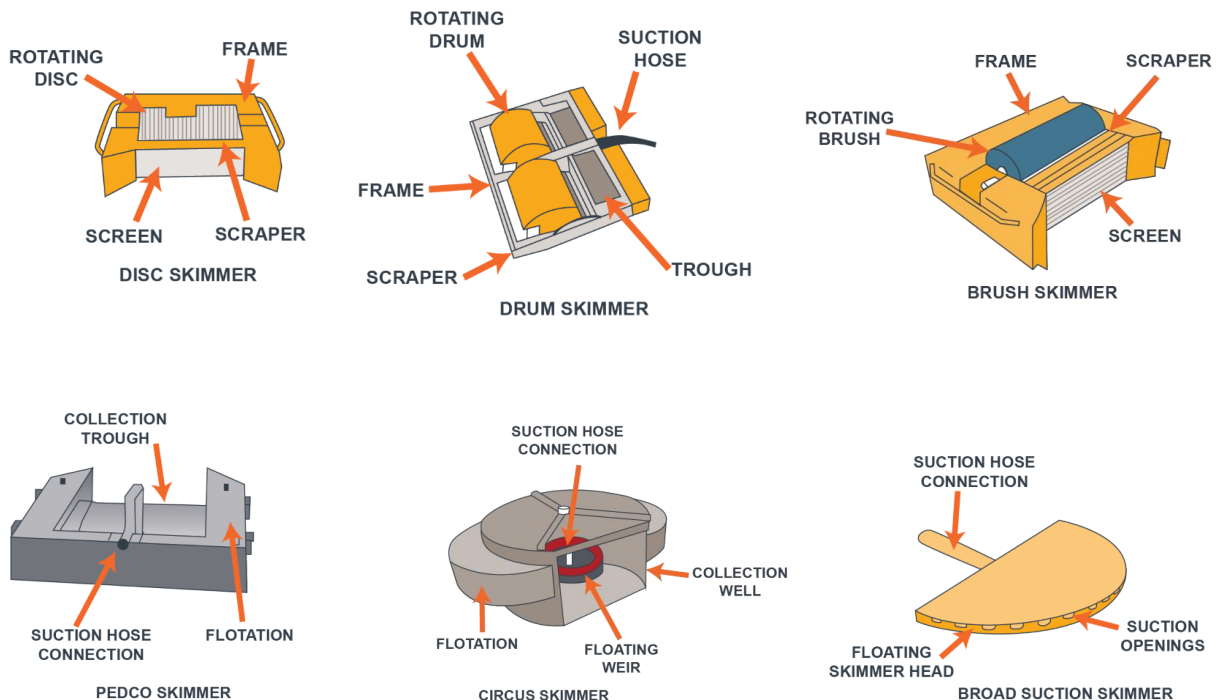
# SKIMMERS, VACUUM UNITS, TEMPORARY STORAGE

Recovery will involve the use of equipment as determined by plans and the scope of the incident.

## Skimmers

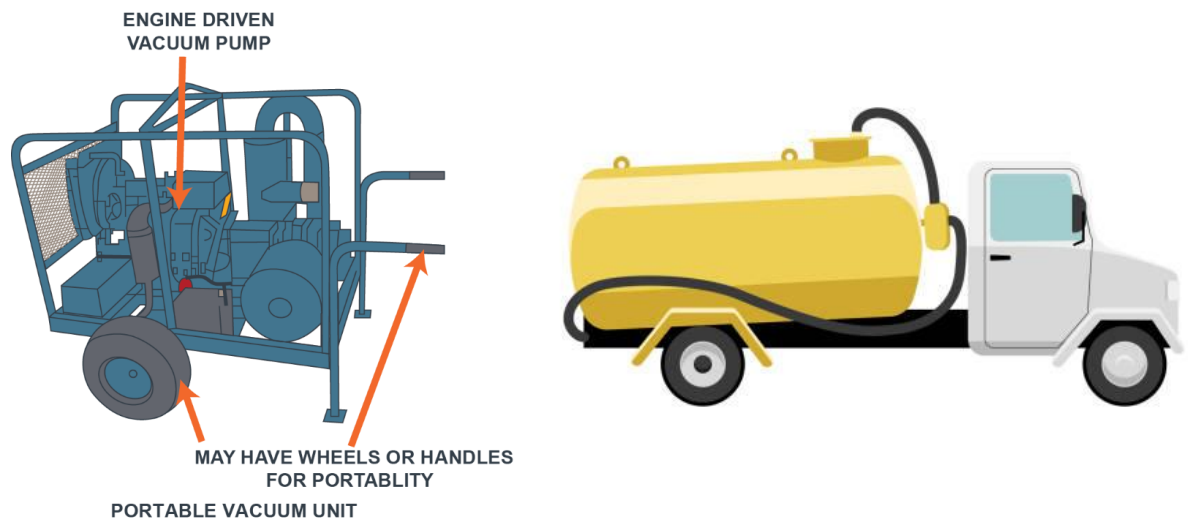
- Selective skimmers rely on oleophilic material that can be passed through the oil-interface. Selective skimmers collect a higher concentration of oil in the recovered fluid stream than non-selective skimmers.
- Non-selective skimmers are usually weir or suction devices that recover fluid indiscriminately.

Skimmer Type	Oil Type	Mode	Debris Tolerance	Wave Tolerance	Currents
Drum (selective)	Wide range of oil viscosities	Stationary	Debris must be managed to allow flow of oil to skimmer	Low sensitivity to waves with height less than diameter of drum	Not generally used in currents
Disc (selective)	Low to medium viscosity	Stationary	Debris must be managed to allow flow of oil to skimmer	Low sensitivity to waves with height less than diameter of disc	Not generally used in currents
Brush (selective)	Medium to high viscosity	May be operated in stationary mode if current is present	Effective in most forms of small debris	Low sensitivity to waves	May be operated in stationary mode if current is present
Pedco (non-selective)	Wide range of oil viscosities	Stationary	Debris must be managed to allow flow of oil to skimmer	Low sensitivity to waves	Used in currents typically river, streams and creeks
Circus (non-selective)	Wide range of oil viscosities	Stationary and advancing	Debris must be managed to allow flow of oil to skimmer	Good wave-following characteristics in nonbreaking waves	Used in currents typically river, streams and creeks
Broad Suction (non-selective)	Wide range of oil viscosities	Powered by vacuum or pump	Works around debris	Low sensitivity to waves	Static water conditions



## Vacuum Units

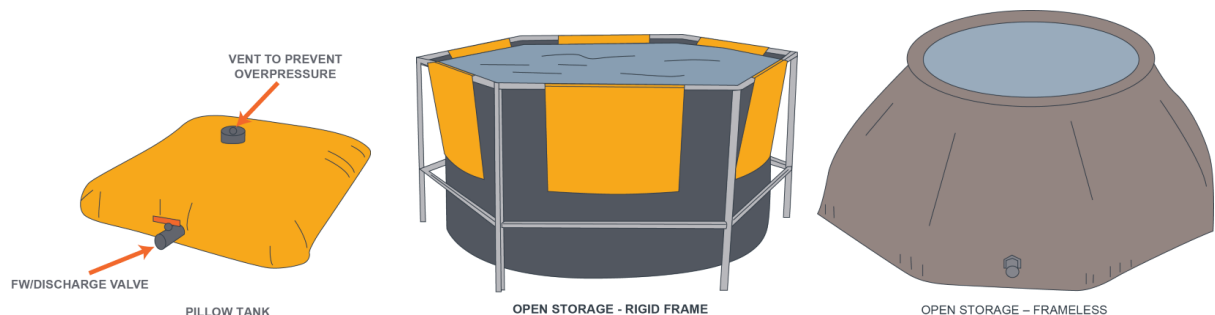
- Operate on the same principle as an industrial vacuum cleaner
- A suction pump pulls large quantities of air through a hose and into a large-volume receptacle. The sudden velocity drop that occurs in the receptacle causes liquids and solids to fall out of the airstream and collect. This process may be aided by internal baffles in the receptacle.
- May be used in place of pumps to operate pedco or broad suction skimmers or to transfer collected oil from disc or drum skimmers.



## Temporary Storage

- Recovered oil can be critical to the success of a spill response. Temporary storage tanks are usually fabric, for storage and portability.
- Depending on the type, they may or may not have a rigid frame
- Note that open storage devices do not have positive vapour control. Hence, they may not be suitable for storage of highly volatile products.

Storage Type	Vapour Control	Capacity	Storage Length
Pillow Tank	Yes	750 - 19,000 L	Temporary and long-term
Open Storage - Rigid Frame	No	900 - 75,000 L	Temporary
Open Storage - Frameless	No	750 - 19,000 L	Temporary



**Spills into a Watercourse**

Petroleum products will spread outward from the origin of the spill, eventually achieving a stable thickness on the water. Spills on rivers, creeks, or streams will flow downstream, contaminating riverbanks and vegetation, affecting wildlife, fish and water users in the area of the spill.

The rate of spill movement will depend on the current speed of the water and the time of year. Current may flow faster in the deepest channels in the river and slower in shallower areas, due to varying volumes of water. Flow in a watercourse will also be faster in the spring, because of snowmelt entering the watercourse from the surrounding area. River currents in summer and fall will be generally slower than in the spring. Wind and wave action will also affect the rate and direction of spill travel.

Spill velocity on a watercourse may be estimated quickly by using a current velocity meter or by timing the movement of a floating object on the watercourse over a set distance.

The following table is used for estimating spill velocity based on a 30 meter (100 foot) distance:

Time Required For Object to Travel 30 meters	Surface Current Speed			Boom Angle (degrees)
	(km/hr)	(m/s)	(miles/hour)	
216	0.5	0.14	0.3	60°
108	1.0	0.28	0.6	60°
72	1.5	0.42	0.9	60°
54	2.0	0.56	1.2	45°
43	2.5	0.69	1.5	45°
36	3.0	0.83	1.9	45°
31	3.5	0.97	2.1	15°
27	4.0	1.11	2.5	15°
24	4.5	1.25	2.8	15°
22	5.0	1.39	3.1	15°
18	6.0	1.67	3.7	15°

**Note:** In currents faster than 6.0 km/h (3.7 mi/hr), or in excessively turbulent waters, the use of containment booms may be impractical and other containment or protection methods such as the use of diversion or exclusion booms may be required.

The velocity calculated will be an approximation only, as the watercourse velocity varies at different points across the river, due to changes in river depth and at various points upstream and downstream on the river. In the initial stages of the spill on a watercourse, lighter-end materials will tend to evaporate, especially in warm weather. Other processes that might affect spill behaviour include dispersion of the petroleum into the water, formation of stable oil/water emulsions and stranding or oil along the shoreline.

**Containment**

Containment of a spill on a watercourse should be completed as quickly as possible as the spilled material has the potential to travel a much greater distance and contaminate a larger area than spills on land. The Incident Commander and the Operations Section Chief will implement appropriate containment actions based on the size of the watercourse and current velocity.

Watercourse Containment Options		
Containment Method	Technique Description	Comments
Containment Boom (Spring to Fall)	A containment boom is placed in the watercourse to prevent migration of the spilled material down-stream of the containment point.	The watercourse needs to be accessible to allow containment activities. If water is too shallow, or current is too fast, the containment boom may not be effective in containing the oil. Oil spill containment equipment, work and safety boats, and a work crew need to be available to conduct this method.
Diversion Boom (Spring to Fall)	Diversion booms are used in large or swift rivers to divert spilled material to calmer water for containment and recovery. May be used in combination with containment boom.	The watercourse needs to be accessible to allow boom to be deployed. High current speeds or turbulence may make deployment impossible, or may cause deployed boom to fail, releasing spilled material downstream. Oil spill containment equipment, work and safety boats, and a work crew need to be available to conduct this method.

<b>Watercourse Containment Options</b>		
<b>Containment Method</b>	<b>Technique Description</b>	<b>Comments</b>
Sorbent boom (Spring to Fall)	<p>Sorbent booms may be used in narrow, low flow streams or rivers to remove small amounts of surface oil.</p> <p>Chicken wire or containment boom may be used to back up sorbent boom.</p>	<p>The watercourse needs to be accessible to allow boom to be deployed.</p> <p>Sorbent boom use is only viable in low flow watercourses, as boom is not very sturdy and breaks easily. (Chicken wire or containment boom may be used behind sorbent boom to reinforce sorbent boom and prevent breakage).</p> <p>Sorbent boom also has no skirt allowing large amounts of oil to easily flow under it.</p> <p>Sorbent boom will pick up sheen but not large amounts of oil.</p> <p>Sorbent boom is not very effective in cold weather.</p> <p>Large amounts of sorbent boom are expensive, and needs to be replaced in the watercourse when saturated. Used sorbent needs to be stored and disposed of in compliance with government legislation.</p> <p>Sorbent boom, work crew and possibly boats may be required.</p>
Earth or Sand Dike (Spring to Fall)	<p>Dikes are used across very shallow streams and intermittent creeks to contain flowing oil.</p> <p>Dikes can also be used to contain spilled materials along a shoreline.</p>	<p>Sufficient earth or sand is needed to construct the dike.</p> <p>Flowing may be caused if stream or creek is dammed (a containment weir may be used to alleviate this problem – see below)</p> <p>Damage may be caused by evacuation and construction in the watercourse and along the banks.</p> <p>A work crew with shovels, earth-moving equipment, earth or sand, sandbags and/or sheets of metal or wood may be required.</p>
Containment Weir (Spring to Fall)	<p>Containment weirs are physical dams with culverts or pipes constructed in the dam to allow free water movement from a site while containing surface oil.</p>	<p>Containment weirs are used in shallow streams and creeks and are suitable for maintaining a constant water level at the site and preventing flooding.</p> <p>Damage may be caused by excavation and construction in the watercourse and along the banks.</p> <p>A work crew with shovels, earthmoving equipment, earth or sand and piping or culvert material is required.</p>

<b>Watercourse Recovery Options</b>		
<b>Recovery Method</b>	<b>Technique Description</b>	<b>Comments</b>
Vacuum Truck	A vacuum truck is used to recover free petroleum from water in areas accessible by trucks or heavy equipment.	<p>A vacuum truck and operator are required. Use of this method is subject to site access.</p> <p>Surface disturbance and soil damage may result from movement of the vacuum truck to and from the site. Topsoil may need to be stripped from the site before conducting recovery activities.</p>
Pumping of Spilled Material into Storage	A pump is used to recover free oil from the watercourse in areas not accessible by vacuum trucks.	<p>Pumps need to be safe for use at the spill site and be compatible with the product to be pumped.</p> <p>Surface disturbance and soil damage may result from movement of the pump and storage equipment to the site.</p> <p>Technique will generate large volumes of contaminated water that will require storage.</p> <p>Skid tanks, tankers, port-a-tanks, fuel bladders, permanent tanks or a lined excavated area need to be available to provide storage for the recovered material.</p> <p>A work crew and power supply for the pump need to also be available.</p>
Skimmers	Mechanical devices are used to skim oil from water surface or remove oil/water mixture for storage.	<p>Skimmer will need sufficient water depth to float.</p> <p>Weir skimmers work best on thicker layers of oil in flowing water. Will generate large quantities of water/oil mixture.</p> <p>Drum or disc skimmers will pick up thinner layers of oil on slow moving water.</p> <p>Debris and vegetation may clog skimmer making oil pickup difficult.</p> <p>A suction, floating weir, disc or drum skimmer, pump and work crew are required. A secure storage facility (tanker, portable tanks, fuel bladders or excavated, lined storage site) is also required.</p>



**Spills into Water bodies**

In the absence of any current or wind, spills on water bodies such as lakes will spread out in all directions from the site of the spill until a uniform stable thickness is reached. If a wind and/or current are present, the spill will move with the wind or current until it reaches the shoreline.

Wave action in the water body may also affect the spill causing oil-in-water or water-in-oil emulsions to form, making recovery and clean-up efforts more difficult.

**Containment**

The Incident Commander and the Operations Section Chief should attempt to contain the spill to as small an area as possible on the water body near the spill source. Dispersion of the spill over a large area on the water body could cause widespread impacts when the spill reaches the shore. If the spill can be contained on the water body, the spilled material is moved toward shore for recovery.

Containment options for spills on water bodies use a containment boom to surround the spill. See the local Oil Spill Contingency Plan for a discussion of containment booms and for boom configurations used to contain a boom in open water. If the area that may be impinged by the spilled materials is environmentally sensitive, appropriate shoreline protection measures may be implemented as recommended by ARC Environmental Specialists.

**Spills into Wetlands or Muskeg**

Wetlands are areas with high organic content, which contain large amounts of water in the soil. Wetlands may be continuously covered in water or water levels may fluctuate throughout the year. Muskeg is a land area that contains high moisture content and is boggy in the summer because of large quantities of peat, moss, or other vegetative material in the soil. In winter, muskeg will freeze making excavation extremely difficult.

Spills in wetlands or muskeg can be some of the most difficult spills to contain, recover and clean up because of limited site access for both manpower and equipment. Because of the sensitive nature of these ecosystems, more damage may be caused by emergency response operations than was caused by the original spill. The Incident Commander may consult with government officials or environmental specialists before conducting emergency response operations in wetlands or muskegs. This will ensure that containment, recovery, and clean-up operations represent the most viable option for the spill, based on the type of product, size of spill and site specific safety, operational or environmental concerns.

If all other options are considered unviable, natural recovery may be approved by environmental protection agencies. Natural recovery uses micro-organisms already present in the ecosystem to degrade the oil. Degradation of the oil may be enhanced by addition of other nutrients required by the micro-organisms, to ensure sufficient levels of these nutrients are present to allow degradation to continue.



Natural recovery may be preferable to recovery and clean-up depending on:

- The amount, type and persistence of the oil
- The location of the site
- The nature and uses of the area
- Whether the impacts of various clean-up methods are greater than damage related to the actual spill

Natural recovery should be considered if:

- Clean-up activities will cause more harm than leaving the site to recover naturally
- Leaving the area to recover naturally will not cause further harm to environmentally sensitive areas

Containment operations for wetland or muskeg spills in winter are similar to those for spills on land or ice. If containment operations are conducted at the site in the summer, a combination of land containment and water containment options will be used as appropriate.

A summary of available options is provided in the following table:

<b>Wetland or Muskeg Containment Options</b>		
<b>Containment Method</b>	<b>Technique Description</b>	<b>Comments</b>
Containment Boom	A containment boom is placed in wetland to prevent migration of oil into non-contaminated areas.	If water is too shallow, or the current is too fast, the containment boom may not be effective in containing the oil. Oil spill containment equipment, work and safety boats and a work crew need to be available to use this method.
Containment Weirs	Containment weirs are physical dams with culverts constructed in the dam to allow free water movement from a site while containing surface oil. Containment weirs are used to maintain a constant water level at spill site for easy oil recovery.	Access to the site by manpower and equipment may be limited. Building of containment weirs may be labour-intensive and time-consuming if done manually. Damage may be caused by excavation and construction in the watercourse and along the banks. A work crew with shovels, earthmoving equipment, earth or sand and piping or culvert material is required to use this method.
Vacuum Truck	Muskeg or wetland areas need to be accessible. A vacuum truck can recover from a trench or water surface.	Surface disturbance and soil damage may result from movement of the vacuum truck to and from the site. Topsoil may need to be stripped from the site before undertaking recovery activities.
Pumping of Spilled Material into Storage	A pump is used to recover free oil from wetlands or muskeg.	The wetland or muskeg area needs to be accessible for equipment. Pumps need to be safe for use at the spill site and be compatible with the product to be pumped.

<b>Wetland or Muskeg Containment Options</b>		
<b>Containment Method</b>	<b>Technique Description</b>	<b>Comments</b>
		<p>The technique will generate large volumes of contaminated water that will require storage.</p> <p>Skid tanks, tanker trucks, port-a-tanks, fuel bladders, permanent tanks or a lined excavated area need to be available.</p> <p>A work crew and power supply for the pump need to also be available.</p>
Skimmers	<p>Used to skim oil from water surface or remove oil/water mixture for storage.</p> <p>Drum or disc skimmers will pick up thinner layers of oil on slow moving water.</p>	<p>The wetland or muskeg area needs to be accessible.</p> <p>Skimmer will need sufficient water depth to float.</p> <p>Debris and aquatic vegetation may clog skimmer, making oil pickup difficult.</p> <p>A suction, floating weir, disc or drum skimmer, pump and work crew are required to undertake method. A secure storage facility is also required.</p>
Fresh Flushing	<p>Water</p> <p>Water is flushed through an area to push oil that is in vegetation or on the water surface toward a collection point for recovery.</p> <p>The method can be used in conjunction with trenches.</p>	<p>The wetland or muskeg area needs to be accessible for equipment to allow recovery activities to be conducted. The method is not suitable for areas with extensive vegetation or obstructions.</p> <p>Physical damage may be caused to sensitive environmental areas.</p> <p>Pumps, a power supply, hoses, hot or cold water, and a work crew are required. A lined, excavated area or storage tanks may be required to hold water for treatment or testing.</p>

**Spills on Ice**

Spills on ice will tend to spread out from the spill source toward lower-lying areas. Surface depressions, cracks and pockets in the ice will cause the spilled material to pool. A significant volume of some oils can be absorbed into ice.

The presence of oil on or in ice increases solar heating and the rate of melting. Subsequent freezing and melting may eventually cause the oil to migrate throughout the surface of the ice. Openings in the ice may allow the spilled material to migrate into open water or allow the spill to be swept under ice, making response operations more difficult.

The information presented should be used as a guideline only in determining typical load-bearing capacity of ice. The Incident Commander and the Operations Section Chief need to determine whether it is safe to work on ice based on actual site conditions.

The ability for ice on a river, stream or lake to support the weight of workers and equipment is determined by effective ice thickness which is based on the thickness of clear ice and presence of white ice.

Clear ice (sometimes called blue ice) is translucent and well compressed with few air pockets. This ice is very strong and has a high load-bearing capacity.

White ice (or snow ice) is very porous, with many air pockets and is much weaker. White ice has approximately half the load-bearing capacity of clear ice. White ice is formed by constant melting and freezing of the top layer of ice due to solar heating or mild temperatures and is normally found on top of clear ice.

Holes should be drilled in the ice at the work site, before starting any on ice operations, to determine the average thickness of white and clear ice.

Effective ice thickness then can be calculated, using the formula in the following table:

Effective Ice Thickness = clear ice thickness + $\frac{1}{2}$ white ice thickness
Example: The spill site has 20 inches of clear ice and 10 inches of white ice 20 inches clear ice + $\frac{1}{2}$ x 10 inches white ice = 25 Effective Ice Thickness
Note: If water lies between layers, use the depth of only the top layer of white ice

Based on the effective ice thickness, a determination can be made as to the stationary and moving loads that may be supported by the ice. Normally less ice is required for continuous movement on the ice than for stationary loads as less pressure is exerted on any one point on the ice during movement.

The following table will assist the Incident Commander and the Operations Section Chief to determine the permissible loads on ice based on the effective ice thickness.

<b>Load-Bearing Capacity of Ice Thickness for Continuous Travel<sup>1</sup></b>		
<b>Permissible Load</b>	<b>Effective Ice Thickness inches (centimetres)</b>	
	<b>Lake</b>	<b>River</b>
One person on foot	2.0 (5.0)	2.5 (6.3)
Group, in single file	3.2 (8.0)	3.5 (8.8)
Passenger car 4,400 lbs (2000 kg)	7.1 (17.8)	8.3 (20.8)
Light Truck 5,500 lbs (2500 kg)	7.9 (19.8)	9.1 (22.8)
Medium Truck 7,700 lbs (3500 kg)	10.2 (25.5)	11.8 (29.5)
Heavy Truck 15,000 – 17,500 lbs (6800 – 8000 kg)	13.8 (34.5)	16.1 (40.3)
20,000 lbs (9000 kg)	15.0 (37.5)	17.3 (43.3)
50,000 lbs (23,000 kg)	24.8 (62.0)	28.7 (71.8)
99,000 lbs (45,000 kg)	31.5 (78.8)	36.2 (90.5)
150,000 lbs (68,000 kg)	39.4 (98.5)	45.3 (113.3)
240,000 lbs (109,000 kg)	49.2 (123.0)	56.7 (141.8)

Note: These tables are guidelines only for determining the typical load-bearing capacity of ice.

Temperature may affect the load-bearing capacity of ice on a water body. Air temperatures need to remain below the freezing point of water (0° C) for a sufficient period to allow the ice to adequately support a stationary or moving load. Temperature effects are dependent on ice thickness, as follows:

- Less than 50 centimetres (20 inches) of ice: temperature need to be constant for 3 days
- Between 50 and 100 centimetres (20 and 40 inches) of ice: temperature need to be constant for 4 days
- Over 100 centimetres (40 inches) of ice: temperature need to be constant for 5 days

<sup>1</sup> Does not apply to parked loads, or where ice faults are evident.

Sudden drops or increases in temperature can also cause thermal stressing or cracking of ice requiring temporary load restrictions for 3 to 5 days following the change. Thawing due to warm temperatures may also significantly affect ice conditions. On-site personnel should take extreme care when evaluating ice conditions during a thaw and limit work on or near ice under these conditions.

Containment and clean-up options for spills on ice are similar to those on land and are summarized in the following tables:

<b>On Ice Containment Options</b>		
<b>Containment Method</b>	<b>Technique Description</b>	<b>Comments</b>
Earth or Sand Dike (All seasons)	<p>Earth or sand at or near the site is used to contain spilled material on flat or sloped surfaces.</p> <p>Sandbags filled with earth or sand are used to contain spill.</p> <p>Augment with impermeable or poly-sheeting if available.</p>	<p>Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required to build dike.</p> <p>Sufficient dry earth, gravel or sand needs to be available to contain spill. Earth may be frozen.</p> <p>Surface disturbance to remove earth or sand may result in erosion, especially on steep slopes.</p> <p>Earth or sand placed on ice needs to be removed before spring break-up.</p> <p>Work crews and/or earth-moving equipment are required to build dike.</p>
Snow or Ice Dike (Winter only)	<p>Snow or ice at or near the site is used to contain spilled material on flat or sloped surfaces.</p> <p>Augment with impermeable or poly-sheeting if available.</p>	<p>Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required to build dike.</p> <p>Sufficient snow or water needs to be available to contain spill. Snow or ice dike may melt quickly in warm weather.</p> <p>Contaminated snow or ice may need to be removed or stored for treatment.</p> <p>Work crews and/or earth-moving equipment are required to build snow dike. Water spraying equipment may be required to construct and maintain an ice dike.</p>
Sorbent Dike (All seasons)	<p>Sorbent material is used to contain spill.</p>	<p>Useful only in small spills, as purchase of large quantities of sorbent is expensive and impractical.</p> <p>Contaminated sorbent may need to be replaced or squeezed out during incident.</p> <p>Contaminated sorbents needs to be disposed of properly to comply with government regulations.</p> <p>Sufficient sorbent or sorbent boom, work crews and storage containers or a lined storage area for contaminated sorbents needs to be available to build sorbent dike.</p>

<b>On Ice Clean-up Options</b>		
<b>Clean-up Method</b>	<b>Technique Description</b>	<b>Comments</b>
Manual Removal by Work Crew and/or Equipment (Winter)	A work crew or earth-moving equipment is used to remove thick oil or contaminated snow and ice.	<p>Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required.</p> <p>All necessary safety precautions should be undertaken for personnel who work near any open water.</p> <p>Manual removal may be a difficult and time-consuming process.</p> <p>A work crew with hand tools or earth-moving equipment (e.g. backhoe) and operators, as well as ice cutting equipment, may be required.</p> <p>Lined storage area or storage drums are required to store contaminated material before treatment or disposal. Oil present in snow may be skimmed off during spring thaw.</p>
Steaming of Ice Surface	<p>Steam is used to melt ice surface to aid in spill clean-up.</p> <p>The technique may be used in association with other clean-up and recovery techniques.</p>	<p>Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required.</p> <p>All necessary safety precautions should be undertaken for personnel who work near any open water.</p> <p>A work crew with steaming equipment is required to undertake this method.</p>
Sorbents (Spring to Fall)	The method is used in isolated areas to clean up small amounts of oil.	<p>Clean-up is labour-intensive and time-consuming. Limited access to site may make this method difficult or impossible.</p> <p>Sorbents are not very effective on weathered oil or in cold weather. Sorbents may freeze to the surface.</p> <p>Sorbents needs to be disposed of properly to comply with government regulations.</p> <p>Sufficient sorbent, work crews and storage containers or a lined storage area for contaminated sorbents needs to be available.</p>
Snow or ice melting	<p>Snow or ice is removed from the clean-up site and melted in heated tanks to allow spilled material to be skimmed off the surface of the melt water.</p> <p>The technique may be used in association with other clean-up and recovery techniques.</p>	<p>Contaminated snow or ice needs to be removed from clean-up site and placed in melting tanks.</p> <p>The method may be labour-intensive and time-consuming, as melting is not very efficient for clean-up of large volumes of petroleum-contaminated ice. In very cold temperatures, sufficient heat may not be available in the tanks to melt ice.</p> <p>A work crew, heating tanks, skimming equipment, transfer vehicles and operators are required.</p> <p>A lined storage facility for storage of contaminated ice or snow before melting may also be required, as well as storage tanks for storing recovered petroleum.</p>

### **Spills Under Ice**

Spills of petroleum under ice will spread and will travel under the ice at a velocity that is less than the current speed of the watercourse. The spill will tend to follow the path of the main current flow. The spill product may become trapped in crevices, cracks, pockets, and other irregularities under the ice and may freeze from the underside of the ice anywhere downstream or outward from the original spill. This will make recovery and clean-up operations extremely difficult.

Before conducting any response operations to contain, remove and clean up oil under ice, the Incident Commander should ensure that the Operations Section Chief have calculated the effective ice thickness to ensure it will support the weight of personnel and equipment.

### **Containment**

For spills under ice, the Incident Commander and the Operations Section Chief should attempt to determine the location of the spilled material and bring the spill to the surface of the water for containment and recovery. Spill movement under the ice is normally located by drilling holes through the ice using an ice auger downstream of the spill source on a flowing watercourse or outward from the spill source on a non-flowing water body. Alternately, aerial reconnaissance may be used to attempt to locate spilled material in cracks at the surface or under thin ice. Once the spill has been located, containment operations can be conducted to bring the spilled product to the surface.

Containment operations are normally accomplished by constructing slots in the ice. Ice slots allow petroleum products trapped under the ice to rise to the surface for recovery.

The slot is normally constructed at an angle in relation to the shore toward the area of strongest current flow in the river. If the slot is constructed correctly, the spilled material will rise into the slot and flow along it toward the shore for recovery. Refer to the local WCSS Oil Spill Contingency Plan for additional information.

The angle of slot construction in relation to the shore depends on the current velocity, similar to a containment boom placed in a flowing river. For higher currents in the river, a shallower angle is used for the ice slot, while a larger angle may be used for lower current flows.

If a slot is constructed at too great an angle to the current, turbulence may occur, sweeping the spilled material under the ice on the downstream side. Plywood or other types of sheeting may be placed on the downstream side of the slot and frozen in place to facilitate containment of the spilled material. The ice slot should be 0.5 to 1.0 metres (1.6 to 3.3 feet) wide, to aid in containment. Ice blocks may be cut using a ditch witch or backhoe if the effective ice thickness is sufficient to allow stationary equipment on the ice. [If ice is too thin for equipment but safe for personnel, crews equipped with chainsaws and proper safety gear can cut the ice.] Ice blocks can be removed to clear the slot or pushed under the ice downstream of the slot if sufficient water depth is available.

Ice blocks are extremely heavy (one cubic foot of ice weighs 24 kilograms (53 pounds). Blocks should be cut to a size that will allow the crews or equipment to remove them easily. To aid in block removal, the ones nearest the shore should be removed first and remaining blocks should be floated toward shore for removal. Plywood or other sheeting can be used upstream of the slot to divert oil into the slot for recovery. Narrow slots may be cut into the ice with a chain saw and sheeting may be wedged into the slots to channel the main current toward the ice slot in a manner similar to a diversion boom in open water.



<b>Under Ice Containment Options</b>		
<b>Containment Method</b>	<b>Technique Description</b>	<b>Comments</b>
Ice Slotting	<p>Ice slots are cut into ice on rivers to collect oil moving under the ice.</p> <p>The technique is best used for rivers with current, as oil will be moved toward slot by current.</p>	<p>Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required to build slot.</p> <p>All personnel working near any open water need to take all required safety precautions.</p> <p>The location of the spill needs to be confirmed by drilling holes downstream of the spill source before constructing the ice slot.</p> <p>Total containment of spilled petroleum in an ice slot is unlikely, due to material trapped under ice.</p> <p>Snowmobiles, communications gear, and ice augers may be required to determine the location of the spill. Work crews, chain saws and/or a backhoe or ditch witch are required to construct an ice slot. A recovery device such as a heat-traced ice skimmer is required to recover spilled material.</p> <p>Storage tanks or a lined excavated storage area may be required to store recovered oil/water mixture.</p>



**Spills in Broken Ice**

The risk to Life Safety of the personnel attempting spill response in broken ice conditions using existing technology is extreme.

Emergency operations in broken ice conditions during spring thaw or winter freeze-up are extremely difficult. When oil is mixed with floating ice or covered by a very thin ice cover, ice interferes with the collection of the oil and could damage containment and recovery equipment. The presence of ice also makes the use of boats difficult.

Before authorizing any spill response operations in broken ice conditions, the Incident Commander and, along with the appropriate regulatory agencies, will evaluate whether it is safe or feasible to undertake containment and recovery operations and what methods should be used.

**Containment**

Containment options for spills during freeze-up or break-up are similar to those for spills on a river and on ice. If containment operations are determined to be feasible based on site conditions, the Incident Commander and the Operations Section Chief will attempt to deflect ice away from the containment site.

Deflection of ice may be achieved using log booms or ice dams. A log boom consists of logs cabled together with chain, anchored upstream of a conventional containment boom. An ice dam is constructed upstream of the oil spill site and containment site, to attempt to divert upstream ice away from a containment site.

Log booms are deployed at an angle away from the containment site. Logs are spaced to allow spilled materials and water to move directly toward the containment site, while diverting the ice toward the opposite shore, allowing the ice to pass around the containment site. Refer to the local WCSS Oil Spill Contingency Plan for additional information.

**Spill Control Point Descriptions**

Control points are pre-identified locations on watercourses that allow for the staging and deployment of oil spill containment and recovery equipment in response to oil spills that have occurred upstream of the control point. Control point selection is critical to an effective oil spill response and part of your risk assessment and development of site-specific emergency response plan information.

Each oil spill cooperative conducts control point evaluation for the whole geographic co-op area. WCSS's policy is that it is the responsibility of cooperative members to review the identified control points downstream from their operations and ensure that they are assessed for potential spill response activities.

ARC may decide to provide additional ARC control points in the site-specific sections of this Emergency Response Plan.

An ideal control point should have:

- Quick access to the watercourse in all seasons, using clear ground, a road or a trail
- Adequate work space to conduct operations and to store required equipment with minimal need for clearing of brush and vegetation
- Sufficient space to deploy containment and recovery equipment quickly with minimal effort or obstructions (i.e. trees, rocks, steep banks, etc.) and minimal environmental impact
- Boat launch location(s) for boats assisting in containment and recovery operations.

Selection of control points with public access is preferred.

- For control points on private property - landowner approval and necessary permits for emergency access should be obtained in advance.
- Designated site specific control points need to be reviewed at least annually. Each control point site should be visited periodically to evaluate suitability and to ensure information is accurate and complete.
- Old unsuitable control points should be removed and new control points added, as a part of revisions to site specific information, as required.
- Control point listings should include a site description, site diagram, access description, landowner/occupant phone number, site suitability and any other information related to the site.

### **Disposal and Remedial Operations**

The proper disposal of contaminated materials as well as site remediation options is outside the scope of this Emergency Response Plan. Site restoration will be determined by consultation among the Incident Commander, ARC Environmental staff, environmental protection agency personnel and any external environmental consultants that are contracted by the company.

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## 6.6 Alberta Petroleum Industry Release Reporting Requirements

**All spills exceeding the spill/release quotas listed in the table on the following page MUST be reported immediately to the appropriate regulatory agency.**

Agency	Reportable Spills	Report Type	Report to
Alberta Energy Regulator (AER) - Oil & Gas Regulation	1) Any release that has caused, is causing, or may cause an adverse affect* 2) Any pipeline release regardless of volume 3) Any release greater than 2m <sup>3</sup> on-site 4) Any release off-site 5) Any release into a water body (as defined in the <i>Water Act</i> ) or a watercourse, groundwater, or surface water (as stated in the <i>Release Reporting Regulation</i> ) 6) Any spill while substance is being transported from a well or facility to the intended destination. 7) Any release of substance listed as toxic, prohibited or restricted by CEPA 8) Any release that meets or exceeds the reporting threshold in the <b>Release Reporting Thresholds</b> table on the following page.  Note: The AER Table of Reportable Releases found below further breaks down release types by industry activity.	Verbal	AER 24 Hour Number 800-222-6514
Alberta Energy Regulator (AER) - Environment Regulation	1) Any release that has caused, is causing, or may cause an adverse affect* 2) Any pipeline release regardless of volume 3) Any release greater than 2m <sup>3</sup> on-site 4) Any release off-site 5) Any release into a water body (as defined in the <i>Water Act</i> ) or a watercourse, groundwater, or surface water (as stated in the <i>Release Reporting Regulation</i> ) 6) Any spill while substance is being transported from a well or facility to the intended destination. 7) Any release of substance listed as toxic, prohibited or restricted by CEPA 8) Any release that meets or exceeds the reporting threshold in the <b>Release Reporting Thresholds</b> table on the following page.  Note: The AER Table of Reportable Releases found below further breaks down release types by industry activity.	Written	Next business day following verbal report of spill, the AER forwards a copy of the Release Report form to the company to complete. The form is to be submitted with supporting documentation within 7 days to the local field centre (if the release caused adverse affect)*
Canadian Environmental Protection Agency (CEPA)	Environmental emergencies if: 1) The emergency involves any of the substances identified in Environment & Climate Change Canada's E2 List of regulated substances. See the website link at the bottom of the following page for more information.  Note: CEPA has not identified specific reporting thresholds; however, CEPA has suggested that existing provincial reporting thresholds or TDG reporting thresholds are acceptable for use.  A Schedule 8 written report through SWIM must be completed in the case of: 1) An environmental emergency involving the release of a hazardous substance that: a) Has or may have an immediate or long-term harmful effect on the environment b) Constitutes or may constitute a danger to the environment on which human life depends c) Constitutes or may constitute a danger in Canada to human life or health 2) The reasonable likelihood of an occurrence of an environmental emergency	Verbal	AER 24 Hour Number 800-222-6514
Alberta Environmental and Dangerous Goods Emergencies (EDGE)	Substances regulated by Transportation of Dangerous Goods if: 1) A release is anticipated, or the release meets or exceeds the reporting threshold in the TDG Reporting Requirements column in the <b>Release Reporting Thresholds</b> table on the following page.	Verbal	911 Local Authority Environmental and Dangerous Goods Emergencies (EDGE) 1-800-272-9600
Canadian Transport Emergency Centre (CANUTEC)	Loss and theft reporting: 1) CANUTEC - all loss or theft of dangerous goods materials 2) Natural Resources Canada Inspector - Class 1 explosive materials only 3) Canadian Nuclear Safety Commission - Class 7 radioactive materials only	Verbal	1) 888-226-8832 or 613-996-6666 2) 613-995-5555 3) 613-995-0479
Department of Fisheries and Oceans (DFO)	1) A release of any substance deleterious to fish into a fish bearing water body	Written	Within 30 days
Department of Fisheries and Oceans (DFO)	1) A release of any substance deleterious to fish into a fish bearing water body	Verbal	AER 24 Hour Number 800-222-6514
Canada Energy Regulator (CER) & Transportation Safety Board (TSB)	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines: 1) An incident that harms people or the environment, 2) A rupture, or 3) A toxic plume  Note: Immediately reportable incidents must be reported within 3 hours to both the TSB Reporting Hotline and CER's OERS. If applicable, refer to the Federal Roles & Responsibilities chart in SECTION 5: EXTERNAL AGENCIES and the CER site section behind the AREA SPECIFIC INFORMATION tab for further regulations, definitions and reporting guidelines.	Verbal	Via Transportation Safety Board (TSB) Reporting Hotline 819-997-7887
Canada Energy Regulator (CER) & Transportation Safety Board (TSB)	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines: 1) An incident that harms people or the environment, 2) A rupture, or 3) A toxic plume  Note: Immediately reportable incidents must be reported within 3 hours to both the TSB Reporting Hotline and CER's OERS. If applicable, refer to the Federal Roles & Responsibilities chart in SECTION 5: EXTERNAL AGENCIES and the CER site section behind the AREA SPECIFIC INFORMATION tab for further regulations, definitions and reporting guidelines.	Written	<a href="mailto:PipelineNotifications@tsb.gc.ca">PipelineNotifications@tsb.gc.ca</a>
Canada Energy Regulator (CER) & Transportation Safety Board (TSB)	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines: 1) An incident that harms people or the environment, 2) A rupture, or 3) A toxic plume  Note: Immediately reportable incidents must be reported within 3 hours to both the TSB Reporting Hotline and CER's OERS. If applicable, refer to the Federal Roles & Responsibilities chart in SECTION 5: EXTERNAL AGENCIES and the CER site section behind the AREA SPECIFIC INFORMATION tab for further regulations, definitions and reporting guidelines.	Written	CER Online Event Reporting System (OERS)  <a href="https://apps.cer-rec.gc.ca/ers/home/index">https://apps.cer-rec.gc.ca/ers/home/index</a>
Canada Energy Regulator (CER) & Transportation Safety Board (TSB)	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines: 1) An incident that harms people or the environment, 2) A rupture, or 3) A toxic plume  Note: Immediately reportable incidents must be reported within 3 hours to both the TSB Reporting Hotline and CER's OERS. If applicable, refer to the Federal Roles & Responsibilities chart in SECTION 5: EXTERNAL AGENCIES and the CER site section behind the AREA SPECIFIC INFORMATION tab for further regulations, definitions and reporting guidelines.	Written	CER - Within 21 days after the day of incident/near-miss
Canada Energy Regulator (CER) & Transportation Safety Board (TSB)	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines: 1) An incident that harms people or the environment, 2) A rupture, or 3) A toxic plume  Note: Immediately reportable incidents must be reported within 3 hours to both the TSB Reporting Hotline and CER's OERS. If applicable, refer to the Federal Roles & Responsibilities chart in SECTION 5: EXTERNAL AGENCIES and the CER site section behind the AREA SPECIFIC INFORMATION tab for further regulations, definitions and reporting guidelines.	Written	TSB - Within 30 days after the day of the incident/near-miss
Canadian Nuclear Safety Commission (CNSC)	All radioactive releases must be reported immediately.	Verbal	613-995-0479
Canadian Nuclear Safety Commission (CNSC)	All radioactive releases must be reported immediately.	Written	Within 21 days
Indian Oil & Gas (IOGC)	Immediately reportable events on First Nation reserve lands only: 1) Any health or environment-threatening emergency or off-lease spills. 2) On-lease spills greater than 1m <sup>3</sup> .	Verbal	IOGC Tsuu T'ina Office 403-292-5625

**Note: Spills must be reported promptly to avoid possible prosecution.**

Lead Agency Contact Numbers	AER Table of Reportable Releases																																																																																				
<b>Alberta</b>	<table border="1"> <thead> <tr> <th style="background-color: #f4a460;">Reportable Release</th> <th style="background-color: #f4a460;">Oil &amp; Gas</th> <th style="background-color: #f4a460;">Mining - Oil Sands</th> <th style="background-color: #f4a460;">In Situ - Oil Sands</th> <th style="background-color: #f4a460;">Pipelines</th> <th style="background-color: #f4a460;">Pipeline Installations</th> <th style="background-color: #f4a460;">Pipeline-Related Activities &amp; Equipment</th> </tr> </thead> <tbody> <tr> <td>Any leak or break from a pipeline</td> <td></td> <td></td> <td></td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>Release of a substance that has caused, is causing, or may cause an adverse effect</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Release of a substance into a water body (as defined in the <i>Water Act</i>)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Release of a substance into a watercourse, groundwater, or surface water (as stated in the <i>Release Reporting Regulation</i>)</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Release of oil, water or unrefined product off-site</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Release of oil, water, or unrefined product exceeding 2 cubic metres (m<sup>3</sup>) on-site</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>A liquid spill (as defined in the <i>Oil Sands Conservation Rules</i>)</td> <td></td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Release of a liquid hydrocarbon exceeding 2 m<sup>3</sup></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> </tr> <tr> <td>Uncontrolled gas release of more than 30,000 m<sup>3</sup></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>Release of gas or gas equivalent exceeding 30,000 m<sup>3</sup></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> <tr> <td>Well flowing uncontrolled</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Reportable Release	Oil & Gas	Mining - Oil Sands	In Situ - Oil Sands	Pipelines	Pipeline Installations	Pipeline-Related Activities & Equipment	Any leak or break from a pipeline				X			Release of a substance that has caused, is causing, or may cause an adverse effect	X	X	X	X	X	X	Release of a substance into a water body (as defined in the <i>Water Act</i> )	X	X	X	X	X	X	Release of a substance into a watercourse, groundwater, or surface water (as stated in the <i>Release Reporting Regulation</i> )	X	X	X	X	X	X	Release of oil, water or unrefined product off-site	X	X	X	X	X	X	Release of oil, water, or unrefined product exceeding 2 cubic metres (m <sup>3</sup> ) on-site	X	X	X	X	X	X	A liquid spill (as defined in the <i>Oil Sands Conservation Rules</i> )		X	X				Release of a liquid hydrocarbon exceeding 2 m <sup>3</sup>		X	X	X	X	X	Uncontrolled gas release of more than 30,000 m <sup>3</sup>	X	X	X	X	X		Release of gas or gas equivalent exceeding 30,000 m <sup>3</sup>		X	X	X	X		Well flowing uncontrolled	X	X	X			
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<b>* Definition of Adverse Affect</b>																																																																																					
Is defined by the Environmental Protection & Enhancement Act (EPEA) as "impairment of or damage to the environment, human health or safety, or property." For the purpose of reporting, the industry shall use the following guidelines to assess whether the release may cause, is causing or has caused an adverse affect.																																																																																					
<ul style="list-style-type: none"> <li>Any third party impact (off-lease), e.g. crop damage, vegetation damage or livestock impact</li> <li>Unrecovered spilled substance likely to contaminate surface or groundwater</li> <li>Contaminated groundwater and / or surface water</li> <li>Release or spill has potential for offsite odour complaints</li> <li>Toxic or flammable release to air going off-site</li> </ul>																																																																																					

**See following page for spill / release quotas.**

# 6.6 Alberta Petroleum Industry Release Reporting Requirements

**All spills exceeding the spill/release quotas listed in the table on the following page MUST be reported immediately to the appropriate regulatory agency.**

Chemical Class	Substance / Example	T.D.G. Reporting Requirements		Alberta (AER) Reporting Requirements
		Road, Rail or Marine	Loss or Theft	
<b>Other Released Substances</b>	Hydraulic Oil	No TDG Reporting Requirements		Refined products follow TDG requirements
	Methanol	See Class 3 & 6.1		
	Natural Gas	See Class 2.1		30,000 m <sup>3</sup>
	Crude Oil / Emulsion (Unrefined)	See Class 3		> 2 m <sup>3</sup> on-site Any release off-site (Report to AER and notify landowner) Any release that has caused, is causing, or may cause an adverse effect Any release into a water body, or a watercourse, groundwater, or surface water
	Produced / Salt Water (Unrefined)	No TDG Reporting Requirements		
	Condensate (Unrefined)	See Class 3		
	Bitumen (Unrefined)	See Class 3		
	Ammonia	See Class 3		
	Glycol	See Class 3		
	Drilling Waste (Unrefined)	No TDG Reporting Requirements		
Oilfield Waste (Unrefined)	No TDG Reporting Requirements			
<b>Class 1 Explosives</b>	Ammunition Nitro-glycerine	Any quantity of Packing Group II	Any quantity in Class 1.1, 1.2, and 1.3 Total quantity of 450 kg or more in Class 1.4 (except 1.4S), 1.5, or 1.6	All releases which could pose a danger, or 50 kg
<b>Class 2.1 Flammable Gases</b>	H <sub>2</sub> S Methane Propane Butane Natural Gas	Any quantity	Total quantity of 450 kg or more	All releases which could pose a danger, or any sustained release of 10 minutes or more
<b>Class 2.2 Non-Flammable Gases</b>	Compressed Air O <sub>2</sub> N <sub>2</sub> CO <sub>2</sub>		No TDG Reporting Requirements	30,000 m <sup>3</sup>
<b>Class 2.3 Toxic Gases (poisonous or corrosive)</b>	H <sub>2</sub> S SO <sub>2</sub> Hydrogen Cyanide Nitric Acid Anhydrous Ammonia		Any quantity	Any quantity
<b>Class 3 Flammable Liquids</b>	Gasoline Diesel Methanol Demulsifiers Scale Inhibitors Lube Oil Condensate	Any quantity of Packing Group I or II More than 30 L or 30 kg of Packing Group III	Total quantity of 450 kg or more of desensitized explosives Any quantity of UN1261, Nitromethane	> 2m <sup>3</sup> on-site > 200 L on land Any release that has caused, is causing, or may cause an adverse effect Any release into a water body, or a watercourse, groundwater, or surface water
<b>Class 4.1 Flammable Solids</b>	Calcium Resinate Naphthalene Crude		Total quantity of 450 kg or more of desensitized explosives Any quantity of UN1357, Urea Nitrate, with not less than 20% water, by mass; UN3370, Urea Nitrate, Wetted, with not less than 10% water by mass	> 25 kg on land Any release that has caused, is causing, or may cause an adverse effect
<b>Class 4.2 Spontaneously Combustible</b>	Activated Carbon Potassium Sulphide Phosphorus		Total quantity of 450 kg or more in Packing Groups I or II	Any release into a water body, or a watercourse, groundwater, or surface water
<b>Class 4.3 Dangerous when Wet</b>	Molten Sulphur Calcium Carbide Sodium Activated Carbon		Total quantity of 450 kg or more in Packing Groups I or II	
<b>Class 5.1 Oxidizing Substances</b>	Calcium Nitrate Ammonium Nitrate Bleaches		Total quantity of 450 kg or more in Packing Groups I or II Any quantity of UN1485, Potassium Chlorate; UN1486, Potassium Nitrate; UN 1487, Potassium Nitrate and Sodium Nitrate Mixture; UN1489, Potassium Perchlorate; UN1495, Sodium Chlorate; UN1498, Sodium Nitrate; UN1499 Sodium Nitrate and Potassium Nitrate Mixture; UN1511, Urea Hydrogen Peroxide; UN1942 Ammonia Nitrate, with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substances; UN2014 Hydrogen Peroxide, Aqueous Solution with not less than 20% but not less than 60% hydrogen peroxide (stabilized as necessary); UN2015, Hydrogen Peroxide, Stabilized; UN2031, Nitric Acid, other than red fuming; UN3149, Hydrogen Peroxide and Peroxyacetic Acid Mixture with acid (s), water and not more than 5% peroxyacetic acid, stabilized	> 50 kg or 50 L on land Any release that has caused, is causing, or may cause an adverse effect Any release into a water body, or a watercourse, groundwater, or surface water
<b>Class 5.2 Organic Peroxides</b>	Methyl Ethyl Ketone Peroxide Succinic Acid Peroxide	Any quantity in Class 5.2, Type B, liquid or solid, temperature controlled	1 kg or 1 L	
<b>Class 6.1 Poisonous Toxic Substances</b>	Arsenic Lead Acetate Mercuric Chloride Mercuric Oxide Methanol Toxic Pesticides	Any quantity of Packing Group I	> 5 kg or 5 L on land Any release that has caused, is causing, or may cause an adverse effect Any release into a water body, or a watercourse, groundwater, or surface water	
<b>Class 6.2 Infectious Substances</b>	Infectious Substances affecting Humans / Animals	Any quantity of Category A or B	Any quantity	All releases
<b>Class 7 Radioactive Substances</b>	Uranium Plutonium Naturally Occurring Radioactive Materials (N.O.R.M.)	For packages being transported under exclusive use: (i) 10 mSv/h on the external surface (ii) 2 mSv/h on the surface of the conveyance, and (iii) 0.1 mSv/h at a distance of 2 m from the surface  For packages not being transported under exclusive use: (i) 2 mSv/h on the external surface (ii) 0.1 mSv/h at a distance of 1 m from the package, (iii) 2 mSv/h on the surface of the conveyance, and (iv) 0.1 mSv/h at a distance of 2 m from the surface of the conveyance.	Any quantity	Discharge or radiation level exceeding 10 mSv/h at package surface & 200 u Sv/h, 1 m from the package surface
<b>Class 8 Corrosives</b>	Acids Bases Batteries Caustic Amine	Any quantity of Packing Group I or II 30 L or 30 kg of Packing Group III	Total quantity of 450 kg or more in Packing Group I or II Any quantity of UN1796, Nitrating Acid Mixture with more than 50% nitric acid; UN1826, Nitrating Acid Mixture, Spent, with more than 50% nitric acid; UN2032, Nitric Acid, Red Fuming	> 50 kg or 50 L on land Any release that has caused, is causing, or may cause an adverse effect Any release into a water body, or a watercourse, groundwater, or surface water
<b>Class 9 Miscellaneous Products, Substances &amp; Organisms, Environmentally Hazardous Substances</b>	P.C.B. Asbestos	30 L or 30 kg of Packing Group II or III, or without Packing Group	No TDG Reporting Requirements	25 kg or 25 L
<b>Other</b>	Any well flowing uncontrolled, any burning of effluent from a well or facility and any fire where loss exceeds 2m <sup>3</sup> of oil, or 30,000m <sup>3</sup> of gas where damage to well head occurs			

**For all other reportable substances/quantities, please refer to company SDS sheets for more information.**

List of Environment & Climate Change Canada's E2 Regulated Substances: <http://gazette.gc.ca/rp-pr/p2/2019/2019-03-06/html/sor-dors51-eng.html>



## 6.7 British Columbia Petroleum Industry Release Reporting Requirements

**All spills exceeding the spill/release quotas listed in the table on the following page MUST be reported immediately to the appropriate regulatory agency.**

Agency	Reportable Spills	Report Type	Report to
Emergency Management and Climate Readiness (EMCR)  BC Energy Regulator (BCER)	Report when: 1) If a spill/release occurs or is at imminent risk of occurring. 2) Any Minor Incident through KERMIT. <b>**See Note**</b> 3) When a sour gas product is released, any measurement of 10 ppm or greater measured at 1 metre from the source of the leak. 4) All spills or releases of any amount of material which impacts or may impact a body of water. 5) All spills or releases of hazardous substances which are not provincially regulated (such as radioactive substances). 6) All pipeline incidents, such as spills during construction phase or failure (without release) of any pressure control or ESD device. 7) All Substances spilled/released, or likely to be spilled/released when quantities are equal to or exceed the quantities listed in the Environment Reporting Requirements column in the <b>Release Reporting Thresholds</b> table on the following page.  Response to land based spills: 1) During the day must be initiated within 6 hours from time of discovery. 2) During the weekend or night must be initiated within 12 hours from time of discovery.	Verbal	24 Hour Number 800-663-3456 (Within 1 hour of a level 1, 2 or 3 emergency)
		Written	Electronic submission through the Online Minor Incident Reporting System, operated through KERMIT (Within 24 hours of a Minor incident)
Environment and Climate Change Canada (ECCC)	Environmental emergencies if: 1) The emergency involves any of the substances identified in Environment & Climate Change Canada's CEPA E2 List of regulated substances. See the website link at the bottom of the following page for more information.  Note: CEPA has not identified specific reporting thresholds; however, CEPA has suggested that existing provincial reporting thresholds or TDG reporting thresholds are acceptable for use.  A Schedule 8 written report through SWIM must be completed in the case of: 1) An environmental emergency involving the release of a hazardous substance that: a) Has or may have an immediate or long-term harmful effect on the environment b) Constitutes or may constitute a danger to the environment on which human life depends c) Constitutes or may constitute a danger in Canada to human life or health 2) The reasonable likelihood of an occurrence of an environmental emergency	Verbal	BCER / EMCR 24 Hour Number 800-663-3456
		Written	As soon as possible, submit a Schedule 8 through the SWIM (Single Window Information Manager) system
Transportation of Dangerous Goods (TDG)	Substances regulated by Transportation of Dangerous Goods if: 1) A release is anticipated, or the release meets or exceeds the reporting threshold in the TDG Reporting Requirements column in the <b>Release Reporting Thresholds</b> table on the following page.	Verbal	911 Local Authority Dangerous Goods BCER / EMCR 800-663-3456
		Written	Within 30 days
Canadian Transport Emergency Centre (CANUTEC)	Loss and theft reporting: 1) CANUTEC - all loss or theft of dangerous goods materials 2) Natural Resources Canada Inspector - Class 1 explosive materials only 3) Canadian Nuclear Safety Commission - Class 7 radioactive materials only	Verbal	1) 888-226-8832 or 613-996-6666 2) 613-995-5555 3) 613-995-0479
		Written	Within 30 days
Department of Fisheries and Oceans (DFO)	1) A release of any substance deleterious to fish into a fish bearing water body.	Verbal	BCER / EMCR 24 Hour Number 800-663-3456
Canada Energy Regulator (CER) & Transportation Safety Board (TSB)	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines: 1) An incident that harms people or the environment, 2) A rupture, or 3) A toxic plume  Note: Immediately reportable incidents must be reported within 3 hours to both the TSB Reporting Hotline and CER's OERS. If applicable, refer to the Federal Roles & Responsibilities chart in SECTION 5: EXTERNAL AGENCIES and the CER site section behind the AREA SPECIFIC INFORMATION tab for further regulations, definitions and reporting guidelines.	Verbal	Via Transportation Safety Board (TSB) Reporting Hotline 819-997-7887
		Written	<a href="mailto:PipelineNotifications@tsb.gc.ca">PipelineNotifications@tsb.gc.ca</a>
		Written	CER Online Event Reporting System (OERS) <a href="https://apps.cer-rec.gc.ca/ers/home/index">https://apps.cer-rec.gc.ca/ers/home/index</a>
		Written	CER - Within 21 days after the day of incident/near-miss TSB - Within 30 days after the day of the incident/near-miss
Canadian Nuclear Safety Commission (CNSC)	All radioactive releases must be reported immediately.	Verbal	613-995-0479
		Written	Within 21 days
Indian Oil & Gas (IOGC)	Immediately reportable events on First Nation reserve lands only: 1) Any health or environment-threatening emergency or off-lease spills. 2) On-lease spills greater than 1m <sup>3</sup> .	Verbal	IOGC Tsuu T'ina Office 403-292-5625

**\*\*Note:** The permit holder must report any minor incident (both spill and non-spill related) to the BCER within 24 hours by electronic submission through the Online Minor Incident Reporting System, opened through KERMIT (Form A). In addition to Form A, minor spills and leaks must also be reported immediately to EMCR so

Lead Agency Contact Numbers	
<b>British Columbia</b>	
Emergency Management and Climate Readiness (EMCR)	800-663-3456
BC Energy Regulator (BCER)	
<b>Canada</b>	
CANUTEC	
All Provinces	888-CAN-UTEC (888-226-8832) 613-996-6666
Canada Energy Regulator (CER) / Transportation Safety Board of Canada (TSB)	
TSB Reporting Hotline (Pipelines)	819-997-7887

Note: Spills must be reported promptly to avoid possible prosecution.

### OGAA S.37 - Spillage

- 1) A permit holder and a person carrying out an oil and gas activity must
  - (a) Prevent spillage, and
  - (b) Promptly report to the commission any damage or malfunction likely to cause spillage that could be a risk to public safety or the environment
- 2) If spillage occurs, a permit holder or person carrying out an oil and gas activity must promptly do all of the following:
  - (a) Remedy the cause or source of the spillage;
  - (b) Contain and eliminate the spillage;
  - (c) Remediate any land or body of water affected by the spillage;
  - (d) If the spillage is a risk to public safety or the environment, report to the commission:
    - (i) The location and severity of the spillage, and
    - (ii) Any damage or malfunction causing or contributing to the spillage.
- 3) A person who is aware that spillage is occurring or likely to occur must make reasonable efforts to prevent or assist in containing or preventing the spillage.

Please refer to the BC Environmental Management Act; **Spill Reporting Regulation**, Schedule "Reporting Levels for Certain Substances" for determining reportable spillage amounts of other substances not listed here.

Even though some spills are not reportable, the requirement to clean up the spill is still mandatory. Spills of reportable amounts which occur in a secondary containment are still a reportable incident.

See following page for spill/release quotas.

British Columbia spill reporting document updated March 2024

## 6.7 British Columbia Petroleum Industry Release Reporting Requirements

**All spills exceeding the spill/release quotas listed in the table on the following page MUST be reported immediately to the appropriate regulatory agency.**

Chemical Class	Substance / Example	T.D.G. Reporting Requirements		B.C. (BCER / EMCR) Reporting Requirements	
		Road, Rail or Marine	Loss or Theft		
<b>Other Released Substances</b>	Hydrogen Sulphide (H <sub>2</sub> S)	Any quantity	Any quantity	10 ppm or greater	
	Hydraulic Oil	No TDG Reporting Requirements		100 L on-site Any release off-site	
	Methanol	See Class 3 & 6.1			
	Crude Oil / Emulsion	See Class 3		100 L on-site / Any release off-site	
	Produced / Salt Water	No TDG Reporting Requirements		200 L / Any release off-site	
	Drilling or Invert Mud	No TDG Reporting Requirements		100 L on-site / Any release off-site	
	Condensate	See Class 3			
	Glycol	No TDG Reporting Requirements		200 kg or 200 L	
	Fresh Water	No TDG Reporting Requirements		10,000 L	
	Any fluid with toxic substances	No TDG Reporting Requirements		25 L	
<b>Class 1 Explosives</b>	Ammunition Nitro-glycerine	Any quantity of Packing Group II	Any quantity in Class 1.1, 1.2, and 1.3 Total quantity of 450 kg or more in Class 1.4 (except 1.4S), 1.5, or 1.6	50 kg, or less if the substance poses a danger to public safety	
<b>Class 2.1 Flammable Gases</b>	Methane Propane Butane Natural Gas (see line 25 below)	Any quantity	Total quantity of 450 kg or more	10 kg	
<b>Class 2.2 Non-Flammable Gases</b>	Compressed Air O <sub>2</sub> N <sub>2</sub> CO <sub>2</sub>		No TDG Reporting Requirements	10 kg	
<b>Class 2.3 Toxic Gases (poisonous or corrosive)</b>	SO <sub>2</sub> Hydrogen Cyanide Nitric Acid Anhydrous Ammonia		Any quantity	5 kg	
<b>Class 3 Flammable Liquids</b>	Gasoline Diesel Methanol Demulsifiers Scale Inhibitors	Any quantity of Packing Group I or II  More than 30 L or 30 kg of Packing Group III	Total quantity of 450 kg or more of desensitized explosives Any quantity of UN1261, Nitromethane	100 L	
	Lube Oil		100 L		
<b>Class 4.1 Flammable Solids</b>	Calcium Resinate Naphthalene Crude		Total quantity of 450 kg or more of desensitized explosives Any quantity of UN1357, Urea Nitrate, with not less than 20% water, by mass; UN3370, Urea Nitrate, Wetted, with not less than 10% water by mass	25 kg	
<b>Class 4.2 Spontaneously Combustible</b>	Activated Carbon Potassium Sulphide Phosphorus		Total quantity of 450 kg or more in Packing Groups I or II		
<b>Class 4.3 Dangerous when Wet</b>	Molten Sulphur Calcium Carbide Sodium Activated Carbon		Total quantity of 450 kg or more in Packing Groups I or II		
<b>Class 5.1 Oxidizing Substances</b>	Calcium Nitrate Ammonium Nitrate Bleaches		Any quantity of Packing Group I or II  More than 30 L or 30 kg of Packing Group III	Total quantity of 450 kg or more in Packing Groups I or II Any quantity of UN1485, Potassium Chlorate; UN1486, Potassium Nitrate; UN 1487, Potassium Nitrate and Sodium Nitrate Mixture; UN1489, Potassium Perchlorate; UN1495, Sodium Chlorate; UN1498, Sodium Nitrate; UN1499 Sodium Nitrate and Potassium Nitrate Mixture; UN1511, Urea Hydrogen Peroxide; UN1942 Ammonia Nitrate, with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substances; UN2014 Hydrogen Peroxide, Aqueous Solution with not less than 20% but not less than 60% hydrogen peroxide (stabilized as necessary); UN2015, Hydrogen Peroxide, Stabilized; UN2031, Nitric Acid, other than red fuming; UN3149, Hydrogen Peroxide and Peroxyacetic Acid Mixture with acid(s), water and not more than 5% peroxyacetic acid, stabilized	50 kg or 50 L
<b>Class 5.2 Organic Peroxides</b>	Methyl Ethyl Ketone Peroxide Succinic Acid Peroxide			Any quantity in Class 5.2, Type B, liquid or solid, temperature controlled	1 kg or 1 L
<b>Class 6.1 Poisonous Toxic Substances</b>	Arsenic Lead Acetate Mercuric Oxide Methanol Toxic Pesticides			Any quantity of Packing Group I	5 kg or 5 L
<b>Class 6.2 Infectious Substances</b>	Infectious Substances affecting Humans / Animals		Any quantity of Category A or B	Any quantity	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
<b>Class 7 Radioactive Substances</b>	Uranium Plutonium Naturally Occurring Radioactive Materials (N.O.R.M.)		For packages being transported under exclusive use: (i) 10 mSv/h on the external surface (ii) 2 mSv/h on the surface of the conveyance, and (iii) 0.1 mSv/h at a distance of 2 m from the surface  For packages not being transported under exclusive use: (i) 2 mSv/h on the external surface (ii) 0.1 mSv/h at a distance of 1 m from the package, (iii) 2 mSv/h on the surface of the conveyance, and (iv) 0.1 mSv/h at a distance of 2 m from the surface of the conveyance.	Any quantity	Any quantity that could pose a danger to public safety and an emission level greater than the emission level established in section 20 of the "Packaging and Transport of Nuclear Substance Regulations"
<b>Class 8 Corrosives</b>	Acids Bases Batteries Caustic Amine	Any quantity of Packing Group I or II  30 L or 30 kg of Packing Group III	Total quantity of 450 kg or more in Packing Group I or II Any quantity of UN1796, Nitrating Acid Mixture with more than 50% nitric acid; UN1826, Nitrating Acid Mixture, Spent, with more than 50% nitric acid; UN2032, Nitric Acid, Red Fuming	5 kg or 5 L	
<b>Class 9 Miscellaneous Products, Substances &amp; Organisms, Environmentally Hazardous Substances</b>	P.C.B. Asbestos Substances not regulated by the <i>Transportation of Dangerous Goods Act</i>	30 L or 30 kg of Packing Group II or III, or without Packing Group	No TDG Reporting Requirements	25 kg or 25 L of Packing Group II or III, or without Packing Group	

### Other items in the BC Spill Reporting Regulation that are applicable to the petroleum industry but do not fit in the above table format.

Item	Substance Spilled	Specified Amount
14	Waste containing dioxin as defined in Section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
15	Leachable toxic waste as defined in Section 1 of the Hazardous Waste Regulation	25 kg or 25 L
16	Waste containing polycyclic aromatic hydrocarbons as defined in Section 1 of the Hazardous Waste Regulation	5 kg or 5 L
17	Waste asbestos as defined in Section 1 of the Hazardous Waste Regulation	50 kg
18	Waste oil as defined in Section 1 of the Hazardous Waste Regulation	100 L
20	PCB wastes as defined in Section 1 of the Hazardous Waste Regulation	25 kg or 25 L
23	A hazardous waste as defined in Section 1 of the Hazardous Waste Regulation and not covered under items 1 to 22 (built into above table)	25 kg or 25 L
24	A substance, not covered by items 1 to 23 (built into above table) that can cause pollution	200 kg or 200 L
25	Natural Gas	10 kg, if there is a breakage in a pipeline or fitting operated above 100 psi that results in a sudden and uncontrolled release of natural gas

For all other reportable substances/quantities, please refer to company SDS sheets for more information.

## 6.8 Hazardous Materials Spill

### ***Initial Actions***

- Always refer to the SDS.
- Safe approach from upwind, uphill, upstream, keep safe distance.
- Position vehicles for quick escape. (facing away from incident).
- Identify material and assess the incident using binoculars.
- Stop product flow if possible and contain spill if safe to do so.
- Establish control perimeters (On-site Control Areas).
- Eliminate all ignition sources if hazardous material is flammable and if safe to do so.
- Evacuate unit using emergency alarm if spill might affect personnel.
- Update the Incident Commander with time, location, amount type, spill area, hazards. Complete Spill Report Form.
- Carry out internal and external notifications.

### ***Protective Equipment***

- Ensure proper Protective Equipment (clothing, SCBA, monitoring devices) and clothing:

### ***Containment and Control***

- Retain (let collect in natural low area or sump).
- Isolate (deny entry via safe distance from spilled material).
- Dike (make a small curb with dirt around spill).
- Dam (build underflow dam for product that floats on water, overflow for product that sinks).
- Divert (build small berm to change direction of flow. Use shovels, sand bags, heavy earth moving equipment, absorbents, booms, etc.
- Disperse (apply fog spray in chlorine cloud).
- Dilute (apply water to water-soluble material). Ensure run-off is contained.
- Float materials above leak with water injection.
- Foam (apply to large gasoline spill).
- Suppress vapours with foam or water fog if applicable.

### ***Protective Actions / Decontamination and Clean-up***

- Decontaminate personnel if exposed to spill. Follow appropriate decontamination procedures.
- Provide medical aid as required or seek medical advice.
- Dispose of wastes and contaminated clothing and equipment if unable to decontaminate.
- Reuse and Recycle. Consider waste impacts in all decisions.
- Documentation / Spill Report Form



## 6.9 CEPA Product Environmental Release

Canadian regulations contain a list of substances under the Canadian Environmental Protection Act, 1999 which if they enter the environment as a result of an accident:

- Have or may have an immediate or long-term harmful effect on the environment or its biological diversity,
- Constitute or may constitute a danger to the environment on which human life depends, or
- Constitute or may constitute a danger in Canada to human life or health.

The Canadian Environmental Protection Act (CEPA) requires ARC Resources to report quantities and to prepare CEPA Environmental Emergency Plans (known as CEPA E2 plans) for certain specified hazardous substances that are owned or managed by ARC Resources, at or above specified volumes.

Rather than creating a separate CEPA E2 plan, ARC Resources ensures that this ERP, in combination with materials that can be found on location, meets all prescribed CEPA E2 requirements.

### CEPA E2 Emergency Planning Requirements

The Canadian Environmental Protection Act (CEPA) required ARC Resources to report quantities and to prepare CEPA Environmental Emergency Plans (known as CEPA E2 Plans for :

- Certain specified hazardous substances that are owned or managed by ARC Resources, at or above specified volumes.

ARC Resources must provide confirmation to Environment and Climate Change Canada that a CEPA E2 plan has been prepared and implemented. However, ARC Resources does not create separate CEPA E2 plans. Instead, ARC Resources ensure that this ERP meets all prescribed CEPA E2 requirements, so that this single emergency response plan meets Federal CEPA regulations.

### Community / Local Authority Involvement

Environment and Climate Change Canada recommends that ARC Resources include community and interest groups as well as local and provincial emergency authorities in the development and preparation of the CEPA E2 Plan and also share the implemented plan with these persons. This is consistent with current ARC Resources emergency planning processes.

Therefore, as part of the regular emergency response plan update process; ARC Resources communicates with local authorities, mutual aid and / or community groups in the specific area.

ARC Resources will consult with and obtain emergency response information from any residents within the recommended evacuation distances of 1.6 km. Information from these residents / businesses will be added to the site specific sections of Emergency Response Plans that contain CEPA E2 regulated substances.

**Notification and Reporting**

The regulations expect that ARC Resources take all reasonable measures consistent with protection of the environment and public safety, and that ARC Resources will follow the specific verbal and written report information requirements for CEPA E2 regulated products under the Canadian environmental Emergency E2 Regulations.

Verbal notification is to be made to Alberta Environment or in British Columbia to the BCEM emergency line by telephone as soon as possible. Written reports are to be made within 30 days to the appropriate authority.

Province	Written Report Designated Person	Verbal Notification / 24-hour Telephone Line
Alberta	Regional Director, Environmental Enforcement Directorate Prairie and Northern Region Environment and Climate Change Canada Eastgate Building 9250 49 Street Edmonton, AB T6B 1K5 ec.dale-rpn-enforcement-pnr.ec@canada.ca	780-422-4505 or 1-800-222-6514 Accessible within Alberta
British Columbia	Regional Director, Environmental Enforcement Directorate Pacific and Yukon Region Environment and Climate Change Canada 201-401 Burrard Street, 4th floor Vancouver BC V6C 3S5 ec.pydalerimd-pyeeddgir.ec@canada.ca	1-800-663-3456

**Verbal Notification**

Include as much of the following information as is known at the time of the report:

- Name of the person reporting and the telephone number at which the reporting person can be immediately contacted
- Name of the person who owns or has the charge, management or control of the substance immediately before the environmental emergency
- Date and time of the release
- Location of the release
- The name / CAS registry number of the substance released
- Estimated quantity of the substance released
- Means of containment (from which the substance was released) and a description of container condition
- Number of deaths and injuries resulting from the environmental emergency
- Surrounding area / environment affected and potential impact of the release (mobility of release and weather or geographical conditions at the site);
- Description of the circumstances leading to the release
- Cause of the release (if known and if the accident investigation has been completed)
- Details of the actions taken or further actions contemplated (to contain, recover, clean up and dispose of the substance involved)
- Names of agencies notified or on-site; and
- Other pertinent information.

**Written Report Designated Person**

Information to be included in the written report of environmental emergency:

- The name, civic address and telephone number of the person who is providing the written report.
- If applicable, the name of the entity or person that is responsible for the facility that is associated with the environmental emergency.
- If applicable, the North American Industry Classification System codes, consisting of at least four digits, that describe the operations at the facility that is associated with the environmental emergency.
- The date and time of the environmental emergency and the location where it occurred, including the latitude and longitude, expressed in decimal degrees to five decimal places, and, if applicable, the civic address of that location.
- The name, CAS registry number and, if applicable, UN number of the substance that was released or likely to be released.
- The quantity of the substance that was released or likely to be released or, if the quantity cannot be determined, an estimate of it.
- If the substance is or was in a container system, a description of the container system, including a description of its condition
- A description of the harmful effects or potential harmful effects of the environmental emergency on the environment and on human life or health, including effects on any surrounding hospitals, schools, residential, commercial or industrial buildings, highways, public transit infrastructure, parks, forests, wildlife habitats, water sources or water bodies.
- A description of the circumstances of the environmental emergency and its cause, if known, and of the measures taken to mitigate any harmful effects on the environment or on human life or health.
- A description of all measures taken or planned to be taken to prevent similar environmental emergencies from occurring.

**CEPA E2 Emergency Response Exercises**

ARC Resources must conduct an annual emergency response exercise for each CEPA E2 regulated facility. As the type of annual exercise is not specified by Environment and Climate Change Canada, ARC Resources understands that this could be a tabletop exercise or a full mobilization exercise. A full mobilization exercise must be conducted at least once every five (5) years.

The type of exercise chosen depends on its purpose, the availability of resources and the limitations of conducting exercises that apply to the location of operations. It is recommended that ARC Resources invite local first responders (e.g. Fire Chief) to attend the annual CEPA exercise.

The Federal Environment and Climate Change Canada CEPA regulations state that responding to an actual incident is not usually a valid or appropriate test of the emergency plan. An actual incident may be considered a test of the plan only if it includes the appropriate agencies, proper debriefing and evaluation, corrective actions and documentation as in a typical exercise.

If more than one of the regulated substances is identified in this facility / area ERP, it is not necessary to carry out exercises for each regulated substance. For example, the exercise could focus on the flammables during the first year, while the other hazardous substances could be covered the following year. The principal objective is to ensure that all aspects of the plan are fully evaluated over the multi-year training and exercise cycle.

The CEPA regulations require that a record of all results obtained during the annual review or exercise of the ERP for the regulated substances must be kept on site for not less than five years. This record must be available for inspection with the emergency response plan itself.

**Emergency Response Assistance Canada (ERAC)** formally known as Liquid Petroleum Gas Emergency Response Corp (LPGERC)

The Emergency Response Assistance Canada (ERAC) is a cooperative that provides emergency preparedness, response, and technical advisory services for LPG incidents across Canada which includes:

- A Response Manager, who can be contacted 24 hours/day through the Activation Number **1-800-265-0212**, and will activate ERAC resources in order to respond to an incident. Provide them with the ERAP# **ERP2-0010-175**.
- Technical resources to assist ARC with managing an incident involving a stationary storage tank or while product is being transported by road from a facility to a receiving terminal, and
- Fully trained and equipped Remedial Measures Advisors and / or a Response Team to assist ARC with responding to and stabilizing an incident.

ERAC will respond to emergencies involving the following products:

Product Type	Product Code
LPG	UN 1075
Propane	UN 1978
Butane	UN 1011
Propylene	UN 1077
Butylene	UN 1012
Isobutane	UN 1969
Isobutylene	UN 1055
Butadiene 1.3 (Stabilized)	UN 1010

### **Emergency Response Assistance Plan (ERAP)**

In compliance with Transportation of Dangerous Goods requirements, ARC Resources has an ERAP, created and maintained by ERAC, which has been approved by Transport Canada. It is in effect whenever storage containers are offered “for transport” or being shipped by ARC.

Once ERAC is contacted, they will activate the ERAP.

**Responsibility Assignment during an Environmental Release**

The following table identifies the responsibilities of both ERAC and ARC when there is an environmental release and the ERAP has been activated. As a Plan Participant of the ERAC, it is incumbent upon you to understand and be aware of your role and responsibilities within the ERAP.

No	Task	Responsible Party
1	Securing accident upon arrival	ERAC
2	Call ERAP activation phone # <b>1-800-265-0212</b> and take direction from ERAC Response Managers. Provide them with <b>ERAP # ERP2-0010-175</b>	ARC Resources' First Responders
3	Conduct site assessments to identify hazards	ERAC
4	Implement emergency response procedures as outlined in ERAP	ERAC
5	Conduct formal accident assessment (including inspect damaged transport vehicle, etc.)	ERAC
6	Notify appropriate regulatory authorities	Person(s) in care and control (e.g. Transporter, ARC Resources)
7	Contact / Evacuate local residents	ARC Resources
8	Transfer dangerous goods from damaged containment	ERAC
9	Obtaining and provide the recovery means of containment (e.g. Truck tank(s) or Rail car(s))?	ARC Resources
10	Conduct media/public/corporate communications tasks	ARC Resources (See Section 8 Media and Press Release Guidelines)
11	Provide transportation to incidents which cannot be accessed by land. (e.g. barge off shore?)	ARC Resources

**Role of the ERAC**

If the plan is activated, ERAC will deploy response personnel to the incident site as quickly as possible. ERAC acts in an advisory capacity to the First Responder in charge at the incident scene (or to the ARC Resources Incident Commander as necessary) and will coordinate specialized response tasks as required.

ERAC personnel will remain at the incident scene until the emergency has been stabilized and there is no further danger from the container.

### **Activating ERAC**

The decision to activate ERAC should be made by the ARC Incident Commander based on:

- The potential risks to people if the release is allowed to continue,
- The possibility of accidentally igniting the vapour plume from an ignition source at the facility,
- Whether local weather conditions promote dispersion of the gases,
- Potential secondary consequences if the storage vessel is likely to be exposed to elevated temperatures for prolonged periods, and
- The volume of LPG in the bullet or storage vessel affected.

### **If ERAC receives notification from external sources**

It is important to understand that the ARC's ERAP could be activated by a direct call to the ERAC Response Centre by the Police or by a First Responder using the ERAP Activation Number listed on the shipping manifest. Alternately, ARC personnel who have been contacted by the First Responder at the accident scene may be the ones to make the call to the ERAC Response Centre.

The ERAC Response Centre will contact ARC Resources if they receive a call from a First Responder to inform ARC Resources about the location of the incident and the response steps that have been initiated by ERAC.

### **If ARC receives notification from external sources**

Because ARC Resources may be contacted if an incident occurs after the product leaves a facility, there are several steps that must be followed by ARC's on-call personnel to ensure that the proper contacts are made.

- Determine who the first responder is, what has happened, where the accident has occurred, and what mode of transport is involved. Confirm that it is an ARC loaded container.
- Notify the ARC Resources Incident Commander and / or Crisis Manager.
- Notify ERAC at **1-800-265-0212** and place them on stand-by, pending contact with the transporter. Provide them with **ERAP# ERP2-0010-175**.
- Contact the transporter's emergency number and confirm they are aware of the accident and that they will be responding appropriately. (If the transport company cannot be contacted or is unwilling to respond, leave a message or confirm that ARC will be activating ERAC to respond to the incident. Indicate that they will be responsible for all costs incurred.)
- Advise ERAC to stand-down if the transport company is responding. If not, activate ERAC.
- If ERAC is activated, notify the Incident Commander of the actions taken.
- Confirm the actions taken with the First Responder who contacted ARC.
- Keep a log of all telephone contacts.

**See SDS sheets for Potential Hazards, Properties and Characteristics, appropriate PPE, and Substance specific responses for each CEPA-regulated substance.**

## 6.10 LPG Release

If the vessel is registered with Environment and Climate Change Canada refer to Section 6.11 for more information.

The primary concern in responding to an LPG release is to ensure the safety of all on-site personnel and public that could be affected, especially if the release increases in size or is ignited. There are no residual environmental consequences associated with an LPG / butane release. The principal concern is removing potential ignition sources to avoid detonation of the vapour plume. LPG vapours are heavier than air and will tend to collect in low lying areas, well cellars, and sumps if winds are calm.

LPG bullets are fitted with self-closing valves. If a sudden drop in feeder line pressure occurs, the valve closes. However, a release may continue if it is as a result of a small tear or pin hole in a line or fitting where the pressure drop is insufficient to actuate the valve. In this case, manually closing the valve may stop the release, if the release is downstream of the valve.

The most appropriate course of action if the release cannot be safely stopped is to evacuate, isolate the release site and allow the LPG to escape and disperse into the atmosphere.

For all LPG releases:

- Follow First on Scene - 7 Steps (Section 1.2).
- Notify immediate supervisor and / or designated Incident Commander.
- Isolate release location (e.g. mobilize roadblocks) for 1.6 km (1 mile) around incident site.
- Assess hazards and remove potential ignition sources, if safe to do so.
- Stop product flow and isolate source, if possible / safe to do so.
- Protect the public by advising residents to evacuate a safe distance (more than 1.6 km or 1 mile from incident site).
- Inform first responders (e.g. police, fire or ambulance) about the hazards.
- Do not direct water at spill or source of leak.
- Refer to CEPA E2 Guideline – notify the appropriate oil and gas regulator and Emergency Response Assistance Canada, (ERAC) (formally LPGERC) if required.
- If the release cannot be safely stopped, keep the release site isolated and allow the LPG to escape and disperse into the atmosphere if safe to do so.
- Airspace above release can be closed by NAV CANADA using a Notice to Airman (NOTAM)
- If possible, monitor air quality at incident site to ensure safety of responders.
- Notify Environment and Climate Change Canada (verbally via provincial contact numbers and then a written report to Environment and Climate Change Canada within 10 days) – see CEPA E2 Guideline.



## 6.11 NGL Release

If the vessel is registered with Environment and Climate Change Canada refer to Section 6.11 for more information.

There is a potential for a fire or explosion due to the high flammability of the escaping vapours, and the opportunity for accidental ignition from an unsuspected source. (e.g. pilot lights, electrical switches, cigarettes, vehicles, cellular phones, pagers).

There can also be a potential for hydrocarbon narcosis which is an intoxicating effect caused by overexposure to hydrocarbon vapours. Close to the release, the atmosphere may be oxygen deficient. Individuals who come into direct contact with the release risk the hazard or extremely low temperatures with the potential to cause severe freezing.

Weather conditions, especially wind direction, should be continuously monitored and response plans altered in changing conditions, to assure the safety of company personnel and the public.

### **WARNING: Never enter a vapour cloud**

Prior to proceeding to a potential leak site, personnel should ensure that they are wearing the appropriate fire retardant clothing and that the required personal protective equipment (flare gun, gas detector, etc.) is readily available. Route vehicles arriving on-site around any vapour clouds (monitoring wind conditions and considering elevations).

- Use intrinsically safe equipment (e.g. flashlights, radios and continuous gas detectors with audible alarms).
- Eliminate or shut off all potential sources of ignition in the immediate area.
- Do not carry any ignition sources (cell phones, lighters, matches).
- Pinpoint the leak location as accurately as possible, using all available sources of information.
- Explore on foot, using the buddy system if possible.
- Wear appropriate protective clothing (fire retardant clothes, splash resistant gloves, etc.).
- Use gas detectors to monitor leak sites and identify areas containing vapours.

### **Identifying an NGL Release**

Some indications of an NGL leak are listed below:

- Noise of the escaping vapour
- Plume of white spray - condensation and freezing moisture in the atmosphere
- Hydrocarbon smell (sometimes thought to be natural gas)
- White fog-like plume drifting into low areas
- Moisture forming on windshields
- White cloud at varying vertical heights escaping from the release site ("a geyser")
- Stalling vehicles or racing diesel engines
- Ice build-up on exposed pipe and frozen ground around an underground pipe
- Brown vegetation, which is an indication of soil saturation
- Yellow-stained snow, which may be an indication of NGL accumulation under the snow



## 6.12 HVP Release

If the vessel is registered with Environment and Climate Change Canada refer to Section 6.11 for more information.

The primary hazard associated with HVP products is direct exposure to flame. Upon release, immediate ignition could occur resulting in a jet fire, or a dense gas cloud could travel to a delayed ignition source, resulting in a flash fire or an explosion. It is important to note that vapours may travel to the source of ignition and flashback. The largest hazard area for emergency response planning is the flash fire.

### Indications of a potential leak:

- Noise of escaping vapour – hissing or roaring noise coming from the pipeline;
- Slight mist of ice or frozen area on the pipeline
- Plume of white spray – condensation and freezing moisture in atmosphere
- Moisture forming on windshields
- Stalling vehicles or racing diesel engines
- An unusual odour or scent of gas
- Dense white cloud or fog
- Discolored or dead vegetation
- Yellow-stained snow, which may indicate NGL accumulation under the snow.
- Continuous bubbling in wet, flooded area;
- A rainbow or sheen on water

### For all HVP releases:

- Follow First on Scene - 7 Steps (Section 1.2).
- Notify immediate supervisor and / or designated Incident Commander.
- Assess hazards.
  - Hazards include flammable/toxic vapours, fire / flashback, temperatures / freezing, lack of oxygen surrounding the leak. The danger from fire explosion exists when an escaping vapour mixes with air to within the upper explosive limit (UEL).
  - Ignition sources can include vehicles, electrical switches, cell phones, lighters, furnaces / hot water heaters, static electricity, earthworks construction near escaping gas (e.g. stones/rocks being moved violently against other hard objects).
  - Topography such low lying areas such as river valleys, coulees where plume / drifting gases may collect.
- Stop product flow and isolate source, if possible / safe to do so.
- Responders must have accredited training and be equipped with appropriate breathing apparatus and LEL monitors. Approach the site from an upwind or crosswind direction.
- First responders (e.g. police, fire or ambulance) about the hazards and not to enter planning or response zones.
- Isolate release location.
- Ensure monitoring of weather conditions. Develop air monitoring strategy.
- Notify oil and gas regulator.

Following an incident, the hazard associated with an HVP product release may be controlled or minimized by deliberately igniting the release. Ignition of an HVP product release should occur **ONLY** after the position of the plume has been established, after careful deliberation, and when safe to do so, ensuring public protection measures as outlined in Section 8 are followed. Sheltering is the recommended until the position of the plume can be assessed and evacuation can take place safely.

### EPZ General Information

The following are proposed EPZ Distances for selected pipeline diameters are:

Pipeline Size		Ethane, Propane and Butane Mix (No Ethylene)	Ethylene
3"	88.9 mm	250 m	250 m
4"	114.3 mm	300 m	300 m
6"	168.3 mm	500 m	550 m
8"	219.1 mm	700 m	750 m
10"	273.1 mm	900 m	1000 m
12"	323.9 mm	1100 m	1200 m
16"	406.4 mm	1600 m	1600 m

*Information from CAPP Companion Guide to AER (formally known as ERCB) Directive 71*

**Ensure you refer to your site-specific ERP information, as applicable, for the established Emergency Planning Zone information.**

### 6.13 Acid Gas Injection Wells

ARC Resources Ltd. hired Capstone Blowout Recovery to conduct a study and compile a conceptual report on well capping / blowout recovery operations in Northeast BC. The scope of this report involves an acid gas injection well at 5-35-79-14W6 but could be applied for any of ARC’s acid gas injection wells. The report is known as the ARC Resources Blowout Contingency Plan.

The report is based on blowout recovery operations involving surface intervention. It is important to note that the written response is based on hypothetical scenarios and although sound, proven methods, and procedures have been applied, a practical response may not be limited to that outlined in the report.

The basis of the study includes:

1. Blowout events occurring on the well involving the following scenarios:
  - Horizontal release due to a lateral impact to the wellhead, resulting in a damaged flange connection below the lower master valve and a severed side outlet valve on the tubing hanger spool.
  - Vertical release due to long term injecting under sub-zero temperatures, resulting in the formation of a hydrate in the casing and surrounding formation. This caused the tubing to collapse and casing to rupture, allowing the formation fluids to broach the wellbore.
2. ARC Resources existing facilities, wellbore design, downhole completion, and reservoir characteristics.
  - The flow potential of this well is based on data provided by ARC Resources to Risktec Solutions Canada Ltd in support of a well dispersion analysis report for the 5-35 well. This value was stated in the report (ARCR-01-TN-01 Dispersion Analysis) as 491 e3m3/d (17.3 MMscf/d). In the best interest of emergency preparedness, the release rate for this blowout contingency plan should be realistic for each scenario and would be considerably less mainly due to a packer set downhole as well as unique flow restrictions at the exiting orifice in each scenario. The release rates chosen as a basis for establishing approach strategies and well control procedures for each scenario are as follows:

Scenario #1 – Flange Leak	26.4 e3m3/d (0.9 MMscf/d)
Scenario #2 – Wellbore Broach	90.0 e3m3/d (3.2 MMscf/d) Reducing to 26 e3m3 over time

In the event of an emergency at an acid gas injection well please refer to the ARC Resources Blowout Contingency Plan for information on how to properly respond to an emergency occurring at an acid gas injection well. The Blowout Contingency Plan can be accessed on ARC’s Operations Sharepoint page under the Reference Documents folder.

## 6.14 Notification of Next-of-Kin

This guideline applies for Notification of Next-of-Kin for:

- A serious injury
- A fatality

ARC company personnel that may be involved in an emergency who are unharmed, but are not able to contact family members to advise them of their status

Other situations where ARC may need to contact family members of its staff.

### **Contractor Next-of-Kin Notification**

- If a contractor employed by ARC is injured, the Incident Commander and the Crisis Manager will ensure that the contractor's head office is notified. The Contractor is responsible for their own employee's notification of Next-of-Kin.
- In the case where a contractor is a small operation, or with no office, ARC will request that the RCMP identify and notify the Next-of-Kin.

### **ARC Employee Next-of-Kin Notification**

The Incident Commander is responsible to the notification of Next-of-Kin and this will be supported by the ARC Crisis Manager. ARC will request that notification be made by RCMP Victim Services, accompanied, if possible, by the most senior company field representative or appropriate ARC representative known by the family. Consideration should also be given to having next of kin notification support by clergy or a representative of the deceased religious background, if available.

If an ARC employee is seriously injured, missing or killed, it is the responsibility of the Incident Commander to ensure that ARC provides prompt notification to the Police so that the immediate family is notified as quickly as possible.

### **Policy**

- In telephone or radio communications, personnel are to exercise extreme discretion regarding the names of the injured or deceased. If at all possible, use secure landlines when having any such discussions.
- Under no circumstances are the names of casualties or missing persons to be released before the Next-of-Kin are notified and permission is received from the RCMP and the Crisis Manager.
- In the case of death of an ARC employee or Contractor employee, the Next-of-Kin notification should be done in person by the RCMP and, when possible, with assistance of an ARC representative. However, notification is not to occur until a medical doctor or medical examiner with the RCMP has pronounced the casualty legally dead.
- If the incident involves the death or serious injury of a member of the public, local police will be contacted by the Incident Commander (or designate) and asked to notify the Next-of-Kin.
- The Incident Commander will ask that the Crisis Manager to task Human Resources staff to provide the necessary support to help shield affected families from excessive media harassment, if required.

**Note: Death can never be declared by ARC no matter how obvious.**

**Considerations**

- ❑ The Operations Section Chief should attempt to obtain names of all witnesses to the accident and make any notes that may assist in obtaining written statements from witnesses in case the Police ask for the following information:
  - Deceased's proper name, address, date of birth, and other identifiers
  - All facts surrounding accident/reason for death
  - Time and location of incident
  - Exact time of death, if known
  - Names of attending physicians when death was pronounced
  - Names of attending officers and / or witnesses
- ❑ Police, Medical Examiner, Occupational Health and Safety, and a member of ARC's senior management may travel to the site. All material and equipment involved in a fatal accident are to remain untouched until cleared for removal by the Police.
- ❑ The Operations Section Chief should attempt to document all valuables belonging to the deceased before turning them over to the Medical Examiner. A signed receipt should be obtained from the person taking custody of these materials.

**Guidelines - for ARC personnel supporting RCMP Victim Services**

While the RCMP Victim Services have their own protocol, ARC believes that initial notification to Next-of-Kin of a death or serious injury may be difficult and usually very emotional but it is also very important.

Some helpful points for ARC personnel supporting RCMP Victim Services are:

- ❑ Triple check the casualty's identity before notifying the family.
  - Confirm the relationship of the casualty to the relative being notified.
  - Notification will attempt to be made in person. In cases where the Next-of-Kin are remote to the emergency scene, the police should be requested to notify the immediate family, possibly without a company presence.
  - In the case of death, no notification should be given to Next-of-Kin until a medical doctor confirms the casualty's condition. If the Next-of-Kin do not live in the vicinity, notification should be routed through the police.
  - Identify the time and location of the accident and the current location of casualty.
- ❑ The most senior company field representative or appropriate ARC representative known by the family should be considered to accompany the police in making notifications. Should the appropriate person be unavailable, the Incident Commander together with the Crisis Manager will assign a staff member so there is no unnecessary delay in making notifications. Consideration should also be given to having next of kin notification support by clergy or a representative of the deceased religious background, if available.
- ❑ Identify the time and location of the accident and the current location of the casualty.
- ❑ Present facts without speculation. Do not discuss personal perceptions of liability or fault. Offer assistance, such as transportation to the hospital.
- ❑ Advise the family that a company representative will attempt to be contacting them to discuss any immediate and future needs. Follow up on this commitment.
- ❑ The notified individual should not be left alone after initial notification is given.

## 6.15 Natural Hazards

The following information has been compiled to provide guidance in response to severe weather and natural hazards. The following guidelines are based on information developed by Environment and Climate Change Canada for inclusion in emergency response plans. For additional information and updates, refer to: <https://www.getprepared.gc.ca/cnt/hzd/index-en.aspx#rgnlhzrds>

### **Natural hazards include but are not limited to:**

- Flooding / excessive water in basins
- Severe storms
- Tornadoes
- Earthquakes
- Flooding / Excessive water in basins

### **Basic Response:**

- Ensure personnel safety.
- Notify designated Incident Commander of what happened and other details.

### **If flooding is imminent:**

- Take action to shut down, isolate and de-pressure process equipment, as required.
- Shut in electricity and electrical equipment as required.
- Do NOT attempt to shut off electricity if water is already present.
- The combination of water and live electrical current can be lethal.
- Leave the area immediately and only enter when it is proven safe.
- Move critical equipment and records to higher ground if safe to do so.
- Remove hazardous materials and dangerous goods from the flood area to prevent pollution if safe to do so.
- As required, remove toilet bowls and plug sewer drains and toilet connections with a wooden stopper.
- In some cases, buildings or equipment may be protected with sandbags or polyethylene barriers. This approach requires specific instructions from the Incident Commander working closely with local emergency officials.

### **During a flood:**

Keep communication lines open and listen to your radio to find out what areas are affected, what roads are safe, and where to go if you are asked to evacuate.

***If you need to evacuate:***

- Take action to shut down, isolate and depressure process equipment, as required.
- Vacate your workplace when you are advised to do so by the Incident Commander and / or local emergency authorities. Ignoring such a warning could jeopardize your safety, the safety of your coworkers or those who may need to come to your rescue.
- Follow the evacuation route specified. Don't take shortcuts. They could lead you to a blocked or dangerous area.
- Never cross a flooded area.
- If you are on foot, fast water could sweep you away.
- If you are in a vehicle, do not drive through flood waters or underpasses. The water may be deeper than it looks and your vehicle could get stuck or swept away by fast water.
- Avoid crossing bridges if the water is high and flowing quickly.
- If you are caught in fast-rising waters and your vehicle stalls, leave it and save yourself and your passengers.

***Excessive water in basins:***

- Advise Provincial Agency of potential issues.
- Any loss of process water containment needs to be reported as an environmental contravention.
- Identify resource requirements to assist with water movement.

***Re-entering your workplace:***

- Do not re-enter flooded work areas until the Incident Commander under advisement of qualified personnel (e.g. electricians, structural engineers) has determined it is safe to do so.
- Use extreme caution when returning to your workplace after a flood.
- Look for evidence that the area and buildings are structurally safe.
- Look for buckled walls or floors.
- Watch for holes in the floor, bent or broken piping, broken glass and other potentially dangerous debris.
- Flood water can be heavily contaminated with sewage and other pollutants which can cause sickness and infections.
- Equipment that may have been flooded poses a risk of shock or fire.
- Do not use any equipment, heating, pressure, or sewage systems (including appliances) until they have been thoroughly cleaned, dried, inspected and deemed safe to operate.
- Electrical components and panels need to be cleaned, dried, and tested by a qualified electrician to ensure that they are safe.
- Depending on the area and extent of damage, government approvals may be required prior to reconnecting power and/or restarting operations.



**Other flood considerations:**

- If you suspect that drinking water has been contaminated, don't drink it.
- Items that have been flood-damaged may have to be discarded according to local regulations.
- Documentation - all critical documents that have been damaged can be frozen (in a freezer) until they are needed. After the clean-up, ARC Incident Commander, regulatory and legal advisors can help determine whether the flood-damaged documents, or just the information in them, need to be retained.
- Maintain good hygiene during flood clean-up. Minimize contact with floodwater or anything that may have been in contact with it. Keep children away from contaminated areas during clean-up operations.

**Severe Storms**

When a severe storm is on the horizon, the Meteorological Service of Canada issues watches, warnings and advisories through radio and television stations, the Weather Office Website, ([https://weather.gc.ca/canada\\_e.html](https://weather.gc.ca/canada_e.html)) automated telephone information lines and Environment and Climate Change Canada's Weather Radio.

**General Precautions:**

If a severe storm is forecast, secure everything that might be blown around or torn loose. Flying objects can injure people and damage property.

- Assess potential hazards and take actions to reduce the danger of equipment falling and causing other damage during a storm.
- If you are in a vehicle, stop the vehicle away from trees or power lines that might fall on you. Report where you are and stay there.
- Subsequent actions depend upon potential hazards and the type of damage anticipated.



## **Blizzards**

If a blizzard or heavy blowing snow is forecast, you may want to limit travel or string a lifeline between buildings if you have to move between them during a storm.

- When a winter storm hits, stay indoors if at all possible.
- If you need to go outside, ensure others know where you are going. Report your status regularly.
- Dress for the weather. Outer clothing should be tightly woven and water-repellent. Wear a hat. Jackets should have hoods. Most body heat is lost through the head.
- In wide-open areas, visibility can be virtually zero during blizzards or periods of heavy blowing snow and a person can easily lose their way.
- If you need to travel on roads during a winter storm, do so during the daytime and let someone know your route and expected arrival time.
- If your car gets stuck in a blizzard or snowstorm, remain calm and stay in your car. Allow fresh air in your car by opening the window slightly on the sheltered side – away from the wind. You can run the car engine about 10 minutes every half-hour if the exhaust system is working well. Be aware of exhaust fumes and check the exhaust pipe periodically to make sure it is not blocked with snow. Remember that you can't smell potentially fatal carbon monoxide fumes.
- To keep your hands and feet warm, exercise them periodically. In general, it is a good idea to keep moving to avoid falling asleep. If you do try to shovel snow, avoid overexerting yourself. Overexertion in the bitter cold can cause death as a result of sweating or a heart attack.

## **Hail**

If hail is forecast, assess potential hazards and take action to reduce the danger of equipment, building or vehicular damage.

- Take cover when hail begins to fall. Hail comes down at great speed, especially when accompanied by high winds. People can be seriously injured by hail.
- If possible, stay indoors and keep away from windows, glass doors and skylights which can shatter if hit by hailstones. Avoid using the telephone during a storm, and do not touch metal objects.
- If outdoors, take shelter and avoid any low lying areas that may flood.

## **Heavy Rain / Freezing Rain**

When heavy rain is forecast, consider checking the site drainage to reduce the possibility of flooding.

Ice from freezing rain accumulates on trees, power lines and buildings. If you need to go outside when a significant amount of ice has accumulated, pay attention to branches or wires that could break due to the weight of the ice and fall. Also look for ice build-up on roofs or overhangs.

- Never touch downed power lines. A hanging power line could be charged (live) and you would run the risk of electrocution. Remember also that ice, branches or power lines can continue to break and fall for several hours after precipitation has ended.

- When freezing rain is forecast, avoid driving. Even a small amount of freezing rain can make roads extremely slippery. Wait several hours after freezing rain ends so that road maintenance crews have enough time to spread sand or salt on icy roads.
- Rapid onsets of freezing rain combined with the risk of blizzards increase the chances for extreme hypothermia.

### Lightning

- Always take shelter during periods of lightning.
- To estimate how far away the lightning is, count the seconds between the flash of lightning and the thunderclap. Each second is about 300 metres. If you count fewer than 5 seconds, take shelter immediately. If fewer than 30 seconds, look for shelter and take cover.
- If at all possible, wait 30 minutes after the last lightning strike in a severe storm before resuming work outside.
- If you are outside in the open, do not lie flat. Crouch down with your feet close together and your head down (the "leap-frog" position). By minimizing your contact with the ground, you reduce the risk of being electrocuted by a ground charge.
- Do not use equipment that may conduct electricity.

### Thunderstorms

- Before a severe thunderstorm, consider shutting down and isolating any non-essential electrical equipment. Regularly check for weather updates.
- During thunderstorms, stay away from items that conduct electricity, such as telephones, sinks and metal piping.
- If you are outdoors when a thunderstorm hits, take shelter immediately, preferably in a building but failing this, in a depressed area such as a ditch, culvert or cave. Be aware of areas that may flood during periods of heavy rain.
- Never seek shelter under a tree.

### Tornadoes

Warning signs include:

- Severe thunderstorms with frequent thunder and lightning.
- An extremely dark sky sometimes highlighted by green or yellow clouds.
- High humidity and an almost still wind with low hanging clouds with 'fingers' of cloud extending downward and curling back upwards.
- A rumbling or whistling sound.
- A funnel cloud at the base of a thundercloud, often behind a curtain of heavy rain or hail.

Environment and Climate Change Canada has a responsibility for warning the public when conditions exist that may produce tornadoes. It does this through radio, television, newspapers, its internet site, [http://www.weatheroffice.gc.ca/forecast/canada/index\\_e.html?id=AB](http://www.weatheroffice.gc.ca/forecast/canada/index_e.html?id=AB) as well as through its weather phone lines.

**What to do during a tornado**

If you are inside:

- Take shelter in a small interior ground floor room such as a bathroom, closet or hallway.
- Protect yourself by taking shelter under a heavy table or desk.
- Stay away from windows, outside walls and doors.

If you are in an office or multi-story building:

- Take shelter in an inner hallway or room, ideally in the basement or on the ground floor.
- Do not use the elevator.
- Stay away from windows.
- Stay out of large buildings with wide-span roofs which may collapse if a tornado hits. Find shelter elsewhere, preferably in a building with a strong foundation.

If no shelter is available:

- Lie down in a ditch away from vehicles or light portable trailers or mobile homes.
- Beware of flooding from downpours and be prepared to move.

If you are driving:

- If you spot a tornado in the distance, drive to the nearest solid shelter.
- If a tornado is close, get out of your vehicle and take cover in a low-lying area, such as a ditch.

In all cases:

- Get as close to the ground as possible, protect your head and watch for flying debris.
- Do not chase tornadoes – they are unpredictable and can change course abruptly.
- A tornado is deceptive. It may appear to be standing still but may actually be moving toward you.

**Earthquakes**

Basic Response:

- Ensure personnel safety.
- Notify appropriate person (e.g. supervisor) of what happened and other details.

During an earthquake:

- When an earthquake starts, take cover immediately.
- Move to a safe place nearby if need be. Stay there until the shaking stops.
- If you are indoors - stay away from windows and shelves with heavy objects. Follow the instructions: 'Drop, Cover, Hold'.
- DROP - under heavy furniture such as a table, desk, bed or any solid furniture.
- COVER - your head and torso to prevent being hit by falling objects.
- HOLD - onto the object that you are under so that you remain covered. If you can't get under something strong, or if you are in a hallway, flatten yourself or crouch against an interior wall.

If you are outdoors

- Stay outside.
- Go to an open area away from buildings.

If you are in a vehicle

- Pull over to a safe place where you are not blocking the road. Keep roads clear for rescue and emergency vehicles.
- Avoid bridges, overpasses, underpasses, piping, buildings or anything that could collapse.
- Stop the car and stay inside. Do not attempt to get out of your car if downed power lines are across it. Wait to be rescued.

In an earthquake, avoid:

- Doorways: Doors may slam shut and cause injuries.
- All windows, glass and heavy objects.
- Moving equipment including elevators. If you are in an elevator during an earthquake, hit the button for every floor and get out as soon as you can.
- Downed power lines – stay at least 10 metres away to avoid injury.
- Coastlines. Earthquakes can trigger large ocean waves called tsunamis.

#### **After an earthquake:**

Be prepared for aftershocks.

- Take instructions from the Incident Commander or listen to the radio or television for information from authorities. Follow their instructions.
- Place telephone receivers back in their cradles; only make calls if emergency services are required.
- Wear sturdy shoes and protective clothing to prevent injury from debris, especially broken glass.
- Check for structural damage and other hazards. If you suspect the workplace is unsafe, leave, report the unsafe conditions and do not re-enter.
- Do not waste food or water as supplies may be limited.
- Do not turn on light switches or restart equipment until you are sure there are no gas leaks or flammable liquids spilled and the equipment is not damaged.
- Do not flush toilets if you suspect sewer lines may be broken.
- Carefully clean up any spilled hazardous materials, if possible to do so safely. Wear proper hand and eye protection.
- Check on your neighbours around the facility after looking after immediate personnel on site. Help to organize and assist with rescue measures if people are trapped or call for Local Authority and/or First Nations emergency assistance if you cannot safely help them.
- Beware of secondary effects.
- Although ground shaking is the major source of earthquake damage, secondary effects can also be very destructive.
- These include landslides, saturated sandy soils becoming soft and unstable, flooding of low-lying areas and tsunamis washing over coastlines.

## 6.16 Wildlife Encounter

In the event of a wildlife incident, always ensure personnel safety, notify everyone in the area of the wildlife danger, and if deemed necessary, muster notification may sound. All project site personnel will assemble at the designated muster / assembly areas and await further instruction.

Notify Sustainable Resources, Fisheries and Wildlife Management as soon as possible.

### Bears

If you see a bear, stay calm.

- Stop and assess the situation. Don't run, crouch down or play dead too soon.

If the bear is unaware of you:

- Calmly leave the area and go back the way you came.
- If you can't avoid the bear, gently alert the bear to your presence by moving upwind, waving your arms and calling out in a calm voice.

If a bear approaches you or you surprise it:

- Don't run. Talk in a calm voice.
- Slowly back away in the direction from which you came.
- If a bear keeps following you, stand your ground.
- If you are carrying bear spray, get it in hand, point the nozzle away from you and check the wind direction to make sure the spray will not blow back at you.
- Attempt to determine if the bear is acting in self-defense or predatory behaviour.

### Bear Attack

- If a bear attacks in self-defense, play dead.
- Lie face down on the ground with your feet spread apart. This will help stop the bear from rolling you over. Interlock your fingers and place them around the back of your head to protect your head and neck.
- If the attack continues for more than a few moments then fight back as this is a predatory attack.
- If the bear attack is predatory, fight back. Do not stop fighting until the attack is over.

### Cougars

These large cats have been known to attack people. They are silent stalkers and hunters. Cougars are often very difficult to spot.

- If a cougar attacks, it is predatory, fight back.
- Make yourself as big as possible and fight with whatever you have on hand.
- Never look a cougar in the eye, as this is a way to provoke a confrontation.

**Moose**

A fully grown moose can weigh up to 800 kgs. If you find yourself between an angry female moose and her calves, beware! An angry moose will protect her offspring at all costs. Moose kick with their front feet as well as their hind feet.

If you see its ears laid back and / or the hair on its “hump” stand up, it’s angry or afraid and may charge.

If a moose attacks:

- Attempt to get behind a tree or a piece of equipment.
- If there is no cover, get down on the ground, cover your head and neck and stay still.
- The attack should cease once the moose feels there is no threat.

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## 6.17 Mining

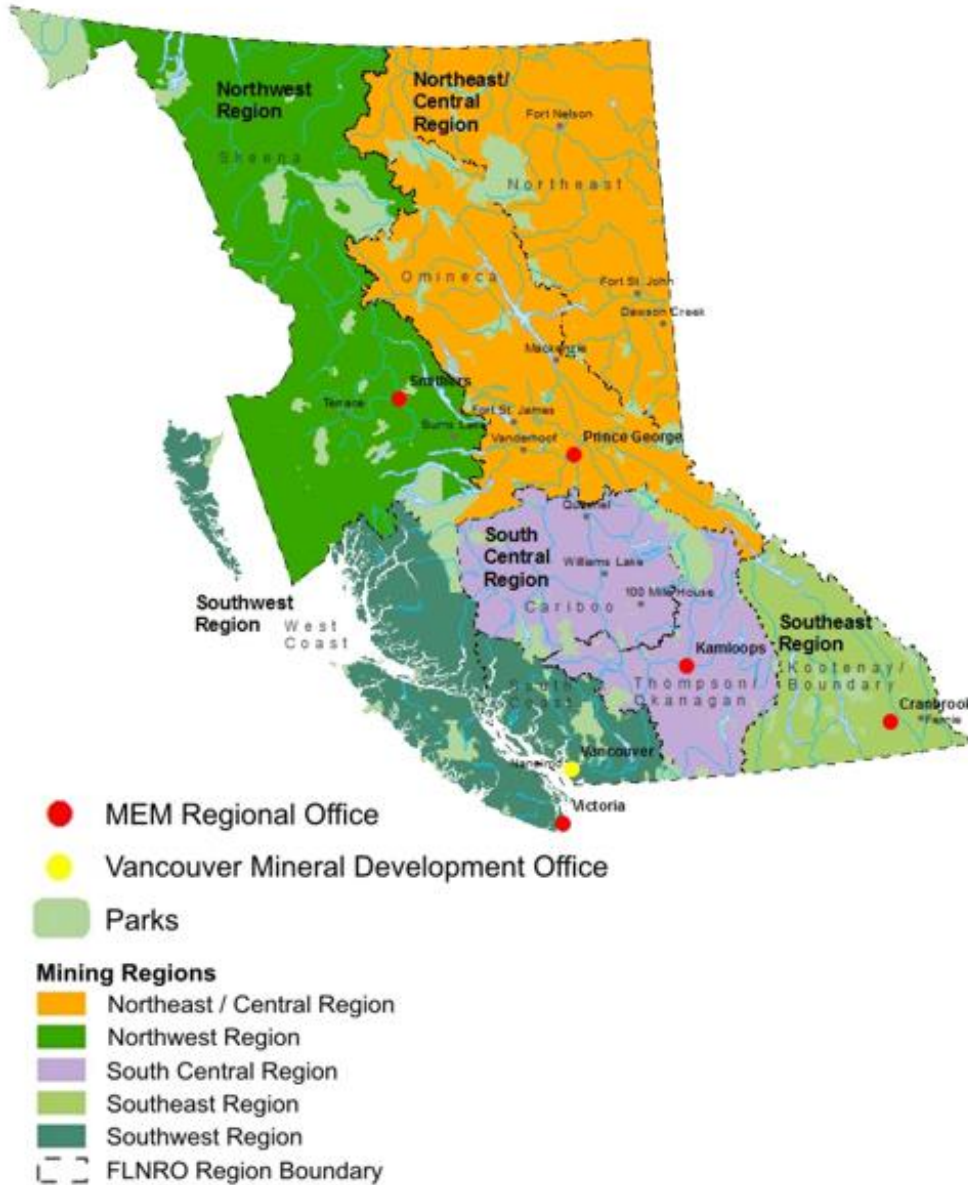
ARC Resources Ltd. has or may have in the future either gravel pits or shale pits within proximity to its operating areas. These pits or mines are used as a source of materials to construct or repair lease roads and leases. All mining activity takes place above ground and therefore underground mining risks and hazards do not apply to ARC's gravel/shale pits.

This is a general guideline for an incident occurring at the mine site.

- Follow First Response - 7 Steps (Section 1.2)
- Notify your immediate Supervisor and / or Incident Commander
- Review Section 6: Incident Specific Guidelines to determine what type of incident it is and what specific actions could apply. For example:
  - Fire/Explosion
  - Motor Vehicle Accident
  - Natural Hazards
  - Etc.
- Halt all activities not related to the emergency that may endanger other persons and focus on properly controlling and containing the emergency. This may include halting unrelated activity in order to supply the required emergency personnel and equipment.
- When evacuating the mine site, remember to:
  - Shut off any equipment (if safe to do so)
  - Consider security of the site and who needs access



**BC Mines and Mineral Resources Division Regional Boundaries and Contacts**



Mine Incident Reporting in BC is done through EMCR and their number can be found in Section 1 of this ERP.

Contacts for BC Mine and Minerals can be found at the following address:  
[https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/further-information/office-chief-inspector#:~:text=In%20addition%20to%20the%20Office,Division%20\(MCAD\)%20share%20ofive%20regional](https://www2.gov.bc.ca/gov/content/industry/mineral-exploration-mining/further-information/office-chief-inspector#:~:text=In%20addition%20to%20the%20Office,Division%20(MCAD)%20share%20ofive%20regional)

### Additional Mining Rescue Equipment

The Ministry of Energy, Mines & Petroleum Resources, Mines and Mineral Resources Division maintain one mine rescue equipment cache for the province, located in Kamloops. The cache consists of rescue equipment, spare parts and other difficult to source supplies for the purpose of supporting a large scale emergency response. The Chief Inspector of Mines or the Deputy Chief Inspector of Mines can authorize any loan of equipment from the cache.

Item	Quantity	Description	Operational	Comments
1	12	BG4 PSS Sentinel	Y	Not stored
3	4	Kegs of Draegersorb	Y	w/Draegersorb Shelf life 5 years
4	30	Draeger O <sub>2</sub> Cylinders	Y	Fully charged 3000 psi
5	50	BG4 filter mats	Y	2 per use of BG4
6	Assorted spare parts for BG4s as recommended by Draeger			
7	6	11 mm x 30 m Static Rope	Y	Used Mine Rescue 2016
8	6	11 mm X 60 m Static Rope	Y	Used Mine Rescue 2016
9	1	Oxygen Pump Masterline	Y	Electric
10	1	BG4 Dryer	Y	New
11	various	1" flat webbing, various lengths	Y	
12	various	8 mm prussic, various lengths	Y	
13	various	Prussic Minding 50 mm pulleys	Y	
14	various	Single 50 mm pulleys	Y	
15	1	Multi-purpose device (MPD)	Y	
16	3	Brake racks	Y	
17	8	Figure 8s	Y	
18	various	Steel carabiners	Y	
19	1	Rigging plate	Y	
20	1	Kootenay carriage pulley	Y	
21	2	Basket stretchers complete with spine boards & straps	Y	
22	1	Litter Straps for basket stretcher	Y	
23	2	Older Basket stretchers (aluminum)	Y	
24	1	SKED – portable stretcher	Y	
25	1	Folding Stretcher – older	Y	
26	2	O <sub>2</sub> therapy units	Y	
27	4	Full-body harnesses	Y	
28	4	Petzl Navaho Bod harnesses	Y	
29	8	Full-Body Fall Protection Harnesses	Y	
30	8	Lanyards	Y	

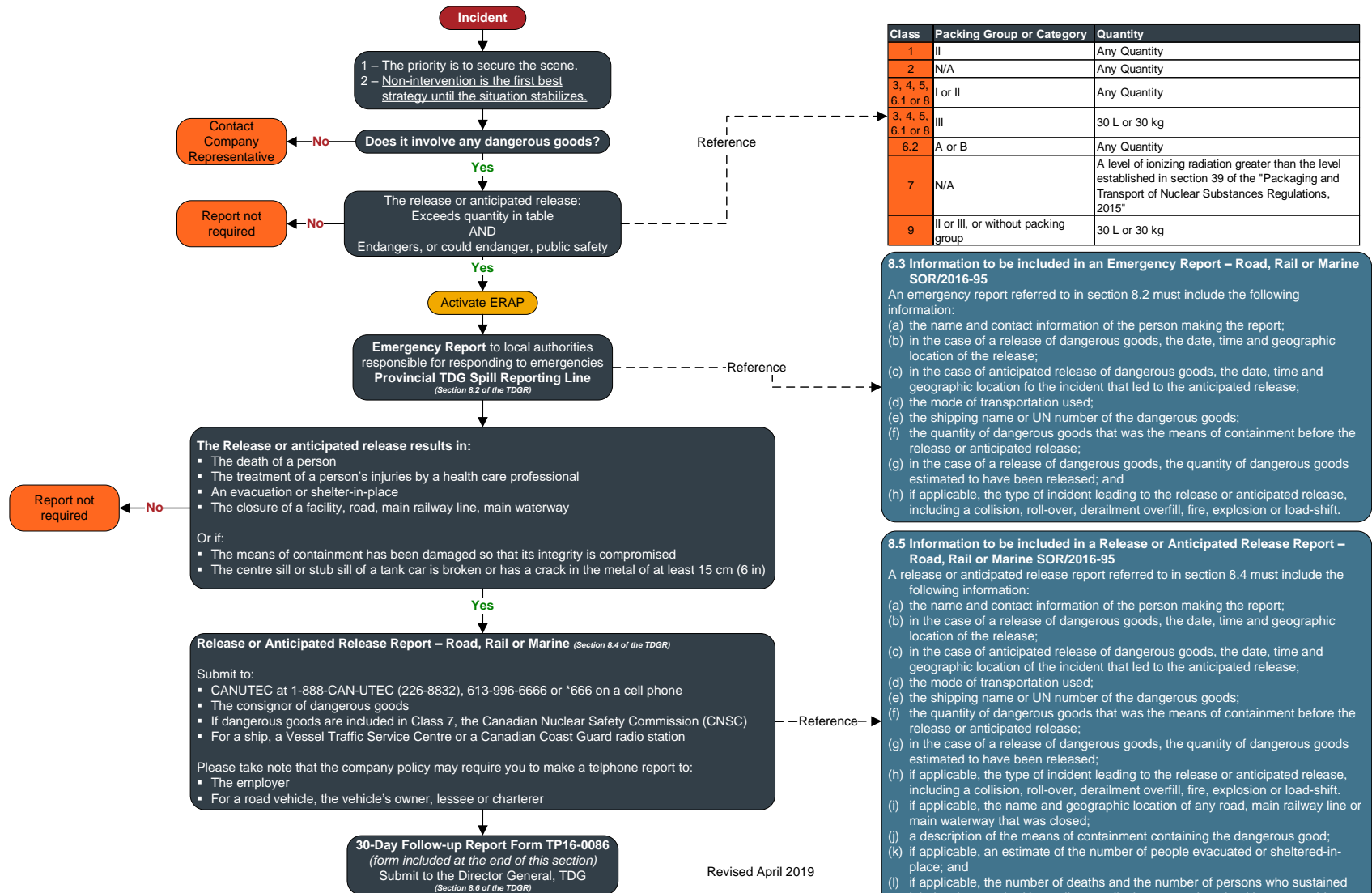
31	1	Petzl Pitagor Rescue Harness	Y	
32	3	Avalanche response packs	Y	
33	6	Pelican picks	Y	
34	2	Test-it 6100 for BG4s	Y	
35	1	RZ 50 BG4 tester	Y	
36	2	BG4 test kit	Y	
37	1	Foam Generator	Y	
38	6	5 gallon foam pail	Y	
39	2	12 Ton Air Bags	Y	
40	1	24 Ton Air Bag	Y	
41	1	40 Ton Air Bag	Y	
42	3	32" Air Bag Hoses	Y	
43	1	Regulator for Air Bag	Y	
44	1	DCV10U Dual Air Controller	Y	
45	4	Air bag air tanks	N	Out for recertifying
46	various	Miscellaneous Hand Tools		
47	various	Misc. Mine Rescue Competition Props		

The contacts for obtaining this additional rescue equipment are listed below:

Title	Name	Phone Number	Email
Chief Inspector of Mines	Hermanus Henning	250-419-8659	Hermanus.Henning@gov.bc.ca
Deputy Chief Inspector of Mines	Diana Howe	250-952-0183	Diane.Howe@gov.bc.ca

### 6.18 Transportation Incidents

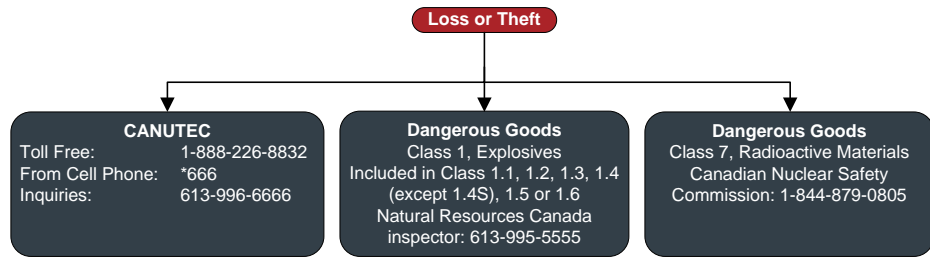
#### First On-Scene Transportation (Road, Rail, Marine) Incident Flowchart



Source: <https://www.tc.gc.ca/eng/canutec/emergencies-reporting-411.htm>

**Loss, Theft or Unlawful Interference Reporting Flowchart**

**Loss or Theft Report Protocol**



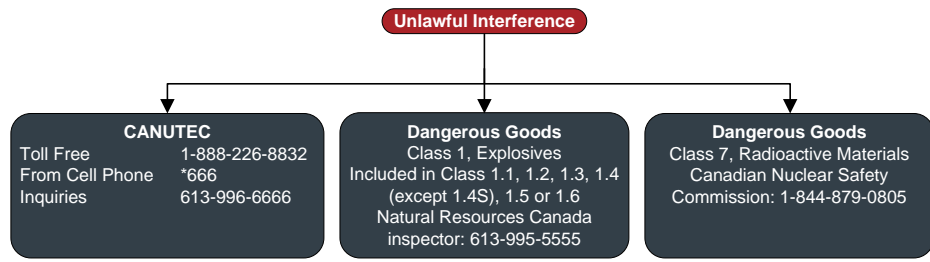
- 1. Any Quantity of Dangerous Goods in the following Primary and Subsidiary Classes:**
- Explosives included in Class 1.1, 1.2, or 1.3
  - Toxic gases included in Class 2.3
  - Organic peroxides included in Class 5.2, Type B, liquid or solid, temperature controlled
  - Toxic substances included in Class 6.1 and Packing Group I
  - Infectious substances included in Class 6.2
  - Radioactive materials included in Class 7

- 2. A Total Quantity of 450kg or more, in the case of Dangerous Goods in the following Primary and Subsidiary Classes:**
- Explosives included in Class 1.4 (except for 1.4S), 1.5 or 1.6
  - Flammable gases included in Class 2.1
  - Flammable gases included in Class 3
  - Desensitized explosives included in Class 3 or 4.1
  - Substances liable to spontaneous combustion, pyrophoric solids or liquids, included in Class 4.2 and Packing Group I or II
  - Water-reactive substances included in Class 4.3 and Packing Group I or II
  - Oxidizing substances included in Class 5.1 and Packing Group I or II
  - Corrosives included in Class 8 and Packing Group I or II

- 3. Any Quantity of one of these Dangerous Goods:**
- UN1261, Nitromethane,
  - UN1357, Urea Nitrate, Wetted with not less than 20%,
  - UN1485, Potassium Chlorate,
  - UN1486, Potassium Nitrate,
  - UN1487, Potassium Nitrate and Sodium Nitrate Mixture,
  - UN1489, Potassium Perchlorate,
  - UN1495, Sodium Chlorate,
  - UN1498, Sodium Nitrate,
  - UN1499, Sodium Nitrate and Potassium Nitrate Mixture,
  - UN1511, Urea Hydrogen Peroxide,
  - UN1796, Nitrating Acid Mixture with more than 50% nitric acid,
  - UN1826, Nitrating Acid Mixture, Spent, with not more than 50% nitric acid,
  - UN1942, Nitrating Acid Mixture, with not more than 0.2% combustible substances, including any organic substance calculated as carbon, to the exclusion of any other added substance,
  - UN2014, Hydrogen Peroxide, Aqueous Solution with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary),
  - UN2015, Hydrogen Peroxide, Aqueous Solution, Stabilized with more than 60% hydrogen peroxide; or Hydrogen Peroxide, Stabilized,
  - UN2031, Nitric Acid, other than red fuming
  - UN2032, Nitric Acid, Red Fuming
  - UN3149, Hydrogen Peroxide and Peroxyacetic Acid Mixture with acid(s), water and not more than 5% peroxyacetic acid, Stabilized
  - UN3370, Urea Nitrate, Wetted, with not less than 10% water by mass.

Reference

**Unlawful Interference Report Protocol**



Revised June 2018

### **Emergency Response Assistance Canada (ERAC) Plan**

Internal notification is required in the event of a LPG incident. The extent of the notification depends on the severity of the incident. If the Emergency Response Assistance Canada (ERAC) Plan has been implemented, the incident is considered serious. Examples of serious incidents include: fire, spill, rupture, collision involving tanker car, tanker car overturning, etc.

Notification of an LPG incident outside of a plant site will most likely come from Emergency Response Assistance Canada (ERAC) in Calgary, Alberta.

If the call is NOT from ERAC, contact ERAC immediately and confirm the plan has been initiated.

If you receive the initial call, contact the ERAC:

- Refer to **Section 3: Government Agency Roles or Area Specific Information** for contact information

Refer to the First On-Scene Incident Flowchart on the previous page for information on when to contact.

### **CANUTEC – Canadian Transport Emergency Centre**

CANUTEC is operated by Transport Canada to assist emergency response personnel in handling dangerous goods emergencies involving all modes of transportation.

In an emergency, CANUTEC may be called collect at:

- Refer to **Section 3: Government Agency Roles or Area Specific Information** for contact information

CANUTEC **MUST** be notified in the case of the following:

- Lost, stolen or misplaced infectious substances.
- An incident involving infectious substances.
- An accidental release from a cylinder that has suffered a catastrophic failure.
- An incident where the shipping documents display CANUTEC's telephone number as the emergency number.
- A dangerous goods incident in which a railway vehicle, a ship, an aircraft, an aerodrome or an air cargo facility is involved.

## **Dangerous Goods References**

### **Agency Contacts**

Although technical information and emergency response assistance can be obtained from CANUTEC, there are federal and provincial regulations requiring the reporting of dangerous goods incidents to certain authorities.

- Refer to **Section 3: Government Agency Roles or Area Specific Information** for contact information

*Note: The nearest police department must be notified in the case of lost, stolen or misplaced explosives, radioactive materials or infectious substances.*

The appropriate federal agencies must be notified if affected:

- Refer to Refer to **Section 3: Government Agency Roles or Area Specific Information** for contact information

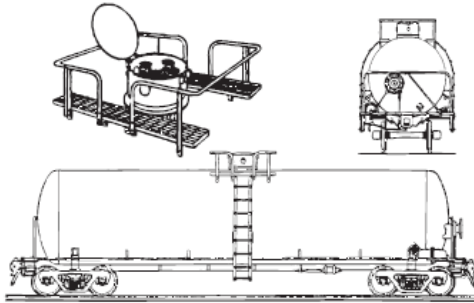
### **TDG Reportable Quantities**

Refer to Petroleum Release Reporting Requirements chart in this section (**6.6 Alberta Petroleum Industry Release Reporting Requirements** and **6.7 British Columbia Petroleum Industry Spill / Release Reporting Requirements**).



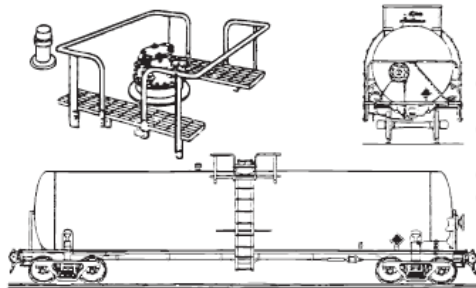
**Rail Car Identification Chart**

**117 Pressure tank car**



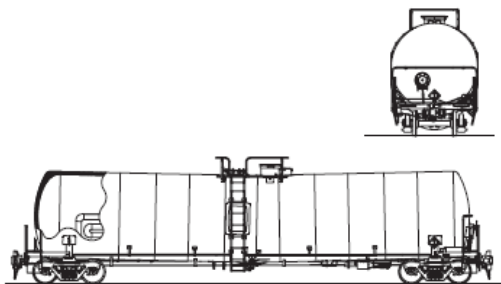
- For flammable, non-flammable, toxic and/or liquefied compressed gases
- Protective housing
- No bottom fittings
- Pressures usually above 40 psi

**131 General service tank car (low pressure)**



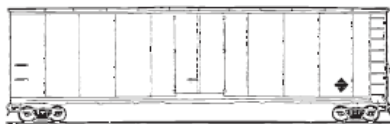
- For variety of hazardous and non-hazardous materials
- Fittings and valves normally visible at the top of the tank
- Some may have bottom outlet valve
- Pressures usually below 25 psi

**128 Low pressure tank car (TC117, DOT117)**



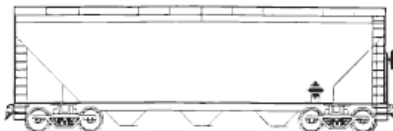
- For flammable liquids (e.g., Petroleum crude oil, ethanol)
- Protective housing separate from manway
- Bottom outlet valve
- Pressures usually below 25 psi

**111 Box car**



- For general freight that carry bulk or non-bulk packages
- May transport hazardous materials in small packages or "tote bins"
- Single or double sliding door

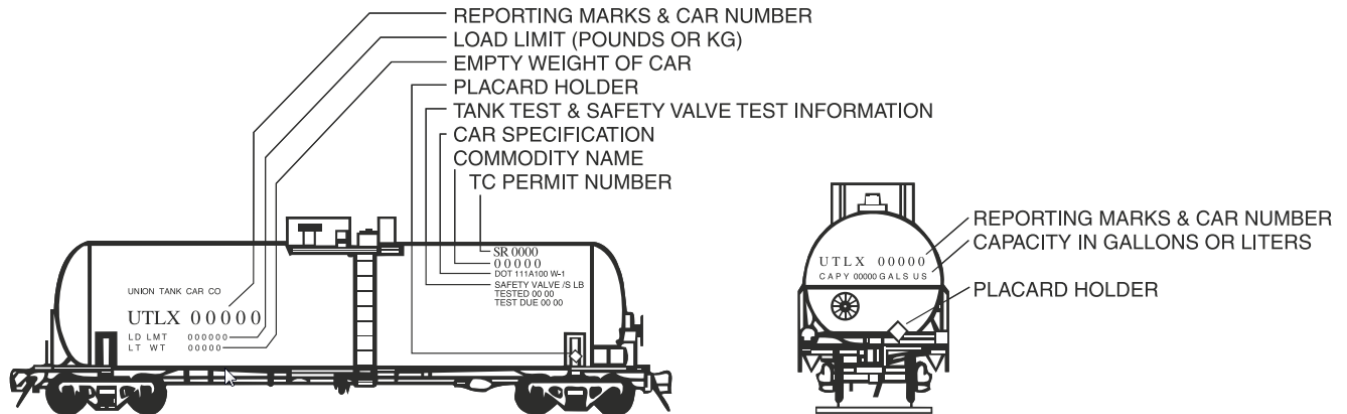
**140 Hopper car**



- For bulk commodities and bulk cargo (e.g., coal, ore, cement and solid granular materials)
- Bulk lading discharged by gravity through the hopper bottom doors when doors opened



**Rail Car Identification Chart, continued**



**CAUTION:** Emergency response personnel must be aware that rail tank cars vary widely in construction, fittings and purpose. Tank cars could transport products that may be solids, liquids or gases. The products may be under pressure. It is essential that products be identified by consulting shipping documents or train consist or contacting dispatch centres before emergency response is initiated.

The information stencilled on the sides or ends of tank cars, as illustrated above, may be used to identify the product utilizing:

- a. the commodity name shown; or
- b. the other information shown, especially reporting marks and car number which when supplied to a dispatch centre, will facilitate the identification of the product.

**The recommended guides should be considered as last resort if the material cannot be identified by any other means.**

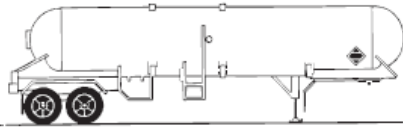
*Source: 2020 Emergency Response Guidebook*

Road Trailer Identification Chart

**WARNING:** Road trailers may be jacketed, the cross-section may look different than shown and external ring stiffeners would be invisible.

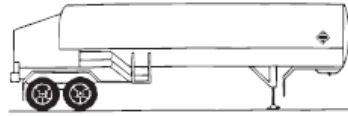
**NOTE:** An emergency shut-off valve is commonly found at the front of the tank, near the driver door.

**117 MC331, TC331, SCT331**



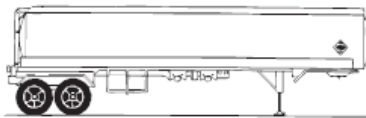
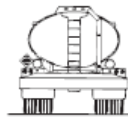
- For liquefied compressed gases (e.g., LPG, ammonia)
- Rounded heads
- Design pressure between 100-500 psi

**117 MC338, TC338, SCT338, TC341, CGA341**



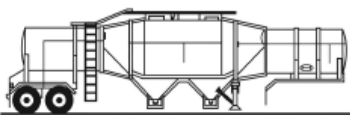
- For refrigerated liquefied gases (cryogenic liquids)
- Similar to a "giant thermo-bottle"
- Fitting compartments located in a cabinet at the rear of the tank
- MAWP between 25-500 psi\*\*

**131 DOT406, TC406, SCT306, MC306, TC306**



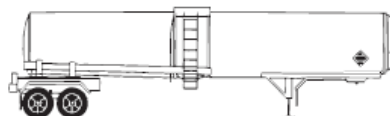
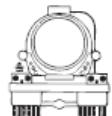
- For flammable liquids (e.g., gasoline, diesel)
- Elliptical cross-section
- Rollover protection at the top
- Bottom outlet valves
- MAWP between 3-15 psi\*\*

**112 TC423**



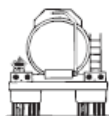
- For emulsions and water-gel explosives
- Hopper-style configuration
- MAWP between 5-15 psi\*\*

**137 DOT407, TC407, SCT307, MC307, TC307**



- For toxic, corrosive, and flammable liquids
- Circular cross-section
- May have external ring stiffeners
- MAWP of at least 25 psi\*\*

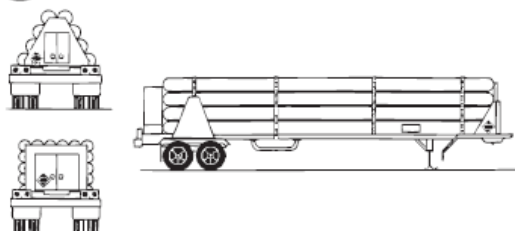
**137 DOT412, TC412, SCT312, MC312, TC312**



- Usually for corrosive liquids
- Circular cross-section
- External ring stiffeners
- Tank diameter is relatively small
- MAWP of at least 15 psi\*\*

**Road Trailer Identification Chart, continued**

**117** Compressed Gas/Tube Trailer



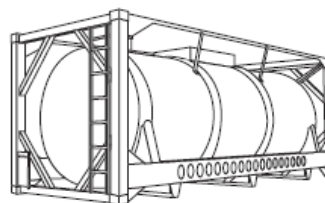
**111** Mixed Cargo



**134** Dry Bulk Cargo Trailer



**117** Intermodal Tank



**137** Vacuum Tanker



**CAUTION:** This chart depicts only the most general shapes of road trailers. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated above, that are used for shipping chemical products. The suggested guides are for the most hazardous products that may be transported in these trailer types.

**The recommended guides should be considered as last resort if the material cannot be identified by any other means.**

*Source: 2020 Emergency Response Guidebook*

Table of Markings, Labels and Placards

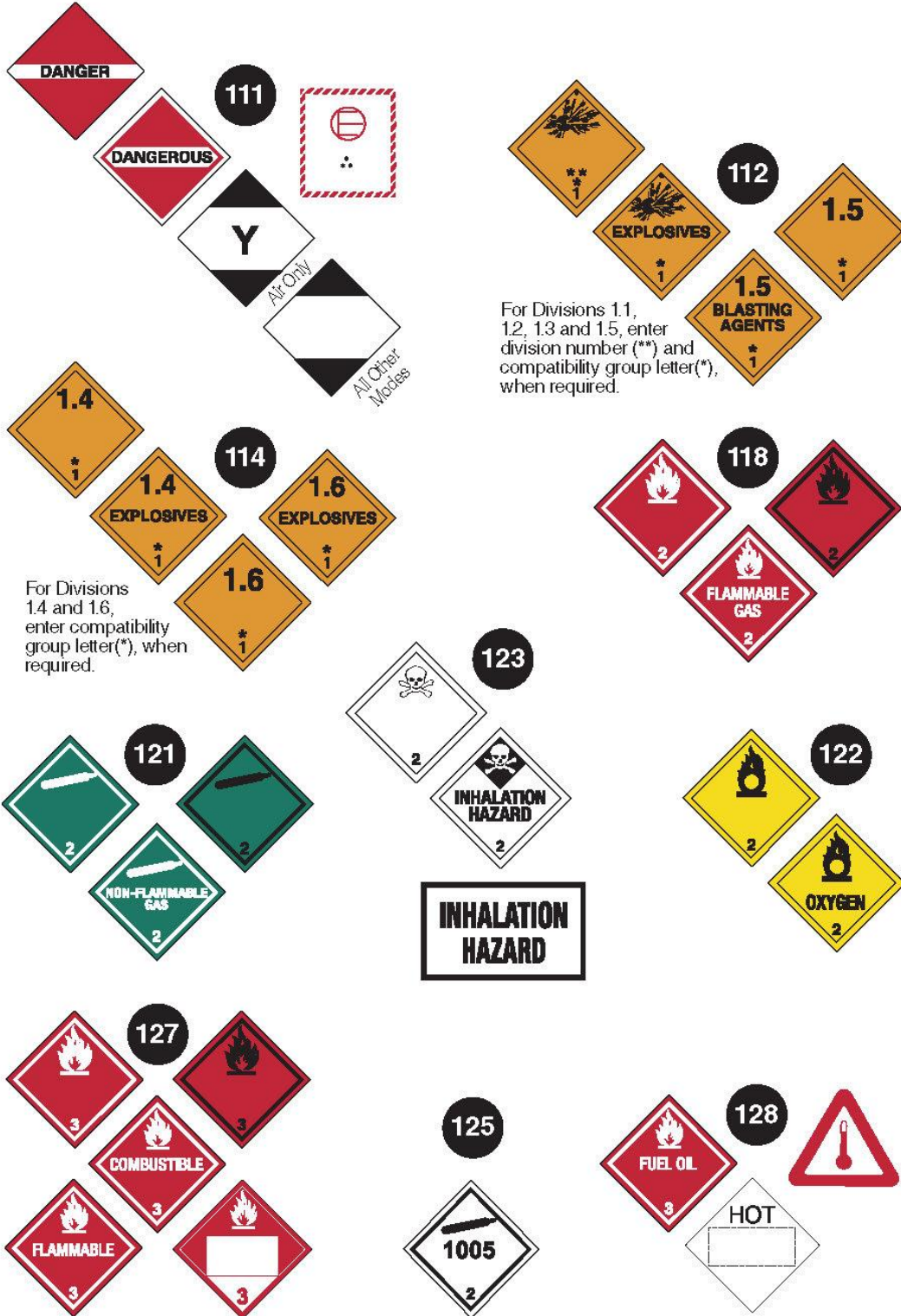
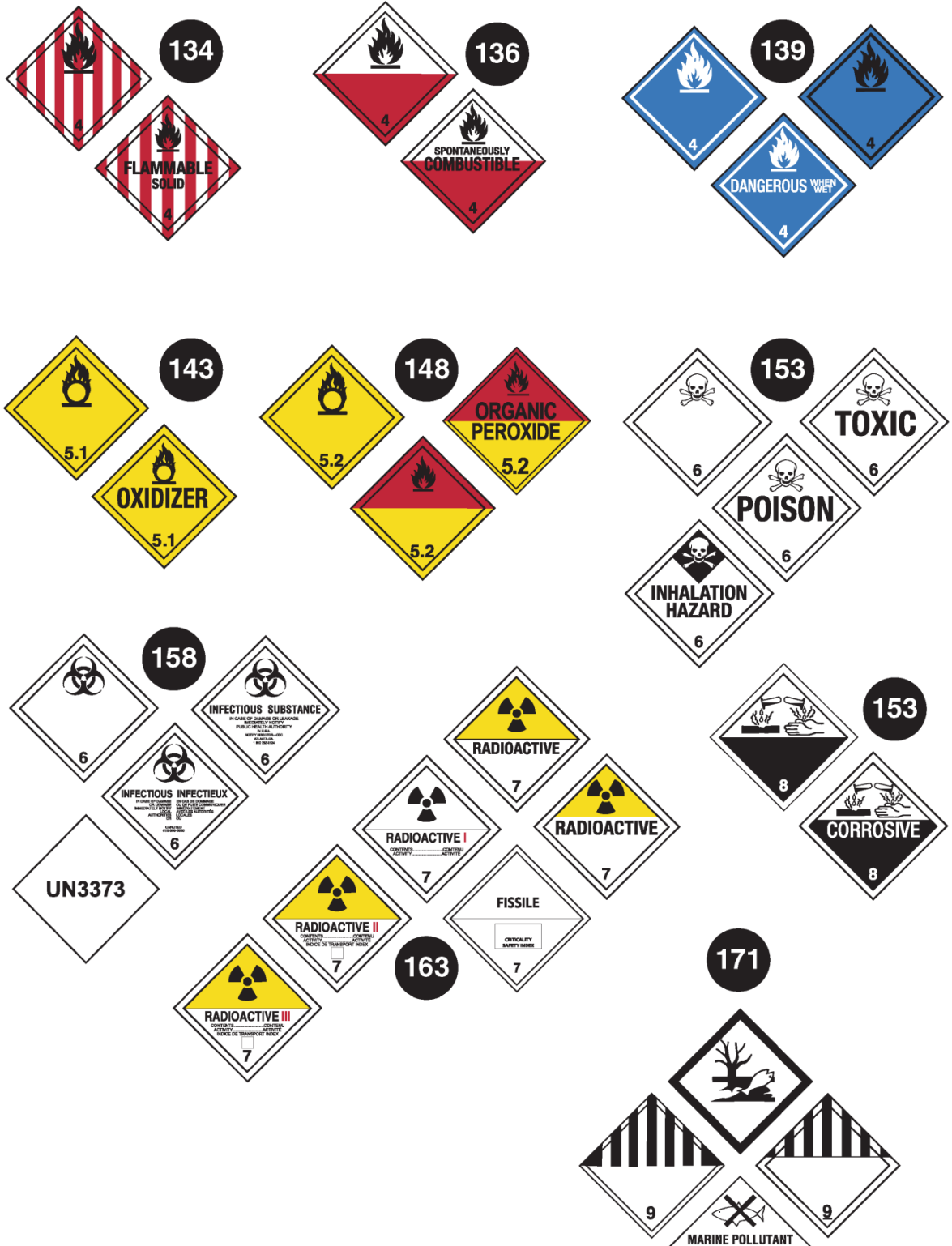


Table of Markings, Labels and Placards, continued





## TRANSPORTATION OF DANGEROUS GOODS 30-DAY FOLLOW-UP REPORT

PART I: REPORTING TIMELINE			
1. Please provide applicable dates and check one box  Date of initial report to CANUTEC (yyyy-mm-dd): _____  30-Day Follow-up Report submission date (yyyy-mm-dd): _____  <input type="radio"/> 30-Day Follow-up Report <input type="radio"/> Update or amendment to 30-Day Follow-up Report • Date original 30-Day Follow-up Report submitted (yyyy-mm-dd): _____			<b>FOR INTERNAL USE ONLY</b>  <b>Road, Rail or Marine Reports</b> <input type="radio"/> Release <input type="radio"/> Anticipated Release  <b>Air Report</b> <input type="radio"/> Dangerous Goods Accident or Incident
PART II: CONTACT INFORMATION			
2. Information of the person completing this report  <input type="checkbox"/> Consignor <input type="checkbox"/> Consignee <input type="checkbox"/> Carrier/Aircraft Operator <input type="checkbox"/> Other			
First Name	Last Name	Title	
Telephone (999-999-9999)	Company Name		
Address		City	Province/Territory
Country	Postal Code (Z9Z 9Z9)	Email	
3. Information on the Consignor, Consignee and Carrier/Aircraft Operator			
<b>Consignor</b>			
First Name	Last Name	Title	
Telephone (999-999-9999)	Company Name		
Address		City	Province/Territory
Country	Postal Code (Z9Z 9Z9)	Email	
<b>Consignee</b>			
First Name	Last Name	Title	
Telephone (999-999-9999)	Company Name		
Address		City	Province/Territory
Country	Postal Code (Z9Z 9Z9)	Email	
<b>Carrier/Aircraft Operator</b>			
First Name	Last Name	Title	
Telephone (999-999-9999)	Company Name		
Address		City	Province/Territory
Country	Postal Code (Z9Z 9Z9)	Email	



PART III: INCIDENT INFORMATION			
4. Please indicate the date and time of the incident			
Date (yyyy-mm-dd)		Time (24-hour system)	
5. Geographic location of the incident			
Address			
City	Province/Territory	Postal Code (Z9Z 9Z9)	GPS Position
If the incident occurred by rail, please indicate the milepost and subdivision		If the incident happened on First Nations Territory, please indicate the Territory name	
Origin of consignment		Destination of consignment	
<input type="radio"/> Same address as consignor <input type="radio"/> Same address as consignee <input type="radio"/> Other (please provide address):		<input type="radio"/> Same address as consignor <input type="radio"/> Same address as consignee <input type="radio"/> Other (please provide address):	
6. Geographic Area (Check only one box)			
<input type="radio"/> <b>Urban</b> Mixed use – residential, commercial <input type="radio"/> <b>Suburban</b> Primary residential <input type="radio"/> <b>Rural</b> Small towns, villages, agricultural lands <input type="radio"/> <b>Wilderness/Remote</b> Little or no population			
7. Mode of Transport (Check all applicable boxes)			
<input type="checkbox"/> Road <input type="checkbox"/> Rail <input type="checkbox"/> Air <input type="checkbox"/> Marine			
8. If MARINE was checked on question 7, please indicate the position of the vessel and the next location at which the vessel will be at anchor or alongside a fixed facility			
Position		Next location	
9. Phase of Transport (Check only one box)			
<input type="radio"/> <b>In-Transit</b> Consignment moving between origin and destination  <input type="radio"/> <b>Unloading</b> Consignment is being unpacked or unloaded from a means of transport at destination		<input type="radio"/> <b>Loading</b> Consignment is being packed or loaded into a means of transport at origin  <input type="radio"/> <b>Temporary Storage</b> Consignment is in short term storage pending transportation	
10. Type of Incident (Check all applicable boxes)			
<input type="checkbox"/> <b>Collision/Sideswipe</b> Moving vehicles striking an object, animal, or another vehicle  <input type="checkbox"/> <b>Ran off road</b> Vehicle enters a soft shoulder, ditch or similar area  <input type="checkbox"/> <b>Loadshift</b> Shifting of the consignment within a vehicle  <input type="checkbox"/> <b>Struck</b> Means of containment being struck by another object		<input type="checkbox"/> <b>Derailment</b> Railcar leaving the rail tracks  <input type="checkbox"/> <b>Overturn</b> Vehicle turning on its side or upside down  <input type="checkbox"/> <b>Dropped</b> Means of containment falling unexpectedly  <input type="checkbox"/> <b>Other (Please specify):</b> _____	
11. Type of Release (Check all applicable boxes)			
<input type="checkbox"/> <b>Spill</b> Quick, immediate discharge, emission or escape  <input type="checkbox"/> <b>Explosion</b> Violent sudden release of energy from means of containment producing a shock wave that may result in fragment projection and/or fire ball  <input type="checkbox"/> <b>BLEVE</b> Boiling Liquid Expanding Vapour Explosion  <input type="checkbox"/> <b>Venting</b> Controlled release of gas into the environment		<input type="checkbox"/> <b>Leak</b> Slow, sporadic or continuous discharge, emission or escape  <input type="checkbox"/> <b>Fire</b> Burning substances combined with oxygen to typically produce flame, heat and smoke  <input type="checkbox"/> <b>Vapour</b> Dispersion in air of particles of a substance that is liquid or solid in its normal state  <input type="checkbox"/> <b>Anticipated Release</b> Distressed means of containment that is not leaking, venting or otherwise releasing its contents	

12. Information on the Dangerous Goods								
UN Number	Shipping Name	Primary Class	Subsidiary Class(es)	Packing Group or Category	Total Quantity in MOC Before the Release or Anticipated Release	Units (kg, L, etc.)	Estimated Quantity Released (if applicable)	Units (kg, L, etc.)

13. Means of Containment  
Please provide a description of the means of containment involved in the incident by completing the appropriate forms from Annex E of the Guide (TP15294)

**PART IV: CONSEQUENCES**

14. Consequences of the incident (Check all applicable boxes)

**NOTE:** Refer to the Guide for more information on how to complete this section

Human       Property (e.g. product loss, facility, equipment)       Environmental (e.g. contamination of waterway, ground, air)

15. Evacuation of people and buildings/Shelter in place

Was there an Evacuation as a result of the incident?     Yes     No

Was there Shelter in place as a result of the incident?     Yes     No

If **Yes**, please complete the following table

Evacuation of People and Buildings/Shelter in Place	Private Residence Includes houses and other buildings used as dwellings (e.g. Retirement homes)	Public Buildings Includes libraries, hospitals, churches, government buildings, etc.	Workplace Includes warehouse, facility, etc.	Public (Outside) Areas Includes parks, playgrounds, parking lots, etc.
Estimated number of <b>people evacuated</b>				
Estimated number of <b>people sheltered in place</b>				
Estimated number of <b>buildings evacuated</b>				
Size of Evacuation area (square meters)	Duration of Evacuation (hours)		Duration of Shelter in place (hours)	

16. Injuries and/or deaths

Were there any injuries and/or deaths?     Yes (please complete the following table)     No

**Minor Injuries**     Yes     No

**Number of injured requiring immediate first aid treatment at the scene**

Attributed to Dangerous Goods	Attributed to incident	<b>Total</b>

**Moderate Injuries**     Yes     No

**Number of injured requiring immediate emergency treatment in hospital and release shortly after**

Attributed to Dangerous Goods	Attributed to incident	<b>Total</b>

**Major Injuries**     Yes     No

**Number of injured requiring immediate treatment with overnight hospitalization**

Attributed to Dangerous Goods	Attributed to incident	<b>Total</b>

**Deaths**     Yes     No

**Number of deaths**

Attributed to Dangerous Goods	Attributed to incident	<b>Total</b>





17. Please indicate an estimate of costs in Canadian dollars associated with the incident, as applicable

**NOTE:** Refer to the Guide for more information on how to fill this section

Material loss of dangerous goods	Damage incurred by the carrier	Property damage	Emergency response cost	Clean-up cost	<b>Total cost</b>
----------------------------------	--------------------------------	-----------------	-------------------------	---------------	-------------------

18. Infrastructure closure and duration (please use additional sheets for multiple closures)

Was there an infrastructure closure as a result of the incident?  Yes  No

If **Yes**, please complete the following table

Type	Duration of the closure (in hours)
<input type="checkbox"/> <b>Aerodrome</b> – Area of land, water or other supporting surface used either in whole or in part for arrival and departure, movement or servicing of aircraft includes any building, installations and equipment situated thereon or in connection therewith	
<input type="checkbox"/> <b>Air cargo facility</b> – Facility used to receive or transfer cargo carried or to be carried by an aircraft	
<input type="checkbox"/> <b>Facility</b> – Permanent or temporary building or a portion of a building or equipment used in loading or unloading of dangerous goods	
<input type="checkbox"/> <b>Railway</b> – Tracks used by trains	
<input type="checkbox"/> <b>Waterway</b> – Navigable body of water through which a ship or boat can move	
<input type="checkbox"/> <b>Roadway</b> – The strip of land over which motor vehicles circulate, such as dirt road, numbered provincial highway or multiple lane freeway	
<input type="checkbox"/> <b>Runway</b> – the strip of ground on a landing field that aircraft use for landing or takeoff	

19. Geographic location of closure

Address

City	Province/Territory	Postal Code (Z9Z 9Z9)	GPS Position
------	--------------------	-----------------------	--------------

If the incident occurred by rail, please indicate the milepost and subdivision

Name of facility, road, railway or waterway

20. ERAP Requirements

Was an ERAP required under Part 7 of the *Transportation of Dangerous Goods Regulations*?  Yes  No

If **Yes**, please complete the following table

ERAP Reference Number	ERAP Holder		
Address			
City	Province/Territory	Postal Code (Z9Z 9Z9)	Telephone of ERAP Holder (999-999-9999)
Email			

Level of Response (check all that apply)

No response  First responders on scene  Phone call to ERAP holder  Employee from ERAP holder  Team from ERAP holder

Other: \_\_\_\_\_

**PART V: INCIDENT DESCRIPTION**

21. Please describe:

- The sequence of events that led to the incident
- The means of containment damage or failure, including the size/location of holes, cracks, etc.
- The actions taken at the time it was discovered
- What was done to mitigate the effects of the release
- Contributing factors (e.g. human error, mechanical, equipment, packaging, infrastructure, external, weather, etc.)
- The physical environment (e.g. residential, commercial, industrial, etc.)
- The road's appearance (e.g. flat, straight, inclined, curved, intersection, etc.)
- Timeline of event (e.g. how long it lasted, time of release or discovery, time of first responder arrival, etc.)
- Communications with first responders and with your organization

Photographs and diagrams should be submitted, as required, for clarification. Estimate the duration of the release, if possible. Please use additional sheets if necessary.

**NOTE:** Refer to the Guide for more information on how to complete this section

**PART VI: INCIDENT DESCRIPTION – AIR ONLY**

22. Please describe:

- Any serious jeopardy to persons on any aircraft or aircraft itself
- Any damages to property or environment
- The route by which the dangerous goods were to be or have been transported, including the name of any aerodromes along the route

Aircraft Operator

Air Cargo Facility



## 6.19 Security Incidents

A security incident is a security-related occurrence, threat or action that has adversely affected people, the environment, assets and economic stability, or could potentially do the same.

### General Notes on Prevention of Security Incidents

As defined in the CSA Standard Security Management for Petroleum and Natural Gas Industry Systems (Z246.1-21), a Security Management Program should be implemented to ensure security incidents and threats are identified and managed with appropriate safeguards and response procedures in place.

This documented security risk management process should incorporate threat, vulnerability, risk assessment and asset characterization. Asset characterization, in particular, identifies and ranks any assets that could result in adverse consequences if damaged or destroyed.

To minimize the possibility of threats within a company property, an adequate physical security system must be in place. This should include the following:

- Perimeter fencing and gates to protect against unauthorized entry into a facility – gates should be closed when not in use and locked when unoccupied
- Appropriate signage at the perimeter and entrances
- Intrusion detection systems / alarm systems
- Sufficient lighting in darkness or areas of poor visibility
- Pedestrian access control
- Security guard force, both static and mobile
- Employee awareness

### Types of Security Threats

Security-related threats have the intent to cause harm and could include bomb threats, suspicious packages, terrorism, vandalism, trespassing and cyber-attacks.

### Responding to Threats

Should any facility or office be the subject of a threat, or be advised of the potential of a terrorist attack, or of the potential of an attack to an adjoining facility being operated by another company, the person receiving the initial threat should remain calm, document all information in writing and notify his supervisor immediately. The supervisor should make an immediate assessment of the circumstances then:

- Obtain all data from the person who received the threat.
- If there is clear and imminent danger, the plant should be immediately evacuated, and the Field Response Team activated from a remote location.
- Contact local police / Royal Canadian Mounted Police (RCMP).
- Notify the Regulatory Agency and the Incident Commander.

Once the Field Response Team is activated, the Field Response Team Incident Commander and a senior company representative will consider the threat and options available to respond to the threat. There are a myriad of potential short and long term responses available and they will be dependent on the evaluation of the threat, time available to respond, resources available locally or that can be brought in a reasonable time, and police and military resources available.

- If the threat is considered possible, the Canadian Security Advisor recommends that the following immediate/short term responses should be considered:

**Field Operations:**

- Establish intelligence liaison with local authorities (e.g. police).
- Report all suspicious activity to Corporate Security.
- Discontinue all site tours and visits.
- Restrict vehicle access to specifically authorized vehicles only.
- ID all visitors seeking access.
- Assign a person to patrol the perimeter of the facility at the beginning of each operational shift and note any deficiencies; look for signs of attempted break and enter.
- Conduct an evacuation exercise.

**Remotely Operated Facilities (also applies to any facility operated by a single person):**

- Establish full lock down on fences and assets on the lease/site – everything that can be secured and locked is secured and locked.
- Conduct a fence perimeter patrol before entering the site – look for signs of illegal entrance.
- Conduct a full exterior building patrol before entering a building – look for signs of unlawful entrance (doors pried, windows open, broken glass etc.).
- When working, lock the gates upon entering and leaving the facility, and rigidly adhere to the work alone guidelines.

**Bomb Threats**

Bomb threats are delivered in a variety of ways. The majority of threats are called in to the target, though occasionally these calls are through a third party. Sometimes a threat is communicated in writing, or by a recording.

Persons making bomb threats generally have one of two motivations:

1. The caller has definite knowledge or believes that an explosive or incendiary bomb has been, or will be, placed. He or she wants to minimize personal injury or property damage. The caller may be the person who placed the device or someone who has become aware of such information.
2. The caller wants to create an atmosphere of anxiety and panic which will, in turn, result in a disruption of the normal activities at the location where the device is purportedly placed.

While most bomb threats are unfounded, some are not. As such, each one must be dealt with as though it is real and handled seriously and calmly.

### **Bomb Appearance**

Bombs can be constructed to look like almost anything, and can be placed or delivered in any number of ways. The probability of finding a bomb that looks like the stereotypical bomb is almost non-existent. Most bombs are homemade, and are limited in their design only by the imagination and resources available to the bomber.

Remember, when searching for a bomb, suspect anything that looks unusual. Ultimately, however, let a trained bomb technician determine what is or is not a bomb.

### **Responding to Bomb Threats over the Phone**

Most threats or implied threats are received by telephone, generally at a publicized or switchboard number. Should that occur, obtain as much information as possible, filling out the Threatening Call / Bomb Threat form (**Section 6: Forms**).

If a bomb threat is received over the telephone, the employee receiving the phone call should take the following actions:

- Stay calm and keep their voice calm.
- Pay close attention to details. Write information down as the caller says it. Attempt to get the following information from the caller:
  - What type of bomb is being used?
  - Did you place the bomb?
  - Who is the target?
  - Where has the bomb been placed?
  - What time is the bomb set to explode?
  - Why was the bomb placed?
  - What type of container is the bomb placed in?
  - What does it look like?
  - What is the bomber's name?
  - What is the bomber's address?
- While the first employee is dealing with the threatening phone call, they should have a co-worker or another person contact the police (dial 911) using another telephone, and as covertly as possible. As the first employee writes down answers to the questions above, these answers should be relayed to the police.
- The call recipient should attempt to keep the caller on the phone.
- The call recipient should note the caller's:
  - Age and gender
  - Emotional state (angry, agitated, calm, etc.)
  - Speech patterns (accent, tone)
  - Background noise (traffic, people talking and accents, music and type, etc.)

### **Responding to Bomb Threats Received in Writing**

If a threat has been received in writing, minimize the handling of the document to ensure preservation of forensic evidence - DO NOT PHOTOCOPY.

### **Supervisor Responsibilities after Receiving a Bomb Threat**

The supervisor should then:

- Obtain all data from the person who received the threat
- Activate the ERP if the situation warrants
- Contact local police / Royal Canadian Mounted Police (RCMP) if this has not already been done
- Notify the Regulatory Agency
- Decide on partial or total evacuation (if needed)
- Decide on partial or total search of the facility (if needed)

### **Evacuating the Facility**

If it seems prudent to evacuate the building:

- Have all employees briefly check their work areas for unfamiliar items.
- Instruct all employees not to touch suspicious items, but simply to report them to their supervisors (taking pictures if feasible).
- Instruct all employees not to take personal belongings when they leave.
- Leave doors and windows open
- Do not to turn light switches on or off.
- Do not activate the fire alarm.
- Use stairs only; do not use elevators.
- Use of radio communications should be restricted as the signal could detonate a device.
- All evacuees should report to an outside pre-designated muster area for accountability.

### **IED Evacuation Distances**

**Improvised Explosive Device (IED)  
SAFE STAND OFF DISTANCE**

	Threat Description	Explosives Mass (TNT equivalent) <sup>1</sup>		Building Evacuation Distance <sup>2</sup>		Outdoor Evacuation Distance <sup>3</sup>	
<b>High Explosives (TNT Equivalent)</b>	Pipe Bomb	5 lbs	2.3 kg	70 ft	21 m	850 ft	259 m
	Suicide Belt	10 lbs	4.5 kg	90 ft	27 m	1,080 ft	330 m
	Suicide Vest	20 lbs	9 kg	110 ft	34 m	1,360 ft	415 m
	Briefcase/Suitcase Bomb	50 lbs	23 kg	150 ft	46 m	1,850 ft	564 m
	Compact Sedan	500 lbs	227 kg	320 ft	98 m	1,500 ft	457 m
	Sedan	1,000 lbs	454 kg	400 ft	122 m	1,750 ft	534 m
	Passenger/Cargo Van	4,000 lbs	1 814 kg	640 ft	195 m	2,750 ft	838 m
	Small Moving Van/ Delivery Truck	10,000 lbs	4 536 kg	860 ft	263 m	3,750 ft	1 143 m
	Moving Van/Water Truck	30,000 lbs	13 608 kg	1,240 ft	375 m	6,500 ft	1 982 m
	Semitrailer	60,000 lbs	27 216 kg	1,570 ft	475 m	7,000 ft	2 134 m



## **Bomb Search Guidelines**

Employees must not touch anything - only law enforcement explosive disposal units or qualified private consultants are qualified to search for a bomb or suspicious package.

In the event of a search, however, employees may be called upon to unlock drawers, cabinets, and the like for the search crew, and to identify any strange or unfamiliar objects.

## **Explosive Device Located**

If a device or suspected device is located:

- Do not touch or move the object.
- Evacuate the immediate area.
- If possible, take steps to minimize effects of an explosion in the vicinity by evacuation or isolation of the area.
- Ensure RCMP are apprised of the location so explosive disposal unit can be called.

## **If there is an Explosion**

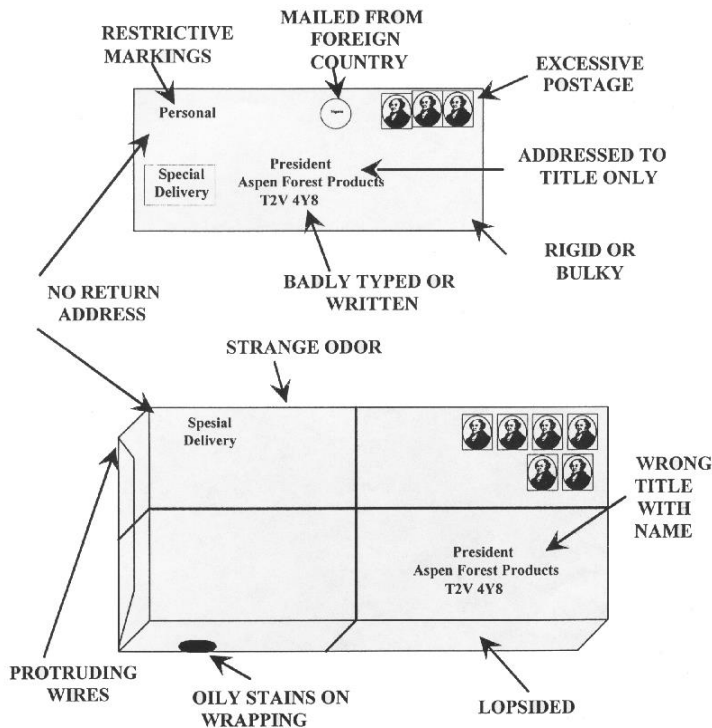
- Have employees take cover under sturdy furniture, or leave the building if directed to do so by emergency responders.
- Stay away from windows.
- Do not light matches.
- Move well away from the site of the hazard to a safe location.
- Use stairs only; do not use elevators.
- Call 911 if no one has called.

## **Suspicious Packages**

The likelihood of receiving a bomb in the mail is remote. Unfortunately, however, a small number of explosive devices have been mailed over the years resulting in death, injury and destruction of property.

A bomb can be enclosed in either a parcel or an envelope, and its outward appearance is limited only by the imagination of the sender. However, mail bombs have unique characteristics that may assist in identifying suspect packages.

## Appearance of Suspicious Packages



- Mail bombs may display restricted endorsements such as “Personal” or “Private”. This factor is important when the addressee does not usually receive personal mail.
- Addressee’s name / title may be inaccurate.
- Return address may be fictitious.
- Mail bombs may reflect / distort handwriting or the name and address may be prepared with homemade labels or cut-and-paste lettering.
- Cancellation or postmark may show a different location than the return address.
- Mail bombs may have excessive postage.
- Mail bombs may feel rigid or appear uneven or lopsided and may have an irregular shape, soft spots or bulges.
- Parcel bombs may be unprofessionally wrapped with several combinations of tape used to secure the package and may be endorsed “Fragile – Handle With Care” or “Rush – Do Not Delay”.
- Parcel bombs may have a buzzing or ticking noise or a sloshing sound.
- Pressure or resistance may be noted when removing contents from an envelope or parcel.

## **Dealing with Suspicious Packages**

If an employee is suspicious of a mailing and is unable to verify the contents with the addressee or sender:

- Do not open the article.
- Isolate the item and evacuate the immediate area.
- Do not put the package or envelope in water or a confined space such as a desk drawer or filing cabinet.
- If possible, open windows in the immediate area to assist in venting potential explosive gases.

If an employee suspects a harmful chemical or biological substance is in a package already on company property they should:

- Cover the package or envelope with a plastic sheet, raincoat, etc.
- Evacuate the room closing all doors and windows.
- Call their supervisor who will contact the local police.
- Isolate the area where the package is.
- Isolate themselves in another area that has a telephone and wait for the emergency responders to arrive.

If an employee has touched a package that possibly contains a harmful substance or got some on their clothes, they should:

- Wash their hands well.
- Shower with their clothes on
- Undress and seal their clothes in a plastic bag.
- Shower again and put on fresh clothes.

If an employee has any reason to believe a letter or parcel is suspicious, they should never take a chance or worry about possible embarrassment if the item turns out to be innocent.

## **Trespassing**

Any person who enters land where entry is prohibited or does not leave land immediately after being directed to do so by the owner or occupier of the land is guilty of trespassing.

## **Dealing with Trespassing**

If any personnel encounter a trespasser:

- Ask the trespasser to leave the unauthorized area.
- Give the trespasser a reasonable amount of time to leave peacefully.
- If the trespasser refuses to leave, call the RCMP / local authority.

## **Vandalism**

Vandalism is the willful damaging or defacing of property belonging to another person or to the public. Acts of vandalism can include:

- **Defacing** – removing, marking or damaging a part of an object to draw attention to it.
- **Criminal damage** – willful and unlawful destruction of other people's property.
- **"Tagging" or graffiti** – gangs use "tags" to mark their territory and usually spray-paint walls and doors of homes and business establishments.

Vandalism can happen at any time of the day or night and in any season, but it most often occurs:

- In the evening during summer and fall
- On weekday evenings
- At night when fewer people are around and the property isn't under as much scrutiny
- Where building design and lighting offers concealment and anonymity
- In areas frequented by young people such as schools, parks, shopping plazas and public buildings
- In unoccupied buildings, open spaces or parked vehicles where minimum surveillance is given to property

## **Dealing with Vandalism**

- Report all incidents of vandalism to a supervisor
- Do not paint over vandalism and graffiti until the police department gives clearance to do so.

## **Terrorism**

Terrorism is the use of violence and threats against persons or property for the purposes of intimidation, coercion or ransom. The direct targets of violence are not the main targets of a terrorist but a means to draw the attention of the local populace, the government and the world to their cause. A terrorist group commits acts of violence to:

- Produce widespread fear
- Obtain worldwide, national, or local recognition for their cause by attracting the attention of the media
- Destroy facilities or disrupt lines of communication in order to create doubt that the government can provide for and protect its citizens
- Discourage foreign investments, tourism or assistance programs that can affect the target country's economy and support of the government in power
- Influence government decisions, legislation or other critical decisions
- Satisfy vengeance

Acts of terrorism include threats of terrorism, assassinations, kidnappings, hijackings, bomb scares and bombings, cyber-attacks, and the use of chemical, biological, nuclear and radiological weapons.

### **Examples of Petroleum Assets Subject to Risk**

- Buildings: Administration offices, corporate offices, control rooms
- Equipment: Process units and associated control systems, product storage tanks, surge vessels, boilers, turbines, process heaters, sewer systems
- Support Systems: Utilities such as natural gas lines, electrical power grid and facilities (including back-up power systems), water-supply systems, wastewater treatment facilities
- Transportation Interfaces: Railroad lines and railcars, product loading racks and vehicles, pipelines entering and leaving facility, marine vessels and dock area, off-site storage areas
- Cyber systems and information technology: Computer systems, networks, all devices with remote maintenance ports, SCADA systems, laptops, PDAs and cell phones.

### **Dealing with Terrorism**

All threats and incidents should be reported to the RCMP Terrorism Tip Line at 1-800-420-5805.

In order to deal with threats of terrorism, it is important to establish a security management system to effectively manage security risks. This system should include a security risk management process incorporating asset characterization, threat assessment, vulnerability assessment, risk assessment, risk mitigation, communication and recommendations.

This system should be reviewed at regular intervals and updated as necessary.

### **Cyber-Attacks**

Cyber-attacks are computer-to-computer attacks that undermine confidentiality, integrity or availability of a computer or the information contained.

Cyber-attacks can make computer systems malfunction or result in a disrupted flow of data and have the potential to create extreme economic damage.

This threat includes a risk to SCADA and DCS systems, which collect, display and store information in support of controlling equipment, devices and facilities.

### **Preventing Cyber-Attacks**

Steps that can be taken to enhance your cyber security:

- Know who owns and operates the IT system and its operating framework.
- Map the network – include all internal/external connections, configuration control, etc.
- Develop a security policy structure and implement compliance monitoring.
- Apply as much security and hardening as appropriate.
- Accredite the IT system and follow a risk management approach.
- Know the system's possible vulnerabilities.
- Patch the system in a timely manner – the longer this is delayed, the longer the system is vulnerable.
- Reduce Internet access points.

- Reduce or eliminate potential sources of infection – USB flash drives (thumb drives, USB keys, etc.), flash media, etc.
- Communicate, train and educate staff and users.

*Source: 10 IT Security "Commandments" - Communications Security Establishment Canada*

### **Dealing with Cyber-Attacks**

In the event of a cyber-incident:

- After obtaining corporate approval, local police or RCMP should be notified.

Serious cyber incidents:

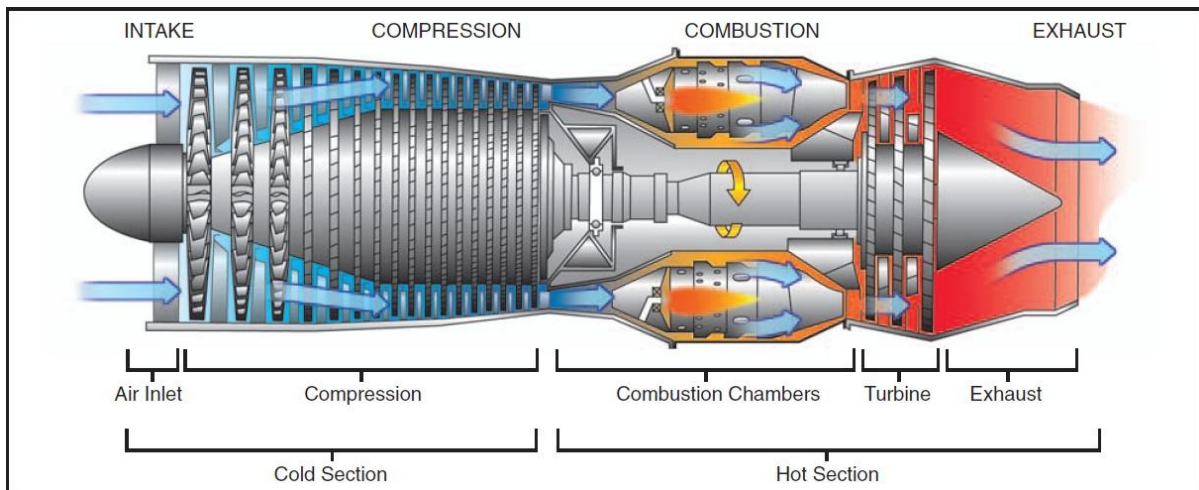
- Should be reported to Public Safety Canada by email at [contact@cyber.gc.ca](mailto:contact@cyber.gc.ca) or by phone at 1-833-292-3788.

## 6.20 Gas Turbine

A gas turbine is a combustion engine at the heart of a power plant that can convert natural gas or other liquid fuels to mechanical energy. This energy then drives a generator that produces the electrical energy that moves along power lines to homes and businesses.

In order to generate electricity, the gas turbine heats a mixture of air and fuel at very high temperatures, causing the turbine blades to spin. The spinning turbine drives a generator that converts the energy into electricity.

The gas turbine compresses air and mixes it with fuel that is then burned at extremely high temperatures, creating a hot gas. The hot air-and-fuel mixture moves through blades in the turbine, causing them to spin quickly. The fast-spinning turbine blades rotate the turbine drive shaft. The spinning turbine is connected to the rod in a generator that turns a large magnet surrounded by coils of copper wire. The fast-revolving generator magnet creates a powerful magnetic field that lines up the electrons around the copper coils and causes them to move. The movement of these electrons through a wire is electricity.



### Hazards

The gas supply to gas turbines is operated at high pressures and the possibility of a leak and explosion within the turbine acoustic enclosure has to be considered. The preferred basis of safety in the event of a gas leak is dilution ventilation. At present the recommended criterion for dilution ventilation design is that the 50% LEL enclosed iso-surface volume of leaked gas under alarm conditions should occupy no more than 0.1% of the enclosure volume.

- The fuel supply to a gas turbine has to be at high pressure. The pipework supplying the fuel to the turbine combustion chambers is often highly complex since the fuel is supplied to one or more annular distribution manifolds connected to numerous individual burners.
- A combination of flanges, flexible pipes, valves, and bellows may be used, each being a potential leak site. Leaks are therefore foreseeable. Leaks may be ignited immediately producing a flame or may lead to the accumulation of a flammable fuel air mixture.



- The delayed ignition of such a mixture within a confined space, such as an acoustic enclosure, can lead to an explosion with potential for injury and major plant damage. A leak of liquid at high pressure can produce a mist, which is flammable at a temperature below the flashpoint of the liquid, so that leaks of liquid fuels, lubricating oils and hydraulic fluids may also result in fires or explosions.
- The burning of fuel in the gas turbine may produce high surface temperatures capable of igniting a leak. In the case of aeroengines the casings may glow dull red due to the heat produced.
- On larger plant, hot surfaces in excess of 520°C have been found during normal operation.
- In certain circumstances such temperatures are sufficient to ignite leaks of mist or vapour from liquid fuels, lubricating or hydraulic oils, as well as gaseous fuels.
- Due to the high operating speeds mechanical failure can occur, in particular with turbine and compressor blades and discs.
- Such failures can lead to a loss of containment, mechanical damage, and fire and explosion risks from plant disruption.
- Electric shock and electromagnetic field hazards may also exist on generators and turbine auxiliary systems.

### **Fire Prevention**

Minimising the risk of fuel and oil leakage and controlling the presence of sources of ignition will reduce the risk of fire. The presence of exposed hot surfaces during normal operation precludes complete control over sources of ignition.

- The Facility shall have multiple safety systems, including on-site fire protection systems and onsite emergency response equipment. These systems will include pull boxes, on-site fire hydrants, fire suppression systems, portable fire extinguishers, an internal public address system, emergency lighting, first-aid kits, spill response kits, eyewashes, safety showers, and personal protective equipment such as hard hats, safety shoes, and safety glasses.
- The fuel supply should be interlocked in a fail-safe manner with the fire and gas detection systems. It should also be possible to manually isolate the fuel supply from a safe position outside any enclosure around a gas turbine.
- Many oil fires, in particular oil-soaked insulation fires, have occurred. Insulation materials in areas susceptible to oil leaks or likely to be exposed to such fluids during general maintenance can include a protective film or metal skin.
- This should be carefully installed to avoid puncturing, and seams should be taped or folded in such a way as not to collect fluids. Further protection of high-risk pipes can be achieved by the use of double-walled pipe systems to contain any leak.
- To minimise risk, lubrication and hydraulic oil systems should be designed and constructed to recognised engineering standards.
- On-site facility personnel shall be trained in fire safety.
- A complete onsite fire protection system shall be installed for emergency use. The source of fire suppression water will be from onsite storage.



### **Precautions Against Explosion**

Precautions should be based on risk assessment. The use of certain fuels having low auto-ignition temperatures or ignition energies, such as naphtha or hydrogen enriched fuel, requires specialist advice because of their particular hazards. The risk assessment should identify the additional risks posed by such fuels and any measures necessary to reduce the risk to an acceptable level. Subsequently it has been shown that it can also be used as a basis of safety, it designed as dilution ventilation. in practice this means that the ventilation should ensure that there are no stagnant or poorly ventilated spaces and that any leak is effectively mixed with air. Fla-circulation and raw entrainment should be minimised, further reducing any accumulation of flammable mixture. This may require a large number of air inlet positions to obtain adequate distribution and, in extreme cases, supplementary fans or air distributors. Dilution ventilation is only acceptable as a basis of safety when associated with the use of suitable gas detection

### **Ventilation**

Fans placed within ducting either upstream or downstream of the enclosure provide ventilation at a flow rate usually calculated from the required heat rejection rate. However, due to the placement of equipment within the enclosure and the design of the ventilation system itself, not all parts of the enclosure are ventilated equally well. In some spaces (close to the ventilation inlets, for example) the air may change rapidly, while in others the air may remain relatively stagnant. It is the size and extents of the stagnation regions that are crucial to the ventilation assessment from the perspective of diluting a fuel gas release, as the worst case is that the release is directed towards these stagnation zones and is therefore allowed to build up into a large flammable volume which could potentially ignite before being detected.

### **Gas Detector**

At least one gas detector should always be installed if the gas turbine has a gaseous fuel supply. The best location for gas detection is in the ventilation outlet because a leak will always reach it. The detector should be located sufficiently downstream to ensure adequate mixing within the outlet duct. Additional detectors can also be used within the enclosure to increase the probability of detecting small leaks. As well as considering the best location for such additional detectors, care needs to be taken that they are not exposed to temperatures above their operating range.

## 6.21 Electrical Emergencies

### Electrical Incident Emergency Response Procedure

If an electrical incident occurs the Emergency Management Program requirements will be followed.

- “Calling the Alert” is the first requirement, call 911!
- The following emergency response procedure is recommended:
  1. Evacuate away from the area where the electrical incident occurred, assess the situation, and ensure there are no continuing hazards to yourself or others.
  2. Sound the alarm, alert other personnel.
  3. Call for help, call 911 and then notify the Supervisor.
  4. Assess the hazards don't rush in to initiate rescue. Only complete an electrical incident rescue if you are authorized and competent to complete the rescue safely.
  5. Secure the area, treat all electrical equipment as energized. If you are authorized to do so turn off the electrical power supply (e.g., for high voltage power distribution equipment  $\geq 1001V$  you may not be authorized and/or competent to operate the isolation device), isolate and lock out the electrical source following established electrical safe work procedures. If you cannot turn the power off, then assess if you can safely rescue using a hot stick. If a hot stick is not available, are rubber insulating gloves available?
  6. Initiate rescue, when it is confirmed safe to do so, rescue the injured worker.
  7. When the injured worker has been removed to a safe area begin first aid if properly trained. If the injured worker is unconscious or breathing is erratic monitor closely. If breathing stops apply artificial respiration immediately.
  8. Don't leave the injured worker unattended.
  9. If the injured worker is burned do not touch the injured worker's affected area or apply any lotions or gauzes.
  10. Confirm emergency services have been dispatched.
  11. The Supervisor will follow up, ensuring government/regulatory agencies have been notified as required.
  12. The Supervisor will complete an incident report.

Workers exposed to electrical hazards are to be trained in methods of release of victims from contact with exposed energized electrical conductors or circuit parts. This should include emergency isolation procedures. Electrical Workers shall also receive regular training in methods of first aid, CPR and use of an AED (if they are available).

Only those workers authorized to do so should undertake electrical incident emergency response rescue. If a worker is unsure of what to do, they shall wait until the authorized worker arrives at the scene.

**Never attempt to rescue a victim of an electrical incident without de-energizing the electrical system first or suitably protecting the person that would attempt to rescue the victim!**

### **Methods of Contact Release for Electric Shock**

When a worker is exposed to an electrical shock hazard the first responder to the electrical incident shall follow the NRM emergency response plans. When assessing if the first responder can rescue, they must protect themselves from being shocked by following approved methods of contact release:

1. As a priority if the first responder is trained and authorized, they shall turn off the power to the electrical equipment. In many cases the isolation device may not be accessible quickly and the following two methods of contact release can be utilized. Using an insulating hot stick (e.g., shotgun, fixed length, telescopic or rescue) remove the worker that has been shocked to a safe location. Apply first aid and CPR.
2. Don rubber insulating gloves and using a modified grab pull the worker that has been shocked to a safe location. Apply first aid and CPR.

If the first responder cannot adequately protect themselves, they shall make safe the incident scene until someone arrives at the incident scene that can implement appropriate contact release.

### **Over Head Power Lines & Buried Cables**

When an overhead power line or buried cable incident has occurred no emergency responder will take action to rescue until the Electrical Utility has advised that the power has been turned off.

The rescuer must stay back at least 10 metres and advise anyone remaining in a vehicle that has contacted an energized overhead power line or buried cable to remain calm and remain in their vehicle. If the vehicle catches on fire from contact with an overhead power line the rescuer can provide instructions to anyone in the vehicle to get out the vehicle without contacting the vehicle and the ground at the same time. After the person exits the vehicle, they should be instructed to shuffle away from the vehicle keeping their feet as close together as possible until they are at least 10 metres away from the vehicle.

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## SECTION 7. PUBLIC SAFETY GUIDELINES

### 7.1 Public Protection Process Overview

There are four methods of public protection that can be implemented (individually or simultaneously) prior to or during a toxic and or flammable gas releases (e.g. sour gas or HVP product release):

- Area Isolation** – setting up roadblocks or barriers
- Evacuation** – contacting public and recommending evacuation away from the area and assisting them evacuate as required
- Shelter-in-Place** – contacting public and recommending that they close all windows and doors and take shelter indoors until airborne hazard dissipates.
- Ignition** – purposely igniting a release. Primarily this is used in certain circumstances when there is a toxic release (e.g. sour gas) based on regulated ignition criteria.

Regulatory Agencies define public as “The group of people who may be or who are impacted by an emergency (e.g. employees, contractors, neighbours, emergency response organizations, regulatory agencies, the media, appointed or elected officials, visitors, customers, etc., as appropriate).”

This may also include workers in a camp that is within the project / site-specific EPZ. Workers are considered members of the public when they are off-duty.

## 7.2 Public Protection Process – Quick Reference Checklist

- 1** Notification to designated Incident Commander who promptly mobilizes resources and builds team
- 2** Public Safety Group Supervisor (PSGS) function is appointed early and proactively.
- 3** PSGS obtains briefing and reviews map and confirms EPZ size, wind directions etc. PSGS assesses what is the potential impact? To what public?
- 4** PSGS proactively alerts and / or mobilizes public protection roles and mobilizes downwind air monitoring units as required
- 5** PSGS and team implement actions based on declared Emergency Level and ensure that the local authority director of emergency management and any public safety supporting agencies are notified
- 6** Public close to and / or downwind of hazard are proactively notified (courtesy call or instructed to Shelter-in-Place until the size and extent of hazardous area is identified)
- 7** LEVEL 2 EMERGENCY OR ABOVE: The defined EPZ is isolated and evacuated in a prioritized manner; starting with those close to release, those downwind then the remainder of the EPZ (and potentially beyond) based on air monitoring results
- 8** Telephoners maintain regular communication with those Sheltering-in-Place
- 9** Planned ignition of the release takes place if any ignition criteria is reached.
- 10** PSGS maintains real-time tracking of all public safety actions with respect to the public being: notified, sheltered, evacuated, exiting roadblock, turned away from roadblock, refused to turn away / entered EPZ or registered at Reception Centre
- 11** PSGS works closely with Local Authority, Director of Emergency Management and supporting agencies
- 12** Incident Commander, Operations Section Chief and PSGS communicate as required to maintain awareness of the incident. Public safety response actions are tracked, displayed and adjusted as required.

### 7.3 Public Safety Actions by Emergency Level – Alberta

The AER has clearly stated that public protection measures or response zones are not based on the declared Emergency Level designation. However, the AER does require that the ARC Emergency Response Plan include public protection measures that would be taken for each level of emergency. Therefore this information is listed in the following table, by level.

<b>AER Expectations in regard to Public Protection Measures E.g. for Sour Gas and / or HVP Incidents</b>
<b>ALERT</b>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Courtesy notification to the public, at ARC's discretion</li> <li><input type="checkbox"/> If public or media is contacted, ARC must notify AER</li> <li><input type="checkbox"/> Alert mobile monitoring equipment and be ready for a callout or mobilize monitoring equipment if location is remote</li> <li><input type="checkbox"/> Prepare for evacuation in case of escalation of the situation</li> </ul>
<b>LEVEL 1 - No danger to public outside ARC's property</b>
<ul style="list-style-type: none"> <li><input type="checkbox"/> Individuals within the EPZ who requested notification – ARC must notify any individuals within the EPZ who have requested notification so that they can voluntarily evacuate before any exposure to H<sub>2</sub>S.</li> <li><input type="checkbox"/> ARC must notify the public in the response zones that are within the EPZ, the director of emergency management, if an urban centre is within the EPZ, individuals within the EPZ that have requested early notification and wish to voluntarily evacuate, and the Local Authority and / or First Nations and Alberta Health Services.</li> <li><input type="checkbox"/> Individuals with an identified special need - ARC personnel and / or designated Rovers may be required to provide evacuation assistance for individuals with an identified special need. Early response actions must be taken because they require evacuation assistance, requested early notification, do not have telephones, require transportation assistance, have a language or comprehension barrier, or have specific medical needs. Special needs also include those who decline to give information during the public consultation process and any residences or businesses where contact cannot be made.</li> <li><input type="checkbox"/> Mobilize mobile monitoring equipment</li> <li><input type="checkbox"/> If residents are contacted, ARC (Liaison Officer) must notify the Local Authority and/or First Nations and consider notification to Alberta Health Services</li> <li><input type="checkbox"/> In case the situation escalates in severity, prepare to deal with any highways or railways passing through the Emergency Planning Zone that could be impacted by the hazard.</li> </ul>

**LEVEL 2 - No immediate danger outside ARC's property or the right-of-way, but there is the potential for the emergency to extend beyond ARC's property.**

- Continue Level 1 actions and ensure all are completed.**
- Establish manned roadblocks to restrict unauthorized entry, secure IIZ and PAZ
- If not already done, mobilize Air Quality Monitoring Unit(s).
- If safe to do so, ARC must attempt to evacuate people in Initial Isolation Zone
- If safe evacuation is not possible instruct public within Initial Isolation Zone (IIZ) and Protective Action Zone (PAZ) to temporary Shelter-in-Place until safe to evacuate.
- Manage downwind public safety actions beginning close to the source and working outward to the extent of the Protective Action Zone (Ensure mobile air monitoring is mobilized)
- ARC must notify the rest of the public in the EPZ as soon as notification attempts have been completed for the public in the response zones.
- It may be necessary to obtain a Fire Hazard Order (issued by the AER) or to declare a state of local emergency to restrict access to a designated area. A state of local emergency may be declared by the Local Authority and / or First Nations if it decides that it is prudent to do so.
- It may also be necessary for NAVCanada to issue a Notice to Airmen (NOTAM) to advise pilots of restrictions in the airspace above the EPZ or to close the airspace for a certain radius from the release (a no-fly zone). NOTAMs or closure of airspace may be requested by the AER at a Level 2 or Level 3 Emergency.
- Sheltering indoors should be used as a viable public protection measure in circumstances when:
  - there is insufficient time or warning to safely evacuate the public that may be at risk, residents are waiting for evacuation assistance,
  - the release will be of limited size and / or duration,
  - the location of a release has not been identified, or
  - the public would be at higher risk if evacuated
- The PAZ may be expanded based on air monitoring. Public must be evacuated when H<sub>2</sub>S reading are above 10 ppm (3-minute average).
- Local conditions must be assessed and all persons must be advised to evacuate and / or shelter.
- SO<sub>2</sub> Immediate evacuation of the area must take place if 5 ppm (15-minute average) or 1 ppm (3-hour average) or 0.3 ppm (24-hour average)
- Air quality monitoring occurs downwind, with priority being directed to the nearest unevacuated residence or area where people may be present.
- The licensee is expected to provide monitored H<sub>2</sub>S and SO<sub>2</sub> information on a regular basis throughout a sour gas emergency to Alberta Environment and Sustainable Resource Development, the AER, Alberta Health Services, and Local Authority and / or First Nations and on request to the public.
- The licensee must continuously assess and act on the need to expand the evacuation area based on the monitored levels of H<sub>2</sub>S and as dictated by the specifics of the incident itself. In the absence of the ability to take monitored readings, responders should advise residents to shelter in place.
- Sheltering is the primary public protection measure for a HVP product release. Evacuation of the public should only proceed when it is safe to do so.
- The licensee must notify the rest of the public in the EPZ as soon as notification attempts have been completed for the public in the response zones.
- Advise the public within the EPZ of the appropriate public protection measures.



**LEVEL 3**

- Safety of the public is in jeopardy from a major uncontrolled hazard.
- Continue Level 2 actions and ensure all are completed.**
- Evacuation beyond IIZ, PAZ and EPZ based on the monitored levels of H<sub>2</sub>S and as dictated by the specifics of the incident itself in the absence of the ability to take monitored readings, responders should advise residents to Shelter-in-Place.
- Notification and evacuation will take place outside the EPZ in accordance with the Local Authority and / or First Nations based on monitored air quality.
- Evacuation of the area outside the EPZ is coordinated through the company ERP and the response framework in the Local Authority and/or First Nations' MEP. Alberta Health Services also have a role in evacuation in accordance with the Alberta Public Health Act, as required
- Ignition is implemented if criteria met. Continue Air Quality Monitoring and evacuation even after ignition



## 7.4 Public Safety Actions by Emergency Level – British Columbia

ARC must use the BCER Emergency Criteria and Action Plans to classify and report an incident to the BC Energy Regulator and EMCR. The BCER has specifically listed the mandatory actions that ARC must take for each Emergency Level. These BCER mandatory actions are listed in the following table.

<b>BCER Expectations in regard to Public Protection Measures e.g. for Sour Gas and / or HVP Incidents</b>	
Level 1: Potential Emergency	<ul style="list-style-type: none"> <li>• Alert all wellsite / facility personnel.</li> <li>• Evaluate problem and initiate appropriate remedial action</li> <li>• Unnecessary personnel to leave the site</li> <li>• Notify company representative(s)</li> <li>• Alert mobile monitoring equipment and be ready for a callout or mobilize monitoring equipment if location is remote</li> <li>• Advise BCER and EMCR representative</li> <li>• In some cases, where there are large numbers of residents, notify or evacuate residents in accordance with site-specific plan</li> <li>• Prepare for evacuation in case of escalation of the situation</li> </ul>
Level 2: Emergency	<ul style="list-style-type: none"> <li>• Ensure all Level 1 actions are taking place and are completed</li> <li>• Update BCER &amp; EMCR of Emergency Status</li> <li>• Initiate evacuation of Emergency Planning Zone</li> <li>• Set up roadblocks to isolate the Emergency Planning Zone</li> <li>• Discuss issuance of a closure order with the BCER's head office in Fort St. John</li> <li>• Send out monitoring crew; initiate mobile monitoring</li> <li>• Send company representative to Reception Centre</li> <li>• Inform senior company personnel</li> <li>• Establish communications to off-site control centre</li> <li>• Assemble ignition crew and ready ignition equipment in case of escalation of the situation</li> </ul>
Level 3: Major Emergency	<ul style="list-style-type: none"> <li>• Ensure all Level 1 and 2 actions are taking place and are completed</li> <li>• Update BCER &amp; EMCR of the emergency status</li> <li>• Mobile monitoring equipment in place</li> <li>• Ignite release if any of the ignition criteria are met</li> <li>• Advise BCER and EMCR of the state of emergency</li> <li>• Expand EPZ as required</li> </ul>

## **7.5 Emergency Planning and Response Zones Defined**

### **Emergency Planning Zone (EPZ) – All provinces**

A geographical area surrounding a well, pipeline, or facility containing hazardous product that requires specific emergency response planning by ARC.

The size of the EPZ is calculated using AERH2S for Alberta and nomographs in British Columbia. To identify the actual EPZ around a well or pipeline, refer to the well and pipeline tables that list the calculated EPZ for each sour well and sour (or HVP) pipeline.

The EPZ for a facility is the largest EPZ for a pipeline feeding into or out of the facility.

### **Initial Isolation Zone (IIZ) – (Alberta)**

An area in close proximity to a continuous hazardous release where indoor sheltering may provide temporary protection due to the proximity of the release.

### **Protective Action Zone (PAZ) – (Alberta)**

An area downwind of a hazardous release where outdoor pollutant concentrations may result in life threatening or serious, and possibly irreversible, health effects on the public.

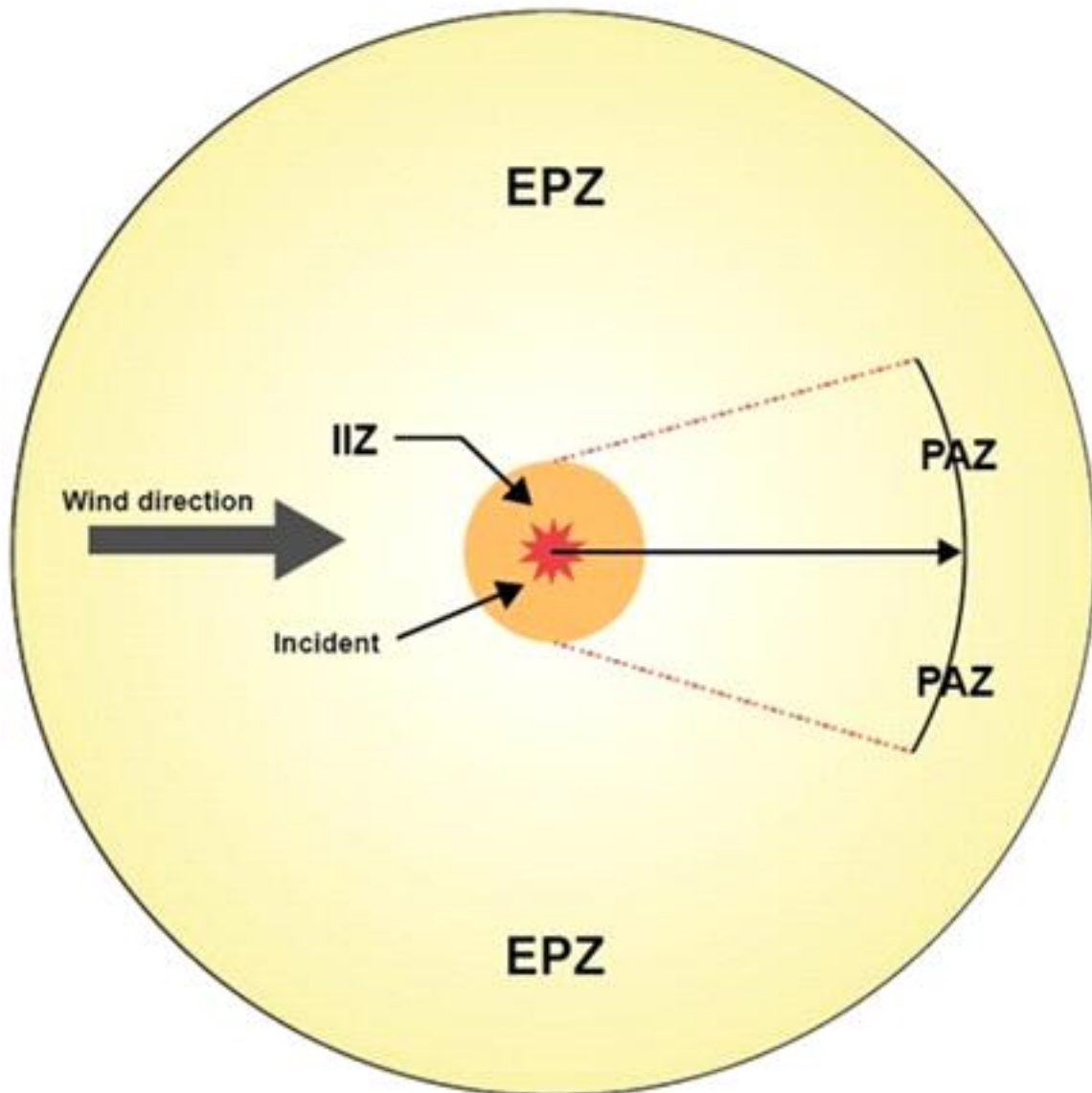
The estimated size of the PAZ is calculated using AERH2S.

Immediately following a release of H<sub>2</sub>S or HVP product, the approximate size and direction of the PAZ may be determined if actual conditions data is available.

Once monitoring equipment arrives, the actual size of the PAZ can be determined based on the monitored conditions.

ARC works with external agencies and responds to protect the public.

The following diagram, extracted from AER Directive 071, (formally ERCB Directive 71) shows the estimated size of the PAZ, IIZ and EPZ, calculated using AERH2S.

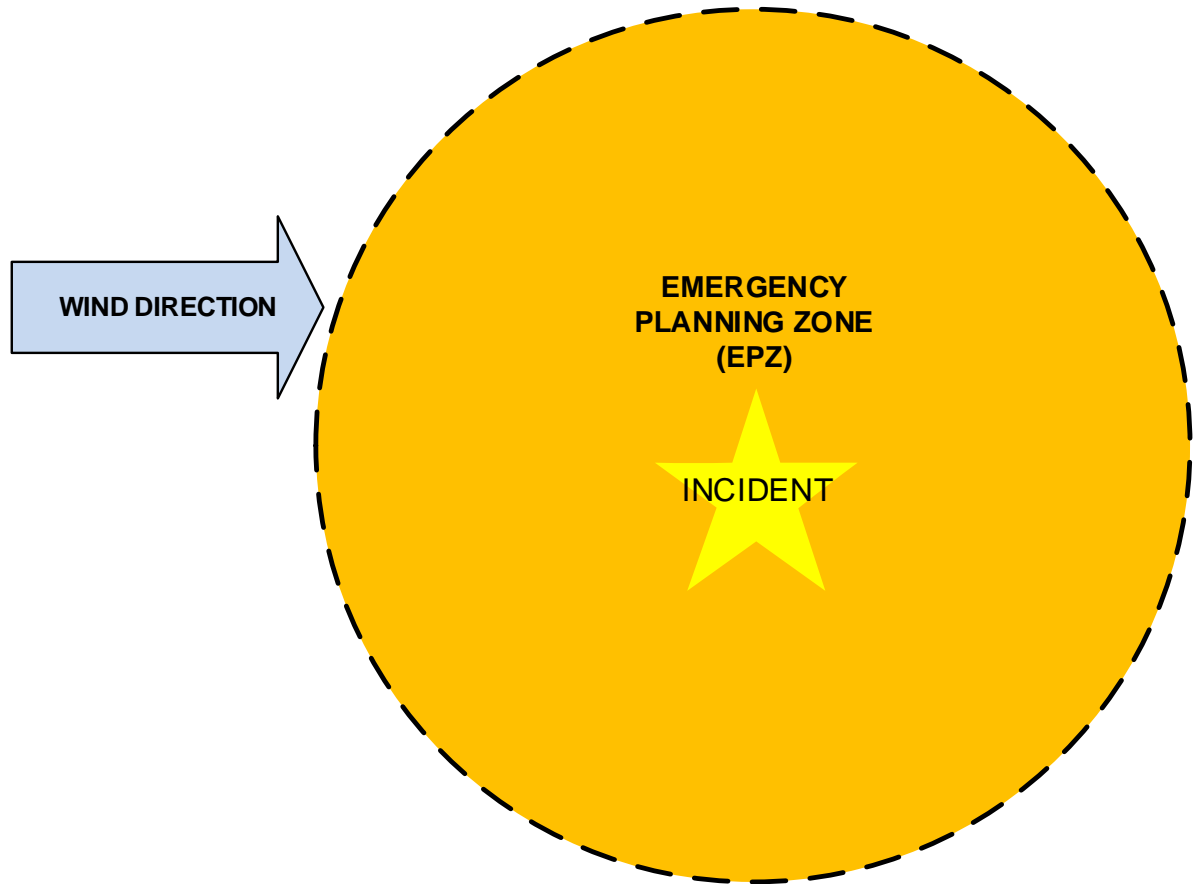


The AERH2S program calculates the Emergency Planning and Response Zones, starting from the closest residence to the well/pipeline and moving outwards, based on the following:

- IIZ: Concentration is equivalent to 100 ppm for 60 minutes indoors
- PAZ: Concentration is equivalent to 130 ppm for 60 minutes outdoors
- EPZ: Concentration is equivalent to 100 ppm for 60 minutes outdoors

**British Columbia Emergency Planning Zones**

The following diagram shows the estimated size of the Emergency Planning Zone



### **Priority Order for Conducting Public Safety Actions**

Public safety actions begin at the source of the release and is undertaken in a coordinated manner by ARC, the Local Authority and / or First Nations and other responders as needed at the time of the incident.

Initial Isolation Zone – for people in close circular proximity to the release source

Protective Action Zone – for public downwind, with public safety actions beginning close to the source and working outward to the extent of the Protective Action Zone – this may be expanded based on air monitoring.

Emergency Planning Zone – based on specific provincial regulatory requirements conduct actions as required in the remainder of the defined emergency planning zone. Notification and evacuation will take place outside the EPZ based on air monitoring readings and in accordance with ARC's arrangement with the Local Authority and / or First Nations.

## **7.6 On-site Response - Control Areas**

The objective of site safety activities is to protect life by establishing perimeter control and safe operations within the perimeter. For increased worker and responder safety, the area in close proximity to the hazard may be divided into on-site control areas, based on the type and extent of the hazard.

Therefore three (3) potential on-site control areas may be established as:

- Hazardous Area – also called the hot or exclusion or red or restricted zone
- Decontamination Area – also called the warm, yellow or limited access zone
- Support Area – also called cold, support, green or clean zone

Note: On-site control areas are specific to the worksite and are separate from the emergency planning response zones for public protection. It is important not to confuse these areas / zones.

For larger incidents a Site Safety Plan could be developed which may include the following:

- Perimeters and site control;
- Methods for keeping track of responders;
- Hazard identification;
- Personal protective equipment;
- Monitoring of individuals and the environment;
- Emergency medical care;
- Site evacuation and rescue plans;
- Communications and warning protocols;
- Plans for partial or full decontamination; and
- Rest periods and rehabilitation services for responders
- Site Security

It may be necessary to address other issues as well.

**Hazardous (Hot) Zone**

This on-site area has the highest hazard and extreme caution, planning and protection must be undertaken prior to entry. The size and shape of the on-site hazardous area will vary depending on the type of material involved, the magnitude of the hazard, the wind direction and the terrain.

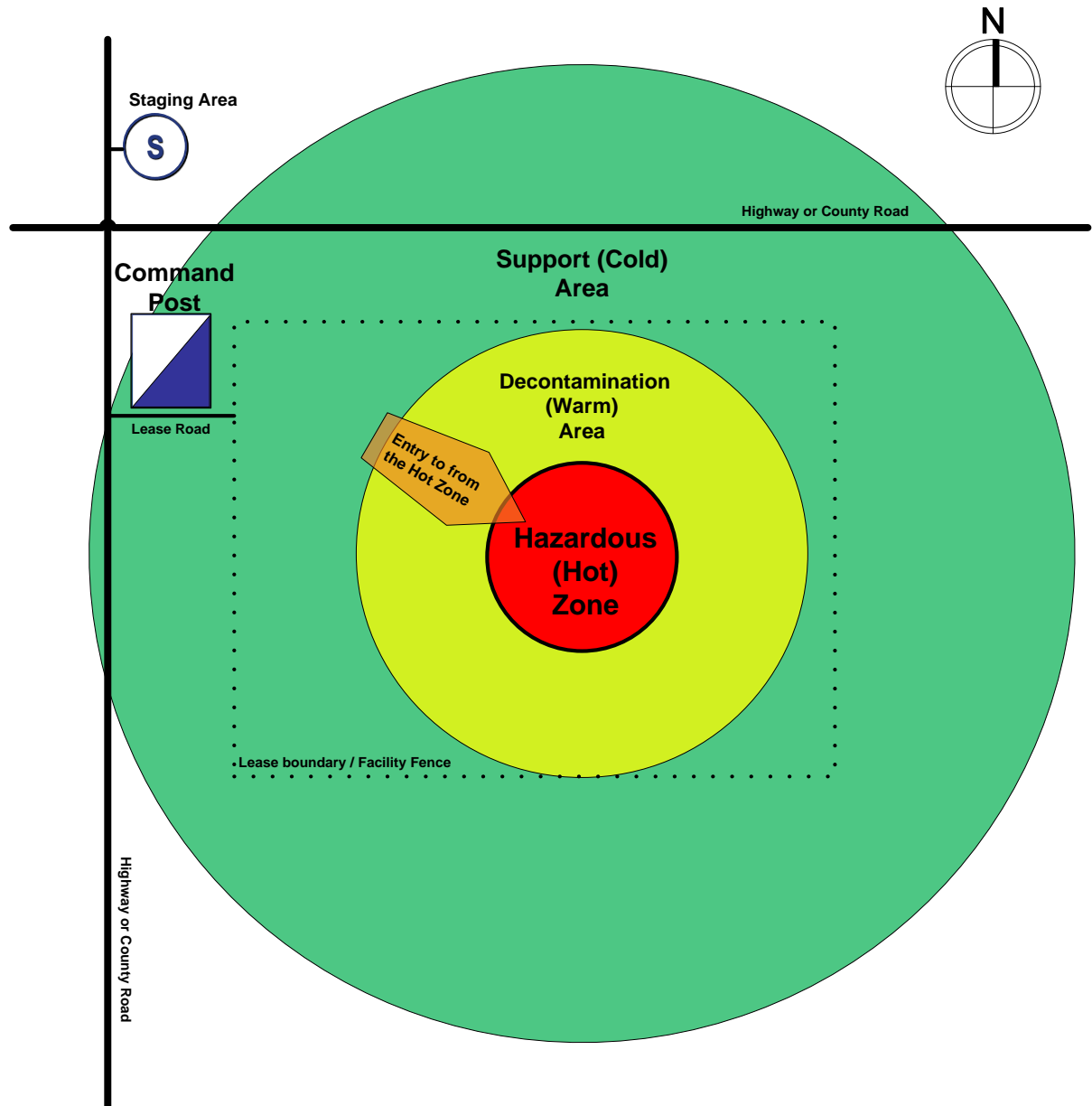
Only personnel with appropriate training and an understanding of the specific response and control procedures will be allowed entry into the Hazardous (hot) Area.

An area is considered a Hazardous (hot) Area if any of the following conditions exists:

- Any area deemed to be part of the Hazardous Area by the Operations Section Chief such as the immediate area surrounding a fire or spill.
- Combustible gas readings of 10% LEL or greater;
- H<sub>2</sub>S gas readings of 10 ppm greater (3 minute average)
- SO<sub>2</sub> readings of 5 ppm or greater (15 minute average)
- Oxygen content of less than 19.5% or greater than 23%;
- Presence of organic and inorganic vapours/gases and liquids (consult SDS toxicity data);

When determining the size of the Hazardous (hot) Area, consider the following:

- Location of access routes, power lines, pipelines, fire and explosive hazards;
- Areas where vapours are likely to accumulate (downwind, low lying areas, confined spaces);
- Site stability (steep slopes, overhanging banks, unstable soil, thin ice);
- Weather conditions;
- Toxicity and evacuation data for the product involved (refer to SDS).



It is impossible to determine the on-site control areas before an incident occurs. The on-site control areas are established at onset and during an emergency should not be confused with public protection response zones. On-site work areas are specific to the site and separate the site into at least two and possibly three areas, under the direction of the Operations Section Chief.

Any personnel going into the hazardous area must be monitored and tracked. If there is a loss of contact (visual or communications) with a worker in the hazardous area within a specified period of time, a rescue team will need to send in to search for the missing worker. The rescue operation puts the rescuers at risk. If the worker has exited the hazardous area unnoticed, the risk to the rescue team is unwarranted.

It is very important that on-site personnel are supervised and accounted for as they enter and leave the hazardous area. Upon exit of the hazardous area, workers should be medically monitored and if symptoms are detected, the worker should seek medical evaluation and treatment.

### **Support (Cold) Area**

The Support (cold) Area is verified by Operations Section Chief to be free of hazards with prevailing conditions and sufficiently clear to be unaffected by the Hazardous Area. This safe area is where the command post and staging areas are located. Respiratory protective equipment is not required in the Support (cold) zone.

This is the area where resources are assembled to support the on-site response operation. This is also referred to as the clean zone, green zone or support zone in other documents.

When concerned about wind-shifts or changing conditions, the Operations Section Chief must reassess the location of personnel to ensure ongoing responder safety.

### **Decontamination (Warm) Area**

A Decontamination Area would likely only be designated in response to a hazardous material (hazmat) spill, when decontamination (removal / neutralization of harmful, contaminating chemicals) of personnel and equipment is required.

The Decontamination Area is the area between hazardous and safe support areas where for personnel and equipment decontamination, if required.

Personnel need to wear the appropriate personal protective equipment (PPE) while in the hazardous and decontamination zones. The decontamination area includes a controlled access corridor for safety and to reduce the spread of contamination.

Upon exiting the hazardous area, the worker, clothing, and equipment must be monitored for contamination. If contamination is detected, decontamination procedures must be enacted. Decontamination techniques vary for different substances.



### North American - Emergency Response Guidebook

The Emergency Response Guidebook (ERG 2008) was developed jointly by Canada, the U.S., Mexico and Argentina for use by fire fighters, police and other emergency services personnel who may be the first to arrive at a dangerous goods incident. ERG 2008:

Is primarily a guide to aid first responders in quickly identifying the specific or generic hazards of the material(s) involved in the incident.

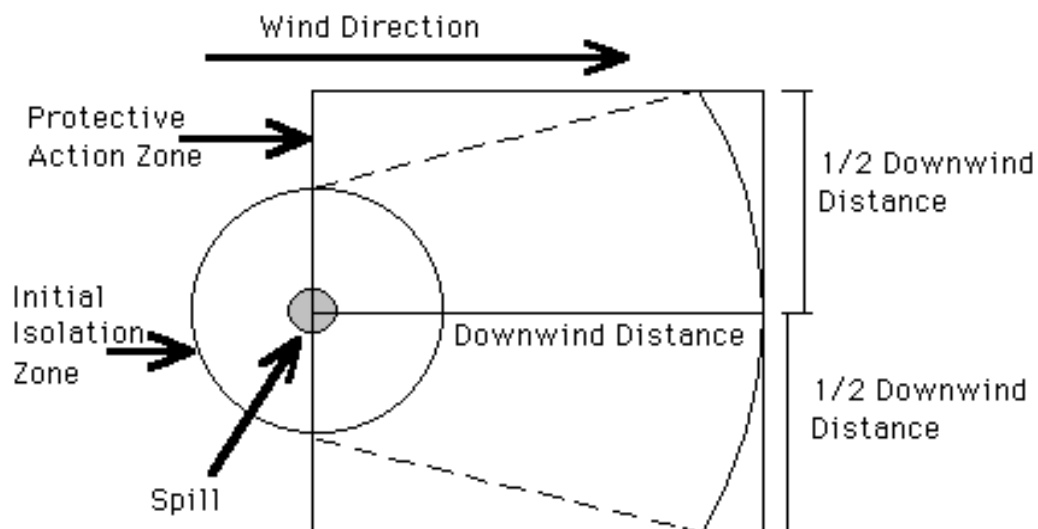
- Includes general information to protect themselves and the public during the initial response phase of the incident.
- Provides guidance about the initial isolation and protective action distances to protect those closest to the hazard first and then those who are downwind.
- Is a practical, proven response process that has been refined and adopted by the regulators.
- Is the basis for modeling response zones using programs like AERH2S.

#### Within the Emergency Response Guidebook, first responders are told to:

Direct all persons to move, in a crosswind direction, away from the spill or release to the distance specified for the Initial Isolation Zone.

Look up the initial Protective Action Distance in the Emergency Response Guidebook for a given material, spill or release size; determine whether it is day or night; identify the downwind distance and determine the most appropriate protective actions to consider.

The Protective Action Zone (PAZ) is defined within the North American ERG as a square, whose length and widths are the same as the downwind distance. The square shape of the area in which protective actions should be taken (the PAZ) is shown in the figure below, extracted from the North American ERG.



## 7.7 Roadblocks

As a safety precaution, the potentially hazardous area should be secured using roadblocks or other barriers. i.e. all access roads to and from the incident site. Company or contract personnel will be assigned as Roadblocks Crews. Additional roadblock assistance may be obtained from police, provincial highway crews, local authorities, or contractors. Roadblocks should be placed in locations that are clearly visible to oncoming traffic. The roadblocks should also be located at intersections or pullouts to enable traffic to easily turn around or take detour routes.

Ideally, ARC should receive authorization from local authorities or the police before establishing roadblocks on public roads. However, if the safety of the public is in jeopardy, company responders should be prepared to quickly restrict access to the area before contacting these agencies.

- Upon declaration of a Level 2 (or 3) Sour Gas, HVP or NGL Emergency, roadblocks MUST be set up to isolate and restrict entry into the Emergency Planning Zone (EPZ)
- Roadblock Crews report initially to the On-Site Group Supervisor and then later to the Public Safety Group Supervisor (if appointed), or directly to the Incident Commander.

It may be necessary to obtain a fire hazard order (issued by the Regulatory Authority) or to declare a local state of emergency (issued by the County / Municipality) to restrict access to a designated area. A local state of emergency may be declared by the County / Municipality should the incident escalate beyond the Emergency Planning Zone.

In order to request restricted use of the airspace near the incident, a NOTAM can be requested from Navigation Canada or through the Regulatory Authority who will be asked to call the nearest NAV Canada Field Services office (e.g. Edmonton) with the following information:

- Coordinates of the incident.
- Radius of the area to be protected
- Maximum altitude to be protected
- Approximate position from nearest airfield (may need to determine this in conjunction with NAV Canada)

Each Roadblock Crew should have access to the following resources, as required:

- Flares, flashing lights, beacons, flashlights, or wand-lights
- ERP Duties / Checklist,
- ERP map
- Roadblock Checkpoint Record and Time & Event Log
- Personal Protective Equipment such as reflective vests
- Explosive and H<sub>2</sub>S gas monitors (testing tubes or electronic instruments)
- Functional radio communication or cellular phones
- Road barricades with appropriate warning signs and “stop” paddles

Roadblock Crews should be properly trained to use gas monitoring equipment, and Personal Protective Equipment appropriate to the risk of their assignments.

## 7.8 Air Quality Monitoring

Air quality monitoring is used for tracking the presence and concentrations of H<sub>2</sub>S during a sour gas release and SO<sub>2</sub> following the ignition of a release or the presence and lower explosive limit (LEL) of HVP product following a release.

The information generated from air quality monitoring is used to:

- Track the plume (wind speed and direction)
- Determine if ignition criteria are met
- Determine if evacuation and / or sheltering criteria have been met
- Determine if areas considered for evacuation are safe to do so (e.g. HVP – egress, ignition sources, LEL, etc.)
- Identify roadblock locations
- Assist in determining if the emergency can be downgraded

The following site-specific information is considered when deploying the type and numbers of air quality monitoring units:

- Access and egress points
- Area topography
- Population density
- Proximity to urban centres
- Local conditions

Air quality monitoring needs to occur downwind with priority being directed to the nearest unevacuated residence, or areas where people may be present. Monitored H<sub>2</sub>S and SO<sub>2</sub> information needs to be made available to the appropriate provincial oil and gas regulator and Provincial Environment as well as the public on a regular basis throughout a sour gas emergency.

In a situation where the release has the possibility of being sustained, the hazard area must be refined using mobile monitoring vehicles equipped with devices to continuously measure and record wind speed, direction, and H<sub>2</sub>S and SO<sub>2</sub> concentrations to establish 3 minute average concentrations.

ARC needs to decide whether to dispatch mobile air quality monitoring equipment or place it on standby at a Level 1 Emergency, depending where the equipment is located and the amount of time it will take to get it to the area of the incident.

When notified of a release, ARC needs to investigate the source and send out air quality monitoring unit(s) upon confirmation of its location.

## **Downwind Mobile Air Quality Monitoring Requirements – AER Requirements**

If ARC is notified of a release by an alarm or by a reported odour, it must investigate the source of the release and send out air quality monitoring units upon confirmation of the release location.

For critical sour wells, if the EPZ includes a portion of an urban density development or urban centre, there must be a minimum of two mobile air quality monitors: one to monitor the boundary of the urban density development or urban centre and the other to track the plume. ARC must also ensure:

- that one unit is in the area during drilling and/or completion, testing, and workover operations in potentially critical sour zones,
- that the other unit is dispatched if it is evident that well control measures are deteriorating and that a sour gas release is likely to occur, and
- prior to conducting operations in the sour zone, determine where the monitoring equipment is located and what the estimated travel time is to the well site.

Additional units may be required if there are multiple urban density developments or a large urban centre.

For critical sour wells whose EPZ does not include a portion of an urban density development or urban centre and for all noncritical sour wells, ARC must:

- dispatch a mobile air quality monitoring unit(s) when it is evident that well control measures are deteriorating and that a sour gas release is likely to occur, and
- prior to conducting operations in the sour zone, determine where the monitoring equipment is located and what the estimated travel time is to the well site.

Air quality monitoring occurs downwind, with priority being directed to the nearest unevacuated residence or area where people may be present.

ARC is expected to provide monitored H<sub>2</sub>S and SO<sub>2</sub> information on a regular basis throughout a sour gas emergency to Alberta Environment, the AER, RHAs, and local authorities and on request to the public.

**Downwind Mobile Air Quality Monitoring Requirements – BCER Requirements**

	Level 1	Level 2	Level 3
	<b>Emergency</b>		
<b>Sour Well</b>	If estimated time of arrival is greater than the estimated time for gas to surface <sup>1</sup> then dispatch to site. If estimated time of arrival is less than the estimated time for gas to surface, place on standby.	Deploy unit(s) from well site and commence mobile air quality monitoring. <sup>2</sup>	Continue mobile air quality monitoring.
<b>Special Sour Well</b>	If the calculated EPZ includes a portion of an urban density development, mobile air quality monitoring unit must be on the lease during sour drilling, completion, servicing, or testing of potential sour zones. Request additional air quality monitoring unit(s). <b>or</b> If there is no urban density development, a mobile air quality monitoring unit(s) must be dispatched to the well site at a level-1 emergency.	Deploy unit(s) from well site and commence mobile air quality monitoring. Request additional air quality monitoring unit(s), if required.	Continue mobile air quality monitoring. Request additional air quality monitoring unit(s), if required.
<b>Production facilities containing sour gas</b>	Deploy unit(s) to area of release and commence mobile air quality monitoring.	Continue mobile air quality monitoring. Request additional air quality monitoring unit(s), if required.	Continue mobile air quality monitoring. Request additional air quality monitoring unit(s), if required.
<sup>1</sup>	An estimated time for gas to surface should be based on the time to circulate bottoms-up.		
<sup>2</sup>	If a mobile air quality monitoring unit has not arrived on site by the time that gas has reached the surface, ignition criteria may have been met for a partially controlled or an uncontrolled release.		

## 7.9 Shelter-in-Place Criteria

Shelter-in-Place is the most effective response during the first few hours of a toxic release to the atmosphere. Being outdoors would carry a higher risk. Shelter-in-Place creates a protective buffer from higher (more toxic) concentrations that may exist outdoors. It is based on using a building that is not too drafty for Canadian winter weather conditions.

Shelter-in-Place is most effective when the movement of outside air into the building is minimized. Stay indoors until the hazard has passed or until other appropriate emergency actions can be taken (such as evacuation). Shelter-in-Place should be of a short duration; i.e. several minutes to half an hour.

Examples of when the public may be asked to Shelter-in-Place:

- Occupied buildings are within or near toxic or explosive gas plumes
- Residents are waiting for evacuation assistance
- The toxic gas plume impacts portions of the available evacuation routes
- The source and nature of the release has yet to be determined
- The toxic release is expected to be of short duration (several minutes to half an hour) or ignition procedures are underway and evacuation would place evacuees at risk
- Extreme weather conditions compromise the ability of the public to safely evacuate
- Insufficient time or warning to safely evacuate
- When evacuation carries an unacceptable level of risk
- Sour gas / HVP release of limited duration (e.g. due to a pipeline rupture)
- Public would be at a higher risk if evacuated

All persons advised to Shelter-in-Place are to be notified if additional measures are required, and when it is “all clear”.

ARC Resources will attempt to maximize the safety of sheltered residents by:

- Initiating ignition if the criteria are met
- Containing the release
- Initiating evacuation if conditions are determined to be safe.

## 7.10 Shelter-in-Place Instructions

- Immediately gather everyone indoors and stay there.
- Close and lock all windows and outside doors.
- If convenient, tape the gaps around the exterior door frames.
- Extinguish indoor wood burning fires.
- If possible, close flue dampers.
- Turn off heat and hot water pilot lights

Turn off appliances or equipment that either:

- Blow out or use indoor air, such as:
  - Bathroom and kitchen exhaust fans.
  - Built-in vacuum systems.
  - Clothes dryers.
  - Gas fireplaces.
  - Gas stoves.
- Suck in outside air, such as:
  - Heating, ventilation and air conditioning systems for apartments, commercial or public facilities.
  - Fans for heat recovery ventilators or energy recovery ventilators.

Turn down furnace thermostats to a minimum setting and turn off air conditioners.

- Do not smoke or have open flame.
- Leave open all inside doors.

Avoid using the telephone, except for emergencies, so that you can be contacted by company emergency response personnel. Call the ARC Resources emergency numbers you have been provided:

- If you are experiencing symptoms or smelling odours (so that we can address your concerns and adjust our response priorities).
- If you have contacted fire, police or ambulance (so that we can coordinate our response).

Stay tuned to local radio and television for possible information updates.

- Wait in an interior room upstairs for further instruction
- Even if you see people outside, do not leave until told to do so.
- If you are unable to follow these instructions, please notify company emergency response personnel.

After the hazardous substance has passed through the area, you will receive an "all clear" message. You may also receive, if required, instructions to:

- Ventilate your building by opening all windows and doors; turning on fans and turning up thermostats. During this time the air outside may be fresher and you may choose to leave your building while ventilating.

Once the building is completely ventilated, return all equipment to normal.

An ARC representative will come to your residence once the hazard no longer exists. Please minimize the use of your telephone so that we can get through on your line with further information.

## 7.11 Public Protection Measures for HVP Product

Sheltering in place is the recommended action until the position of the plume can be assessed and evacuation can take place safely. Assessment of whether or not to evacuate needs to include:

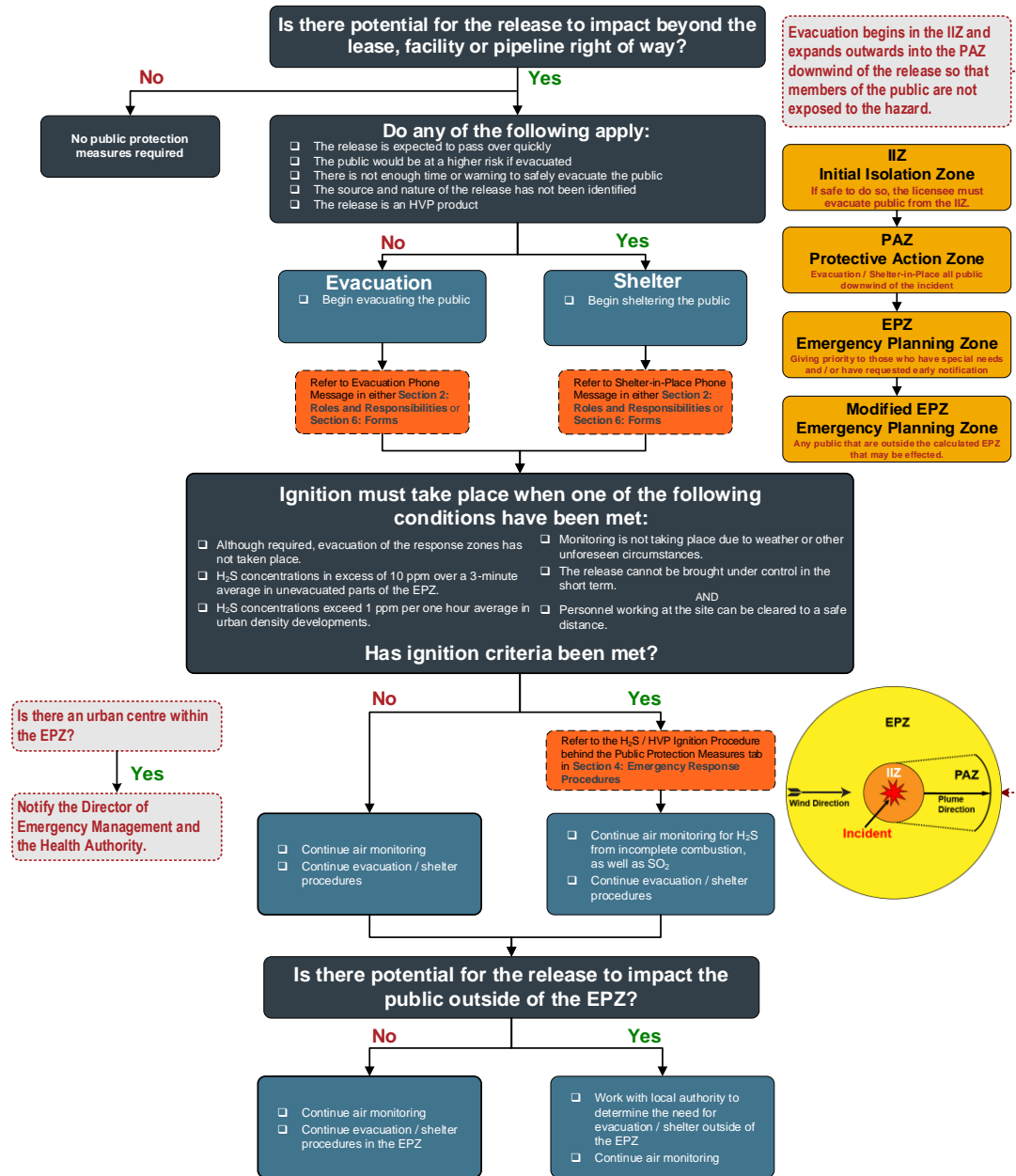
- The size and expected duration of release;
- Egress routes;
- Current and expected meteorological conditions; and
- Potential for unexpected ignition.

For HVP product releases, the IIZ and PAZ define a region adjacent to a release where plume concentrations may fall within the upper explosive limit (UEL) and lower explosive limit (LEL) and where the public may be directly exposed to the flame if the plume ignited. For large failure events, this area reaches its maximum extent shortly after initiation of a failure and then declines. Inadvertent actions within this region may lead to ignition; thus sheltering is recommended.

Evacuation is recommended for incidents in which the plume is visible and egress can occur in any direction away from the plume. A decision to evacuate should be made by qualified individuals with access to LEL monitors.



## 7.12 Public Protection Measures Flowchart – Alberta



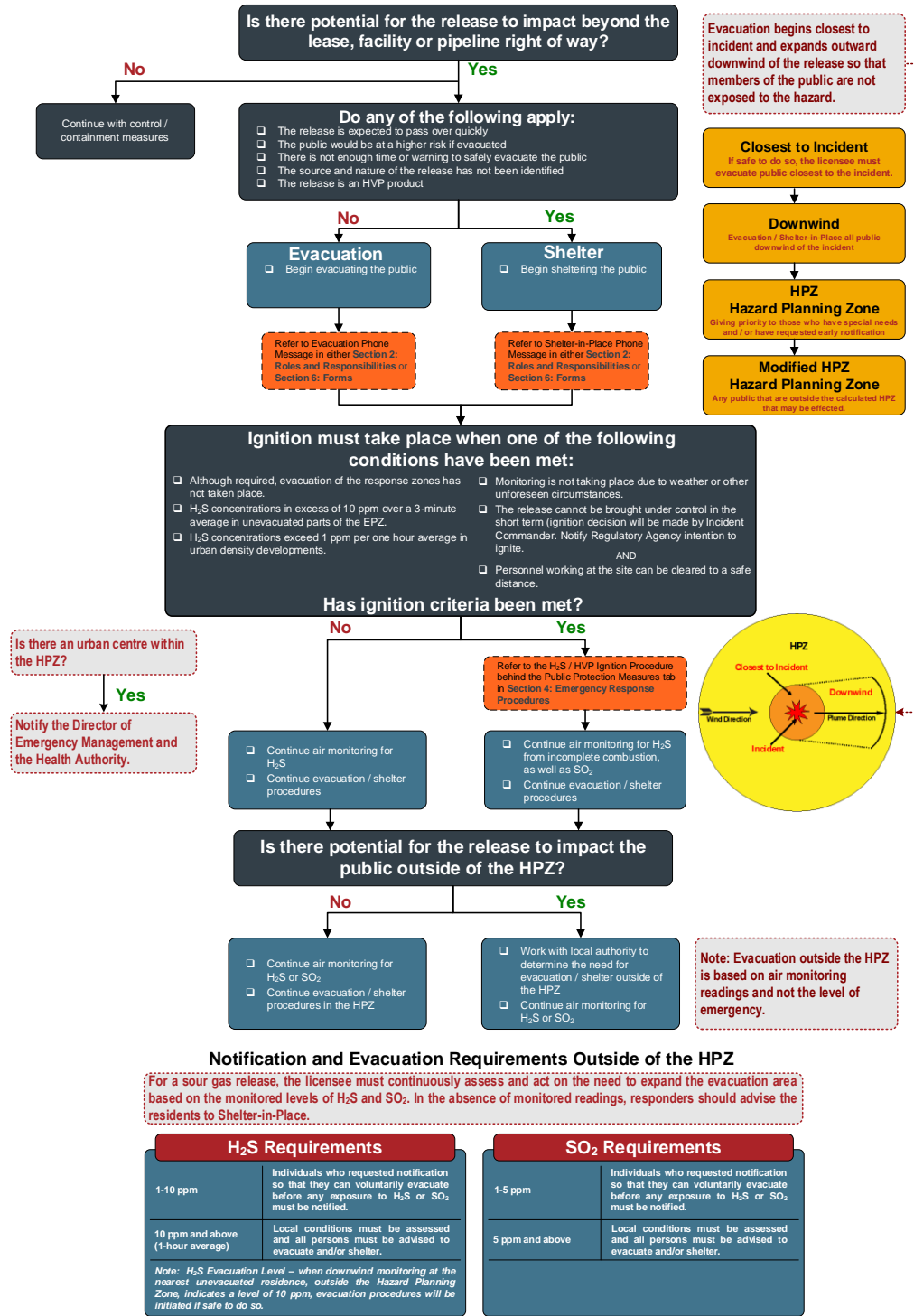
### Evacuation Requirements

Revised November 2021

For a sour gas release, the licensee must continuously assess and act on the need to expand the evacuation area based on the monitored levels of H<sub>2</sub>S and SO<sub>2</sub>. In the absence of monitored readings, responders should advise the residents to Shelter-in-Place.

H <sub>2</sub> S Requirements		SO <sub>2</sub> Requirements	
1 to 10 ppm (3 minute average)	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S must be notified.	0.3 ppm (24-hour average)	Immediate evacuation of the area must take place.
Above 10 ppm (3 minute average)	Local conditions must be assessed and all persons must be advised to evacuate and/or shelter.	1 ppm (3-hour average)	
		5 ppm (15-minute average)	
<p>* If monitored levels over the 3 minute interval are declining (i.e., three readings show a decline from 15 ppm to 10 ppm to 8 ppm over 3 minutes), evacuation may not be necessary even though the average over the 3 minute interval would be 11 ppm. Licensees should use proper judgement in determining if evacuation is required.</p>			

7.13 Public Protection Measures Flowchart – British Columbia



Revised November 2021

## 7.14 Evacuation Guidelines and Requirements

Evacuation is the primary public protection measure during a release of sour gas if the public can be safely removed from the area. If area conditions are safe, evacuation should take place as soon as possible - before a release has the potential to affect people and to avoid any exposure to the hazard.

ARC needs to continuously assess and act on the need to expand the evacuation area based on the monitored levels of H<sub>2</sub>S and as dictated by the specifics of the incident itself, including changing weather conditions

Air quality monitoring needs to occur downwind with priority being directed to locating and following the plume by traveling to the nearest unevacuated residence or areas where people may be present. Handheld monitors can be used by rovers for initial monitoring; H<sub>2</sub>S and SO<sub>2</sub> concentrations must be documented/recorded.

Special needs residents must be notified and / or evacuated at a Level 1 Emergency. All other residents must be notified and / or evacuated at a Level 2.

Evacuation begins with those persons in closest proximity to the incident site and expands outward and downwind of the release so that evacuees are not exposed to the monitored levels of H<sub>2</sub>S in accordance with the Evacuation Requirements (below).

Shelter-in-Place may not be a viable public protection measure within close proximity during an incident depending on release volume, size, duration and meteorological conditions. In such situations, assisted evacuation may be necessary to protect public safety. The public safety aspects of Shelter-in-Place are to be continuously re-evaluated during an incident.

Transients – including hunters, trappers, recreational users, and non-resident landowners will be located by rovers starting in the IIZ, working outwards into the PAZ, and then covering the rest of the EPZ.

Evacuation of large numbers of people may result in a need for assistance with transportation and a deviation from normal notification procedures.

Publicly used facilities may require special procedures for evacuation; please see Section 3: Government Agency Roles for area specific information.

### Evacuation Requirements – Alberta

H <sub>2</sub> S Concentrations In Unevacuated Areas	Requirement
1 to 10 ppm (3-minute average)	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S must be notified.
Above 10 ppm (3-minute average)*	Local conditions must be assessed and all persons must be advised to evacuate and/or shelter.
* If monitored levels over the 3-minute intervals are declining (e.g. three readings show a decline from 15 ppm to 10 ppm to 8 ppm over 3 minutes), evacuation may not be necessary even though the average over the 3 minute interval would be 11 ppm. Licensees should use proper judgment in determining if evacuation is required.	

SO <sub>2</sub> Concentrations In Unevacuated Areas	Requirement
5 ppm (15-minute average)	Immediate evacuation of the area must take place.
1 ppm (3-hour average)	
0.3 ppm (24-hour average)	

If public protection measures are required beyond the EPZ, they will be conducted in accordance with the licensee's arrangement with the local authority. This must be discussed and summarized as part of the licensee's ERP. The notification mechanisms will be based on monitored air quality data and other situations that might arise during the emergency. Evacuation of the area outside the EPZ is coordinated through the licensee's ERP and the response framework in the local authority's Municipal Emergency Plan. The Health Authority also has a role in evacuation in accordance with the Public Health Act.

**Evacuation Requirements – British Columbia**

<b>British Columbia Notification and Evacuation Requirements outside the EPZ in Un-evacuated Areas</b>	
<b>H<sub>2</sub>S Concentrations</b>	<b>Requirement</b>
1 – 10 ppm	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S or SO <sub>2</sub> must be notified.
10 ppm and above (1-hour average)	Local conditions must be assessed, and all persons must be advised to evacuate and/or shelter.
Note: H <sub>2</sub> S evacuation level – when downwind monitoring at the nearest un-evacuated residence outside the Hazard Planning Zone, indicates a level of 10 ppm, evacuation procedures will be initiated if safe to do so.	
<b>SO<sub>2</sub> Concentrations</b>	<b>Requirement</b>
1 – 5 ppm	Individuals who requested notification so that they can voluntarily evacuate before any exposure to H <sub>2</sub> S or SO <sub>2</sub> must be notified.
5 ppm and above	Local conditions must be assessed, and all persons must be advised to evacuate and/or shelter.

ARC needs to continuously assess and act on the need to expand the evacuation area based on the monitored levels of H<sub>2</sub>S and as dictated by the specifics of the incident itself, including changing weather conditions.

Initiate evacuation if conditions are determined to be safe. In the absence of the ability to take monitored readings, responders should advise residents to Shelter-in-Place.

Special needs residents must be notified and / or evacuated at a Level 1 Emergency. All other residents must be notified and / or evacuated at a Level 2. Conditions at the wellsite need to be monitored to determine if they will escalate.

ARC needs to assist any public who require evacuation assistance.

If necessary, ARC will arrange to search the Emergency Planning Zone for transients by helicopter equipped with a loudspeaker.

While ARC can advise residents to evacuate, the Local Authority and / or First Nations or Health Authority has to declare a state of emergency before mandatory evacuation can occur. It is a regulatory agency requirement for a company to advise residents to evacuate if the need arises.

A shift in wind direction or other will require immediate re-evaluation of the need for additional evacuation and / or sheltering. It may require immediate ignition of the well if ignition criteria are met. If the sour gas release has been ignited, the company will continue to monitor response zones for H<sub>2</sub>S from incomplete combustion, as well as SO<sub>2</sub>.

## 7.15 Ignition: Criteria, Decision and Procedures

Ignition is an important component of emergency response procedures for addressing public and worker safety during a sour gas release.

When H<sub>2</sub>S is ignited, it is converted to SO<sub>2</sub>. The heat of combustion carries the SO<sub>2</sub> gases high into the atmosphere. The resulting SO<sub>2</sub> concentrations that reach ground level are generally not expected to be sufficiently concentrated to be dangerous. Furthermore, once the escaping gases are burning, workers are no longer exposed to the possibility of an unexpected explosion from un-ignited gases. Ignition does not negate the requirement for continued evacuation or Shelter-in-Place procedures.

Ignition equipment will be on-site ready for use before sour operations begin or located appropriately for HVP facilities. If an Alert or Emergency is declared, the On-Site Group Supervisor will review the ignition procedures and confirm that the equipment is operational and is in a position to deploy quickly.

The On-Site Group Supervisor is empowered to independently implement the ignition procedures at any time it is believed workers or public cannot be protected from the escaping gases. If worker or public safety issues are not at immediate risk, with time permitting, the On-Site Group Supervisor may wish to discuss the ignition requirement with the Incident Commander / Operations Section Chief or the appropriate provincial oil and gas regulator. Such discussions are particularly relevant if regained well control is imminent. The appropriate provincial oil and gas regulator senior staff may insist on igniting a release if the company does not agree to ignite the release or if the company is not prepared to take the necessary steps.

Ignition of a HVP product release should occur only after the position of the plume has been established, after careful deliberation, and when safe to do so.

ARC must at all times provide for the safety of the ignition team, all workers, and the public.

### Ignition Criteria

ARC is expected to take immediate steps to prepare for ignition at the earliest signs of a release or a well control problem to ensure there will be no delay. For manned well operations, prompt ignition mitigates the threat of H<sub>2</sub>S exposure that could threaten public safety during a major sour gas release. During a sour well control problem, ignition discussions between ARC and the appropriate provincial oil and gas regulator should occur at pre-set intervals until the well is brought under control.

ARC is required to ensure that all sour wells have an ignition system such as a flare gun is on site during all drilling, completion, well testing or workover operations in the sour zone(s).

ARC needs to:

- Keep the appropriate provincial oil and gas regulator informed about the ignition situation and ignite a sour gas flow to the atmosphere in accordance with the Assessment and Ignition Criteria Flowchart unless discussions with the appropriate provincial oil and gas regulator determine that ignition may be delayed,
- Ensure that appropriate ignition equipment is available during all operations, and
- Assign the decision-making authority to ignite the release to an ARC representative on site.

- Isolate the Emergency Planning Zone by establishing Roadblocks
- Obtain closure order from the appropriate oil and gas regulator or declare a state of emergency if beyond the EPZ
- The appropriate oil and gas regulator to issue NOTAM for closure of airspace if necessary

The ignition team should be knowledgeable in sour well ignition and properly equipped to ignite the release within the planned time limits for which the Emergency Planning Zone was designed. The appropriate provincial oil and gas regulator senior staff may make the decision to ignite a release if ARC does not agree to ignite the release or is not prepared to take the necessary steps. Ignition does not negate the need for continuing with evacuation as there may be residual pockets of H<sub>2</sub>S or SO<sub>2</sub> in the area.

### **Ignition Criteria – British Columbia**

Ignition of a sour gas flow to the atmosphere must take place as soon as all personnel working at the site can be cleared to a safe distance and when one of the following conditions has been met:

- Evacuation of the EPZ cannot be accomplished
- Monitoring results indicate H<sub>2</sub>S concentrations in excess of 15 parts per million (ppm) for 15 minutes in unevacuated areas
- Monitored H<sub>2</sub>S concentrations exceed 1 ppm (1-hour average) in urban density developments
- Monitoring is not taking place due to weather or other unforeseen circumstances
- The release cannot be brought under control in the short term (notify the BCER of intent to ignite).
- The well is experiencing an uncontrolled flow, the well effluent has reached the surface, no immediate change of control and the flow, If not ignited, could lead to loss of life.
- The well is flowing sour gas to surface and safety of residents cannot be assured because:
  - Evacuation of residents within the emergency response planning zone CANNOT be accomplished; or
  - Monitoring results indicate H<sub>2</sub>S levels of 15 ppm for 15 minutes in unevacuated areas; or
  - Monitoring is not taking place due to some unforeseen circumstances, such as bad weather or communication breakdown.
  - Monitored H<sub>2</sub>S concentrations exceed 1 ppm (1-hour average) in urban density developments.
- For special sour wells, as determined by BCER immediate ignition of a well may be required.

**Once any of the above criteria has been met, ignition must occur within 15 minutes of the decision to ignite.**

**Ignition Equipment**

The ignition equipment includes a manually operated flare gun, a spare flare gun and flares with a 50 to 75 m range. Flares are to be carried in a separate container. Critical Wells (Alberta) or Special Sour Wells (British Columbia) must have two means of ignition i.e. flare gun and firefly.

**Supplemental Ignition Equipment**

The following equipment is supplemental to the ignition system:

- Flame resistant coveralls to be worn by the Back-up Ignition Team
- Hard hats with flame resistant liner
- Ear protection
- Hand held gas detectors for H<sub>2</sub>S and LEL with audible alarms from 10 ppm H<sub>2</sub>S and 25% LEL.
- Self-contained breathing apparatus with 30 minute minimum air supply for the Ignition Lead and Back-up Ignition Team
- Intrinsically safe radio with communication channel
- Air horns, one for Ignition Lead and one for the Back-up Ignition Team
- Crew vehicle to remain with the Back-up Ignition Team



**Assessment and Ignition Criteria Flowchart – Alberta**

**During a release of H<sub>2</sub>S assess the following:**

- risk of exposure/injury to the public or response workers
- proximity to residences, public facilities, towns, or urban centres
- status of evacuations
- fire hazard after ignition in relation to adjacent forested or cropland area
- safety of ignition team (hazard area identification, protective gear)

**Ignition must take place when one of the following conditions has been met:**

- Although required, evacuation of the response zones has not taken place
- Monitoring results indicate H<sub>2</sub>S concentrations in excess of 10 ppm over a 3-minute average in unevacuated parts of the EPZ. IF MONITORED LEVELS ARE DECLINING, THEN THE SITUATION NEEDS TO BE CONTINUOUSLY ADDESSED FOR IGNITION.
- Monitored H<sub>2</sub>S concentrations exceed 1 ppm (1 – hour average) in urban density developments.
- Monitoring is not taking place due to weather or other unforeseen circumstances
- The release cannot be brought under control in the short term (ignition decision will be made in consultation with the Regulatory Agency).

**Once any of the above conditions has been met, ignition must occur within 15 minutes of the decision to ignite.**

- Carry out pre-ignition planning
- Attempt ignition

## Ignition Procedures

The following information pertains to Sour Gas Releases, HVP Product Releases from a pipeline and / or Cavern Storage Facilities.

Before ignition is implemented:

- All personnel on the well-site need to be evacuated to a safe location and a head count verifying that everyone is accounted for needs to be completed.
- The perimeter of the hazard area must be established.
- Determine if there are any increased risks if ignition is delayed.
- Determine if ignition will worsen the situation by endangering the public or the environment or damaging the equipment used to control the product.
- Establish wind direction and confirm it is continually being monitored.
- Assess the possibility of an explosion.

Prepare for the possibility that the release may spontaneously ignite.

The On-Site Group Supervisor appoints two capable personnel as members of the three person ignition team. One will join the On-Site Group Supervisor on the backup ignition team and the other will assume the responsibility of the Ignition Lead.

The On-Site Group Supervisor regularly communicates with the Operations Section Chief in connection with ignition information. The Operations Section Chief is to maintain communication with the backup ignition team and Incident Command Post.

- Ensure all nonessential personnel have evacuated to a safe area
- The Ignition Lead and backup ignition team don the appropriate equipment.
- Do not carry flares in pockets.
- The backup ignition team positions themselves upwind of the release.
- Determine the best access and egress routes
- The Ignition Lead approaches the release from the backup ignition team position. The backup ignition team maintains visual contact of the Ignition Lead.
- Start from a position at least 200 metres upwind of the release (larger distances should be considered if there is very little wind speed or the wind direction is meandering).
- Frequently check the H<sub>2</sub>S and LEL readings.
- Advance to a point that is the approximate maximum fire range of your flare launcher.
- Advance another 20 metres closer, checking for LELs. If LEL readings are detected while advancing, retreat to the original 200 meter upwind position and repeat the procedure.
- If there are no LELs, retreat to a position 20 metres back from the approximate maximum firing range, with the backup ignition team retreating accordingly, and prepare to launch flares towards the plume.
- The Ignition Lead sounds the air horn with one long blast, signaling that he is prepared to light the plume.
- The backup ignition team will acknowledge by radio to the Operations Section Chief that ignition is about to proceed.
- Wait 30 seconds after the air horn blast and then fire the flare cartridge at a 45 degree angle toward the release: If at any time the backup ignition team signals to abort the ignition process with three short air horn blasts, terminate the ignition procedures and retreat to the backup ignition team.
- Stay low and protected and avoid looking toward the release while the flare is in flight.

Once ignition has been achieved, the Ignition Team retreats to a safe position. If ignition is not achieved, continue advancing in small increments, launching flares into the plume until ignition is achieved.

The backup ignition team maintains radio contact with the Operations Section Chief about the status of the ignition operations.

Sound the air horn with three short blasts if the ignition process is to be aborted.

### **Post-ignition Procedures**

The backup ignition team will immediately advise the Operations Section Chief by radio when ignition has been accomplished.

The Operations Section Chief will communicate ignition status to the Incident Commander.

- Air monitoring equipment will be directed by the Public Safety Group Supervisor to acknowledge changes in air quality readings in the un-evacuated areas and commence reporting SO<sub>2</sub> readings.
- Evacuation of the Emergency Planning Zone will continue.
- The ignited release will be monitored to ensure the ignition is sustained. Ignition equipment and workers involved in ignition operations will remain on standby.

The Emergency Planning Zone will be expanded to any areas where SO<sub>2</sub> readings exceed criteria for notification and evacuation beyond the Emergency Planning Zone.

**SECTION 8. MEDIA & STAKEHOLDER RELATIONS<sup>1</sup>**

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## SECTION 8. MEDIA & STAKEHOLDER RELATIONS

### 8.1 Overview

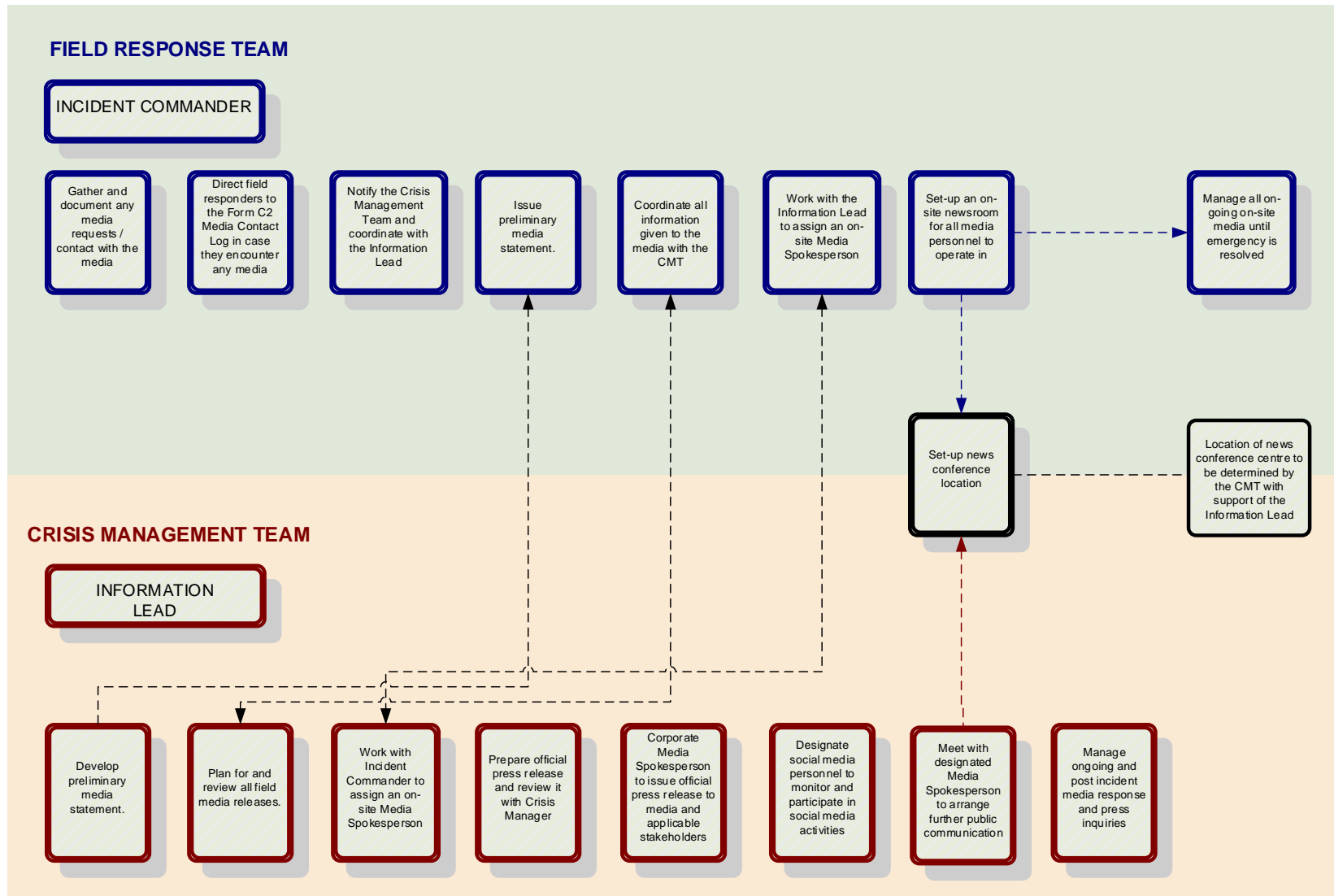
Any incident that affects responders, the health and safety of the public, the environment or causes property damage could be a news item. When an incident occurs, it is important to establish and maintain a good relationship with the media. The media can help ARC by providing timely public safety messages and relate accurate information about the incident thereby reducing the potential for negative reactions from the public.

Media releases must be generated and released as significant developments occur. ARC will coordinate all media releases with the AER/BCER prior to release to ensure consistency and accuracy of information.

To maintain an open and well managed channel of communication all authorized spokespersons representing ARC must cooperate with the media to ensure that information is complete factual and timely. Any contact with the media must be within the bounds of safety and practicality and must be consistent with the approved corporate messages.

During the course of an incident, field staff may receive calls or personal visits from the media. If approached or contacted by the media, any person authorized to represent ARC may give a brief factual statement consistent with the example given on pages 13-15 of this document.

8.2 Media Response Overview Process Flowchart



### **8.3 General Media Guidelines**

- Do not wait until you are contacted by the media to prepare a media statement. Gather all the facts and immediately prepare a media statement, or forward to the ARC Information Lead.
- Cooperate with the media but do not allow the media to endanger you or others in their quest for stories or pictures.
- Return all media calls promptly and courteously or have someone else return the calls if you are unable to.
- Always assume that all interviews, including telephone interviews, are being recorded.
- Restrict your comments to the facts. Do not speculate on any issue.
- Keep messages consistent and non-technical.
- Try to bridge from the facts to the positive steps that ARC is taking to protect responders, the public and the environment.
- Avoid using the names of people or companies. If names must be used, ensure that the information is correct.
- Note the reporters name, contact number and organization.
- The Incident Commander, Crisis Manager and HSE Support Manager must be informed of any discussions with media personnel.

#### **Remember**

- Do not use the phrase “No Comment”.
- Do not release the names of any injured or missing persons.
- Deaths must be confirmed by a medical doctor.
- Do not make comments “off the record”. Anything said to a reporter is on the record.
- Be careful of your commitments made after the interview.

#### **Before an Interview with the Media**

- Prepare a brief statement and be sure that it is not complicated or technical. Keep in mind the journalism questions of who, what, why, where and when.
- Clarify the facts.
- Try to anticipate the questions that may be asked and prepare your answer.

#### **During an Interview**

- Have the entire interview recorded or transcribed for company records. Ensure that all parties involved are made aware that the interview is being recorded.
- Take control and respond only to an orderly question and answer session.
- Listen carefully to each question and ask for clarification if necessary.
- Try to keep your answers brief.
- Provide the information about the incident as it becomes available.
- Do not release it “bit by bit” if the full picture is known.
- If you don’t know the answer to a questions say “I don’t know”. Do not speculate or guess. Tell the interviewer that you will get back to them with the answer.
- Do not comment on rumors or speculations.

## **8.4 On-Site Media Spokesperson**

Depending on the specific emergency an on-site spokesperson may be required to handle all on-camera activities requested by the media. Only approved and trained spokespeople will be allowed to provide comment to the media. The Crisis Management Team will identify any and all media spokespersons. The Information Lead or Incident Commander may serve as the on-site Media Spokesperson or the Crisis Management Team may send the Corporate Media Spokesperson to the site. This representative will endeavour to maintain a favourable public image on behalf of the company. It is important that they keep in mind the following:

- The Dos and Don'ts of conducting yourself on camera; 75% of information comes from non-verbal actions (gestures, tone, posture, etc.)
- Public appearance, ensuring appropriate and approved wardrobe
- Preparation in communicating the media release in advance so the message feels natural
- How to handle impromptu or “off the record” inquiries from the media

## **8.5 Managing the Media On-Site**

Depending upon the size and/or scope of the emergency to the incident site, the media will likely travel to site and attempt to secure coverage of the situation. Usually the size and nature of an emergency will determine the amount of media attention garnered. It is important everyone on-site understands how to properly manage the media and that only designated individuals are to speak to the media. It is recommended that only individuals with adequate media training have even casual interactions with the media.

Media Briefing Areas are to be designated by the Incident Commander if advised by the Information Lead position. The Information Lead will, if required by the Crisis Management Team and Incident Commander, determine the need for media management at the incident site.

As appropriate, the Information Lead should be designated to oversee local news media management. In order to address the needs of the media at the incident site, the following guidelines should be considered:

- If practical, an information centre will be set up nearby the incident site. All on-site media will be informed that this will be the only place where information is to be released.
- During an emergency situation, media access to company property is strictly prohibited unless prior approval has been given by the Crisis Management Team. If the Incident Commander deems the situation safe and access is granted to company property, media personnel must be accompanied at all times and wearing appropriate personal protective equipment (PPE).
- Ensure that if any media personnel are granted access on-site all potential hazards are identified and handled appropriately prior their arrival (i.e. all on-site personnel are wearing proper PPE, operating equipment safely, etc.).

- With the exception of providing the initial prepared company statement, any requests by the media for information or interviews should be referred to the Information Lead.
- For an emergency that lasts more than 24 hours, consideration will be given to establishing a newsroom for all required personnel.
  - Ensure it is located in a safe distance away from the incident.
  - Ensure proper internet and telephone access is made available.
  - Large enough to accommodate all of the potential media personnel.

## 8.6 Corporate Media Spokesperson

As with the on-site media spokesperson, the Information Lead will identify the Corporate Media Spokesperson. Only trained individuals will be given clearance to speak with the media. The Information Lead will draft messages and prepare the spokesperson for interviews. All media statements and news releases prepared by the Information Lead will be approved by the Incident and Crisis Manager before release. All requests for interviews should be vetted by the Information Lead, who will also act as the spokesperson's handler during interviews, scrums and news conferences.

### Communications / Media

Name	Position	Cell
Taryn Bolder	Manager, External Communications	403-512-8101
Justine Lissack	Senior Advisor, Digital Communications	403-880-0647
Chad Cummins	Senior Advisor, External Communications	403-305-1613

Corporate spokespeople will be identified as required in accordance with ARC's crisis communications plan managed by the External Communications team. Spokespeople will be approved by Executive leadership and identified based on the nature and level of severity of the incident and potential risk to ARC's operations, relationships and reputation.

## 8.7 News Conference Checklist

On-site news conferences should be set up under the guidance and approval of the Incident Commander, Crisis Manager and the Information Lead. The Information Lead should set up corporate news conferences.

If the media should scrum our designated spokesperson, the media handler (either the Incident Commander and/or the Information Lead, depending upon the location of the news conference) will need to take control of the situation and act as the spokesperson's handler.



**Set Up:**

- Set-up a media sign-in table outside or inside the room and ensure all required media personnel sign in, including both their names and media outlets.
- Post directional signage identifying to media where the room is located.
- Make sure the room is large enough to accommodate camera operators with tripods.
- View the premises as if you were watching it on TV and check that the background does not reflect poorly on ARC. The background should not be in front of an open window or a wall with bright or patterned detailing.
- Ensure the designated spokesperson either uses a podium or is seated in middle of a table allowing them to capture the entire room and all microphones.
- Place a nice-quality ARC logo or sign in the background if available.
- Provide an area where any media outlet can do one-on-one interviews after the main news conference.
- Have refreshments available, if possible, and provide water at the table for the spokesperson.
- Engage Security personnel, if required, at the entrance of the room to prevent non-media from entering and causing any disturbances.

**Audio/Visual Requirements:**

- Engage IT to prepare all required equipment and proper set-up, depending upon the location of the news conference.
- Expect microphones to be set up on the podium or table. Media will also provide their own media feed, if available.
- Test overhead projector, if needed.
- Test TV monitors, if video is used.
- Locate and display boards/maps/graphics as required.

**Preparing for the News Conference:**

- Send out a media advisory (copied to local and regulatory authorities) as far in advance as possible. Give the date, time and place of the conference, as well as the topic and spokespeople. If the conference is imminent, contact the media via phone or in person.
- Invite reporters from all media types (print, television, radio online and industry) and don't overlook local media outlets.
- Monitor the media to ensure they cooperate and do not create any unnecessary conflicts.
- Ensure the Information Lead's contact information is clearly given to the media for further inquiries.
- Prepare media kit, which is comprised of the relevant material that the media needs to develop the story.

- Prepare a written list of all participating spokespeople with proper titles.
- Prepare copies of any overheads/maps/graphics used during presentation, if appropriate.
- Provide coaching for spokesperson. “Warm them up.” At a minimum, briefly rehearse tough questions and answers.

**News Conference:**

- A moderator should set the agenda, introduce everyone and facilitate the question and answer period.
- Set time parameters from the start, limit the time for questions and answers.
- Tactfully call for the last question and coach your spokesperson to signal you when they are ready for the last question.

**8.8 Communicating with the Public**

**Information Disseminated to the Public**

ARC must make the following information available to the public, while maintaining documentation, as soon as possible during an incident:

**Person Responsible**

Public Safety Group Supervisor	To those evacuated or sheltered – at the onset of an incident	<ul style="list-style-type: none"> <li>• Type and status of the incident</li> <li>• Location and proximity of the incident</li> <li>• Public protection measures to follow, evacuation instructions, and any other emergency response measures to consider</li> <li>• Actions being taken to respond to the situation, including anticipated time period</li> <li>• Contacts for additional information</li> </ul>
Public Safety Group Supervisor	To those evacuated or sheltered – during an incident	<ul style="list-style-type: none"> <li>• Description of the products involved and their short-term and long-term effects</li> <li>• Effects the incident may have on people in the vicinity</li> <li>• Areas impacted by the incident</li> <li>• Actions the affected public should take if they experience adverse effects</li> </ul>
Information Lead	To the general public – during an incident	<ul style="list-style-type: none"> <li>• Type and status of the incident</li> <li>• Location of the incident</li> <li>• Areas impacted by the incident</li> <li>• Description of the products involved</li> <li>• Contacts for additional information</li> <li>• Actions being taken to respond to the situation, including anticipated time period.</li> <li>• Notification of immediate evacuation situations</li> </ul>
Public Safety Group Supervisor	To the evacuated or sheltered public post-incident	<ul style="list-style-type: none"> <li>• Status of recovery</li> <li>• Financial reimbursement information</li> <li>• Contacts for additional information</li> </ul>

Once the situation improves, ARC must make a decision to downgrade or stand-down an emergency in consultation with the appropriate oil and gas regulator. The appropriate oil and gas regulator will consult with other applicable agencies and confirm with ARC that the emergency downgrade or stand-down is appropriate. ARC must keep all notified and evacuated persons and the media informed of the status of an emergency.

## **8.9 Press Release**

In an emergency, the quickest way to disperse information is through a press release. A press release is a written communication reporting specific, but brief, information about an emergency tied to a business or organization with the objective of reaching the public and important stakeholders.

It is designed to be sent to journalists and/or media outlets in order to assist in the development of a news article on the emergency. The press release should be biased towards the communication priorities of the Crisis Management Team and must be approved by the Crisis Manager and Incident Commander. The media will be contacted through a press release as required based on the level of emergency, public impact and media requests for information.

Also, a final statement should be issued post-incident, which outlines ARC's current actions, remedial steps and future actions.

### **Guidelines for Formatting a Press Release**

- Make sure the first 10 words of the release are effective, as they are the most important to your audience.
- The headline of the press release must relate directly to its content and the emergency.
- Be concise; it is most effective in 500 words or less.
- Avoid excessive use of adjectives and confusing verbiage. Do not include terminology or information that may not be understood by the general public.
- Deal with the facts and provide accurate information; if it is ARC's fault, take responsibility.
- Show concern; the public needs to understand that you are concerned about their safety.
- Maintain a positive message.
- Provide contact information: individual to contact, address, phone, fax, email, and website address.
- Report it in the third person; avoid the use of "I" or "we".
- Example: "According to John Doe, the fire appeared to have started in the garage and was concluded in his post-incident evaluation."
- Inappropriate example: "I, John Doe, was informed that the fire started in the garage that I concluded in my post-incident evaluation."
- Make it as easy as possible for media representatives to do their jobs.

**Press Release Template**

The initial press statement answers the basic questions: who, what, where, when, why. This statement should also provide whatever guidance is possible at this point, express concern, and detail how further information will be disseminated. If possible, the statement should give phone numbers or contacts for more information or assistance. This template is meant only to provide guidance. One template will not work for every situation.

**FOR IMMEDIATE RELEASE**

Contact name

Company

Phone number

Fax (if applicable)

Email

**Headline—Insert the primary message to the public**

**Secondary Headline (Optional) – support headline and further describe the story**

**City, Province (Date)** – Two or three sentences describing the current situation. Include the who, what, when, where and how/why.

Insert quote from an official spokesperson demonstrating leadership and concern for victims.

Insert actions currently being taken.

List actions that will be taken.

List information on possible reactions of public and ways citizens can help.

Insert quote from an official spokesperson providing reassurance.

List contact information, ways to get more information and other resources.

## **8.10 Social Media**

After the first report of an emergency, the public will utilize their social media accounts to report, discuss, question and share opinions on the emergency. Being prepared to respond to any and all online postings will aid in the successful management of ARC's response to the information being circulated.

The public usually expects immediate responses with up to date information on the status of the emergency. This demonstrates how important utilizing social media is to reducing the negative impact surrounding the emergency. It is the responsibility of the Information Lead to assign designated staff members to monitor and create social media responses and postings.

### **Monitoring Social Media during Emergencies**

- Gauge the validity of the information being shared and respond with accurate information
- Ensure a favourable perception of your response

### **Responding to Facebook, Twitter, YouTube and Blog Postings**

With the majority of the public equipped with mobile devices that can record videos, sound, and take pictures, Facebook, Twitter and YouTube have become an important tool for sharing information.

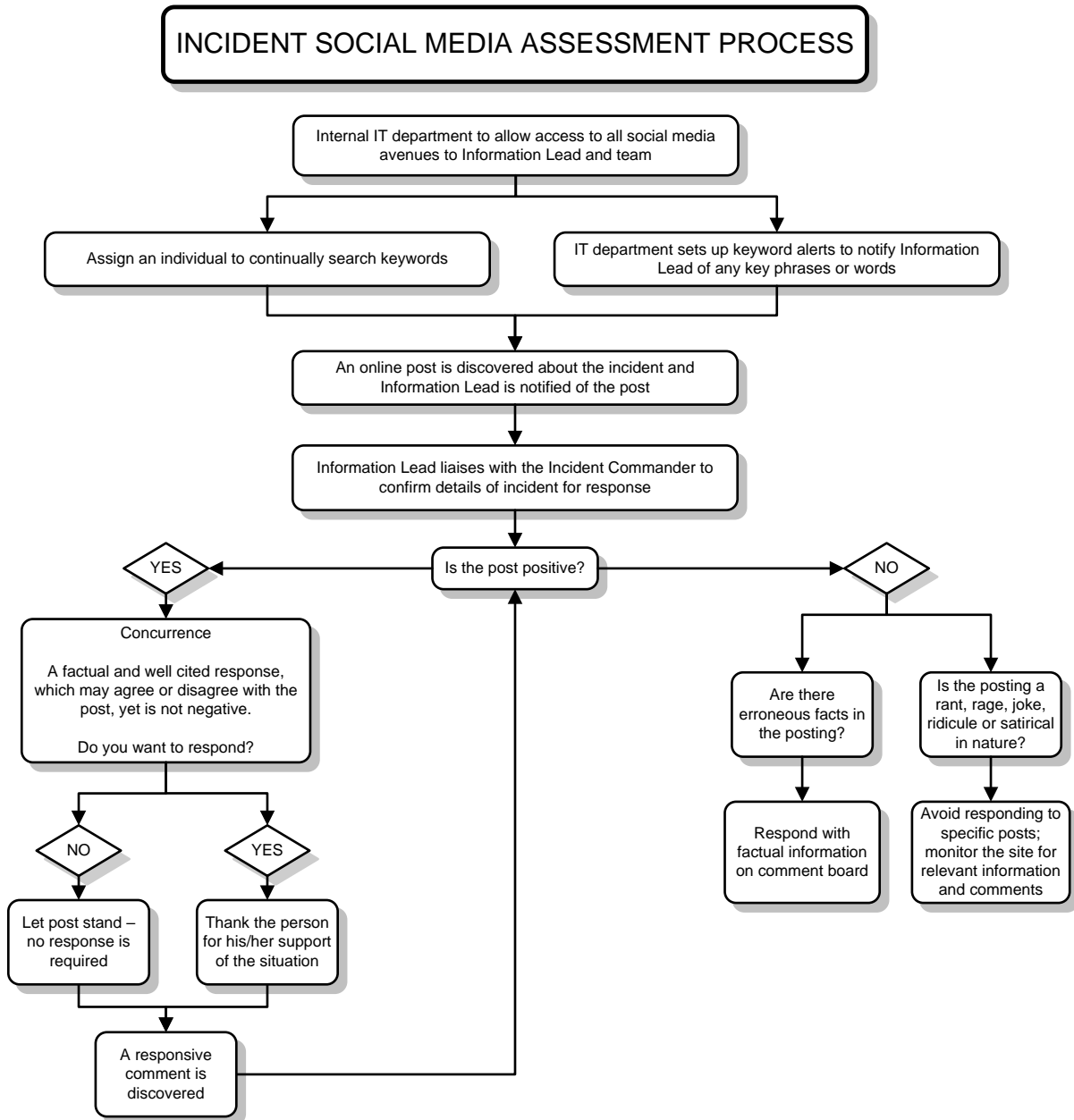
Guidelines for responding to Facebook updates, tweets or blog postings include:

- Responding in a timely manner will show users that ARC cares about the incident and is performing to the best of its abilities in response to the emergency.
- Ensure you do not delete any posts, instead respond with the facts; it will seem suspicious if you delete posts (only delete them if they are using foul language or demeaning to specific individuals).
- Always respond in a professional tone to avoid scrutiny about your conduct and response.

Suggestion:

- Partner with media outlets to have a link to your Facebook/Twitter/website, etc., so the public can see your emergency response updates.

Incident Blog Assessment



## 8.11 Field Staff and Media Communications

### Example of Brief Factual Media Statement

ARC is dealing with the situation to maximize the safety of the public, the responders and the environment. The cause of the incident has not been confirmed but ARC will issue a statement once the facts are known.

Our Information Lead is \_\_\_\_\_ and is located at \_\_\_\_\_.

Could I please have your name, contact number and organization and I will pass this information on to our Information Lead.

Consider the following when addressing the needs of the media at an incident site:

- The media should not be allowed into the emergency planning zone unless authorized by the Incident Commander.
- An information centre should be set up and the media informed that this will be the only location where on-scene information bulletins will be issued.
- If access to the emergency planning zone or incident site is granted, media personnel must be escorted by ARC personnel while on ARC property for their safety.

## 8.12 Preliminary Media Statement

Preliminary media statements and detailed news releases may be made in conjunction with the local petroleum regulatory agency and the Local Authority and / or First Nations.

Date \_\_\_\_\_

Time \_\_\_\_\_

My name is \_\_\_\_\_

At \_\_\_\_\_ (time) on \_\_\_\_\_ (date)

a \_\_\_\_\_ (nature of accident) occurred

at the ARC Resources \_\_\_\_\_ (plant, well site, pipeline) located approximately

\_\_\_\_\_ km (east, west, south, north) of \_\_\_\_\_ (nearest town)

The \_\_\_\_\_ (plant, well site, pipeline) has been shut down and isolated.

ARC Resources has activated its Emergency Response Plan to protect the public, our employees and the environment.

Presently, \_\_\_\_\_ (number of) people are being treated for injuries.

The names and condition of the injured are not being released at this time.

The cause of the \_\_\_\_\_ (nature of accident) is not yet known and we don't have an estimate of damage. A subsequent investigation may determine those facts.

ARC Resources will release further information as it becomes available.

You can contact our Media Spokesperson in Calgary at \_\_\_\_\_

(Phone number or main Calgary Office Switchboard Number 403-503-8600)



### **8.13 Statement for use when you are unaware of an incident affecting ARC**

If you receive a call from any person (including the general public, investors or media) who is requesting information about an incident affecting ARC assets and you have not yet been briefed about the incident, you should obtain the following information from the caller:

First and Last Name: \_\_\_\_\_

Company they are calling from: \_\_\_\_\_

Title / Description: \_\_\_\_\_

Contact number that they can be reached on: \_\_\_\_\_

I am sorry but I have not been made aware of the situation that you are calling about. Can you share a few details with me so that I can source the appropriate person to speak with here and then we can have someone call you back as quickly as possible?

#### **Questions to ask**

Do you know the location of the incident? \_\_\_\_\_

Do you know the name of the nearest city, town or village? \_\_\_\_\_

Do you know what has happened? \_\_\_\_\_

ARC is committed to ensuring that all relevant facts and correct information is passed on to members of the public who may be affected, government and Local Authority and / or First Nations and the media.

If you will give me your name, contact and organization, I will pass this message on and ensure that you are contacted by an ARC representative.

**If you do not receive a call within 30 minutes, please call me back.**

### 8.14 Media Inquiry Form

Date	Prepared by:
Time:	Response Team Function:

Use this form to document media calls, whenever you cannot transfer the reporter directly through to the designated Media Spokesperson.

Use the following prompts as a guide to gather key information.

***“We have a spokesperson to answer your questions.***

***If you leave your name and contact information I will make sure that they get this message immediately, so that you can be called as soon as information is available”***

<b>Reporters Name</b>	
<b>Media Affiliation</b>	
<b>Phone Number</b>	
<b>Fax Number</b>	
<b>Deadline</b>	
<b>Information Requested:</b>	

***“I don’t have any information but I’ll expedite your inquiry to our ARC Spokesperson who will get back to you as soon as possible.”***

**Deliver this information to the Information Lead – IMMEDIATELY.**

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## **SECTION 9. REFERENCE**

### **9.1 Plan Objectives**

The primary objective of this Emergency Response Plan (ERP) is to clearly define the organizational framework to effectively respond to any incident with potential to significantly threaten or adversely impact ARC Resources., its subsidiaries, its employees, operations, finances or reputation. The ERP complies with provincial regulatory requirements, specifically, Alberta Energy Regulator and BC Energy Regulator regulations, requirements and expectations. The ERP provides information and guidelines for those involved in ARC’s response to alert or emergency situations. It includes:

- Description of the response organization structure
- Notification and activation procedures
- Clarification of emergency classification and appropriate responses
- Duties and checklists for each response team position
- Documentation tools
- Site specific information and resource listings
- Key contacts

Processes within this ERP are designed to be intuitive and natural. The purpose of this Emergency Response Plan is to define procedures and organize the actions needed on-site and within the corporation to protect people, the environment and assets threatened in an emergency. This Emergency Response Plan (ERP) also describes the actions necessary to manage key stakeholders communications and return conditions to normal. This ERP must be available on site.

A copy of this ERP must be on-site during all drilling, completion, workover, testing etc. operations where a Site Specific or Supplemental ERP is not required.

## **9.2 Scope**

The Emergency Response Plan (ERP) describes the response management framework to respond to a full spectrum of incidents during drilling, completion, servicing, construction, and pipeline and production operations. It defines functions and duties for emergency response including, but not limited to, the following situations:

- Medical Emergency
- Motor Vehicle Accident
- Sour Gas Release
- Fire / Explosion
- Petroleum Spill
- Hazardous Materials Spill
- CEPA Product Environment Release
- LPG Release
- NGL Release
- HVP Release
- Notification of Next-of-Kin
- Natural Hazards
- Wildlife Encounter

The ERP is part of ARC's Health, Safety & Environmental Management System. The ERP includes procedures relating to emergency operations and may contain summaries of information located in other ARC manuals or documents some of which also relate to normal operating conditions. Therefore, whenever possible, duplication of information and cross-reference has been minimized.

This ERP's relationship to other manuals and documents may include pipeline / integrity management plans / operating procedures, security management, HSE Manual, WCSS / Control Point information, Industrial Wildfire Control Plans, business continuity / recovery plans, etc.

### 9.3 Operational Excellence Policy



At ARC Resources Ltd. we're committed to conducting our business in a manner that reflects our dedication to operational excellence. This goal is realized through the implementation of the ARC Integrated Management System (AIMS) which fosters continuous improvement and operational efficiency, resulting in value creation, sustainable business growth and a safe rewarding corporate culture for everyone.



**ARC RESOURCES LTD. IS COMMITTED TO:**

- Providing and maintaining a safe and healthy work place for all employees and contractors.
- Conducting operations in a manner that minimizes adverse impacts to stakeholders and the public.
- Promoting and enabling strong environmental stewardship in alignment with regulatory requirements and industry best practices.
- Continually striving to reduce its environmental impacts by seeking out opportunities for conservation and identifying sustainable practices.
- Maintaining the integrity of our assets and infrastructure and protecting the public, workers, property, equipment, pipelines and environment through robust damage prevention planning.
- Identifying, evaluating, and implementing effective measures to adequately reduce or eliminate any security threats.
- Ensuring that effective emergency response protocols are implemented that adequately reduce the risk to employees, contractors, stakeholders, the public, environment, and the process.
- Maintaining compliance and understanding of all laws, regulations, and industry standards that are related to our business functions.
- Encouraging the uninhibited reporting of all incidents, hazards, potential hazards and near miss events by ensuring that people are held free from disciplinary action for making the report.
- Ensuring all incidents, near misses and hazard identifications are investigated to determine cause(s) and that the appropriate corrective, preventative or disciplinary actions are implemented.

**EVERYONE AT ARC INCLUDING MANAGERS, SUPERVISORS, WORKERS AND CONTRACTORS ARE RESPONSIBLE FOR:**

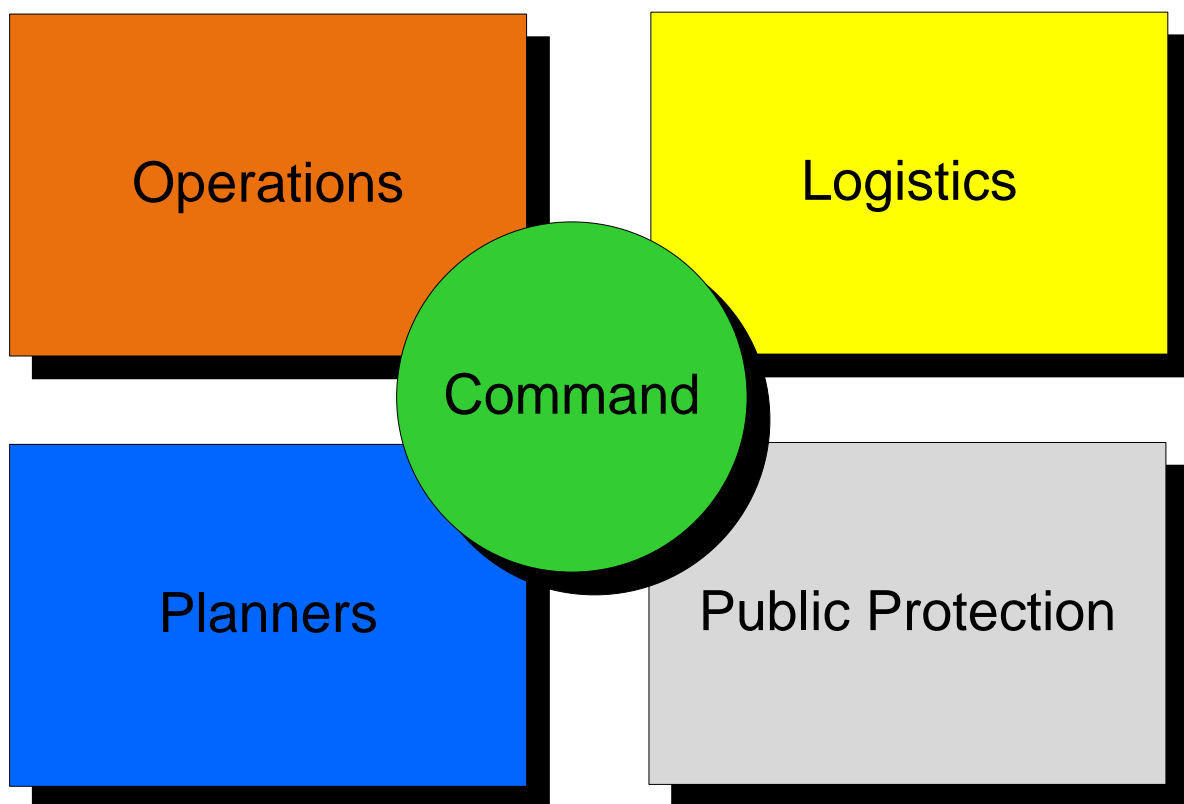
- Providing and/or maintaining a safe and healthy work environment.
- Promoting our dedication to operational excellence by actively utilizing our procedures, guidelines, and principles.
- Continually engaging with stake holders that are directly or indirectly impacted by our operations.
- Prepare for, monitor, and effectively respond to emergencies and threats that can affect people, the environment, our process or our operations.
- Ensure all employees, contractors, and visitors are informed, trained, engaged and committed to upholding, promoting, and adhering to our commitments.
- Continuous monitoring, review, and update of our standards, procedures, and guidelines within AIMS to ensure they remain compliant.
- Encouraging and promoting a culture of continuous improvement.



## 9.4 Incident Command System

The ARC emergency response organization is based on the Incident Command System (ICS), which is a comprehensive and practical emergency management system widely used by both government and industry. Common terminology has been developed to identify major functions, personnel and responsibilities.

By adopting Incident Command System principles and terminology, ARC is better equipped to align with mutual aid partners and government agencies in training, simulations and emergency response efforts. The Incident Command System is used to manage incidents of any type or magnitude. This modular system has the flexibility to readily grow or shrink to meet the needs of any incident.



The Incident Command System is capable of handling both small and large incidents, easily expanding and contracting based on the needs and complexity of the incident and the resources available. It is better to overestimate the need for a larger organization than to underestimate it, as it is always possible to downsize the resources. (i.e. 'Get Big Fast')

The Incident Commander should be aware when a situation is growing or becoming more complex, and may require more resources. Potential to impact the nearby public, the arrival of media or government agency representatives is always a good indication of increasing complexity.

While the primary focus and functions are Incident Command and Operations, personnel can fall under two types:

- General Staff – working for the Incident Commander on a specific function
- Command Staff – advising the Incident Commander

Based on the actual and potential impacts, the Incident Commander may delegate and appoint additional Emergency Response Team functions. Other than the Operations Section Chief (and below functions) the Incident Commander is responsible for all other response functions until he / she appoints someone to fill these other response functions.

## 9.5 Incident Command Team Functions

**Incident Commander** – is ‘in-charge’ and responsible for all emergency response actions. The Incident Commander may decide to perform all functions, (except the role of Operations Section Chief) or delegate authority to perform function to other personnel. Delegation does not relieve the Incident Commander from overall responsibility. Although other functions may not be assigned, there always will be an Incident Commander.

### General Staff

**Operations Section Chief** – is responsible for directing the tactical operations, both on-site control and off-site public safety, to meet incident objectives. Tactical on-site operations are physical activities taken at the site to directly mitigate the emergency or protect human life, health, property, and/or the environment from the physical impact of an event (e.g. putting out the fire, stopping the source of a spill, rendering medical aid, etc.). Tactical off-site operations are the coordination of public safety activities such as establishment of roadblocks, public evacuation and/or Sheltering-in-Place, mobile air monitoring and Resident Reception Centre management.

Based on the complexity, the Operations Section Chief MAY appoint sub-functions to separate on and off-site tactical response leadership. This MAY be done by appointing an On-Site Group Supervisor (to supervise all on-site control and containment activities) and / or a Public Safety Group Supervisor (to coordinate all off-site public safety activities).

**Logistics Section Chief** – provides support to meet incident needs, provides resources and all other services needed to support the incident. Logistics notifies and mobilizes requested support staff and/or resources (internal and external), tracks status of ordered resources and their estimated time of arrival. The Logistics Section Chief may mobilize and supervise other staff to assist with procurement of required personnel, equipment and resources as required.

**Planning Section Chief** – develops the action plan to accomplish the objectives, collects and evaluates information, maintains resource status. Planning is responsible for the collection, evaluation, display of incident information, maintaining status of resources, preparing the Incident Action Plan and incident documentation. When the Incident Commander is unable to perform these duties (typically during larger incidents) he/she will appoint a Planning Section Chief.

**Public Safety Group Supervisor** – is responsible for managing all external public safety activities. The Public Safety Group Supervisor directs off-site public safety activities (EPZ isolation and monitoring, evacuation, sheltering, air quality monitoring). He / she assists the Incident Commander with overall public protection. Also assists the local authorities with priorities regarding evacuation and sheltering beyond the EPZ.



## **Command Staff**

**Deputy Incident Commander** – assists the Incident Commander with response duties as required / requires. Deputy IC orders carry the same authority as the Incident Commander.

**Safety Officer** – responsible for assessing / anticipating hazardous and unsafe conditions and develops measures for assuring worker / responder safety. The focus is response personnel safety, not public safety. The Safety Officer has the authority to stop inherently unsafe or potentially unsafe actions. They also assess potential environmental impacts and mitigation support requirements as well as potential security issues and resource requirements.

**Liaison Officer** – The Liaison Officer provides agency notification and is the point of contact for ongoing communications with any assisting or cooperating agencies. There is only one Liaison Officer for the incident and Agency Representatives report to the Liaison Officer. A complex large incident may require that the Liaison Officer requests the Regulatory / Government Support Liaison in Calgary to assist.

## **9.6 Crisis Management Team Functions (Calgary Office)**

**Crisis Manager** – Provides advice and support to the field based Incident Commander. Assesses current and potential severity / impacts. Decide whether or not to activate the Crisis management Team in whole or in part. Coordinates Calgary CMT staff and support resources.

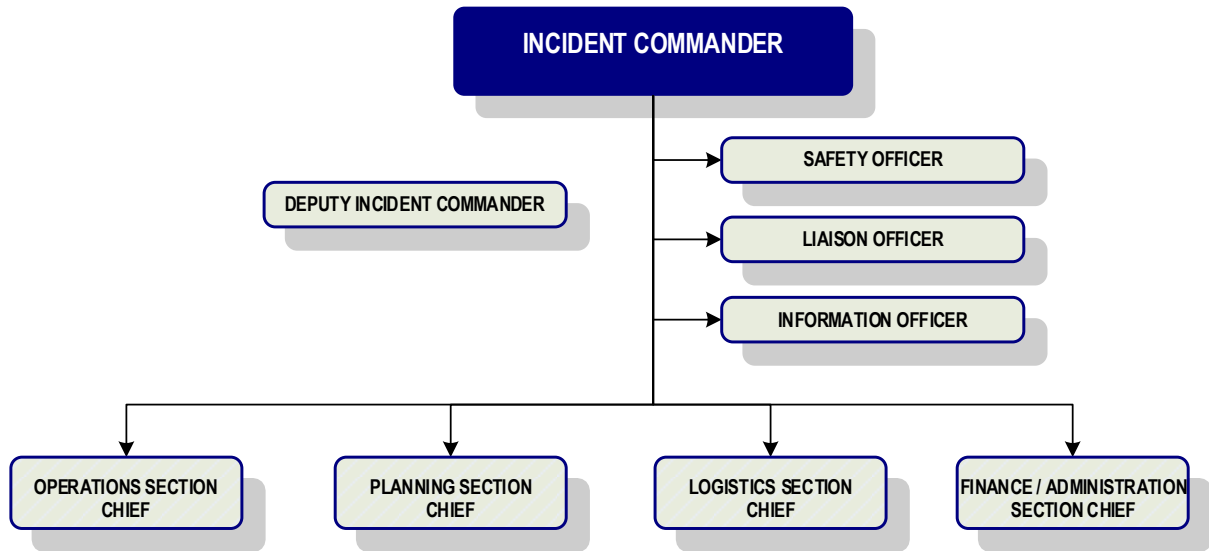
**HSE Support Manager** – Provide advice to the Crisis Manager and Safety Officer on safety procedures and ERP implementation. Has the authority to alter or suspend any activities that pose an immediate life safety threat.

**Information Lead** – is the point of contact for the media, or other organizations seeking information directly from the incident or event. Communications / Media assumes the responsibility of managing all media issues. Also handles all general public concerns, including all community relations issues. The Communications / Media will establish a one-window media communications link between the FRT and CMT to ensure effective coordinated media response at both the field and Calgary level. In the ARC ICS organization, the Information Lead will initially be activated as part of the Crisis Management Team. He / she may travel to the incident or location or delegate a field-based representative.

**NOTE:** Until an Information Lead has been appointed, the Incident Commander will deal with media relations issues.

**Business Support Manager** – monitors costs related to the incident, provides accounting, procurement, time recording, and cost analyses. He / she is responsible for tracking incident related costs and for contract administration related to the incident.

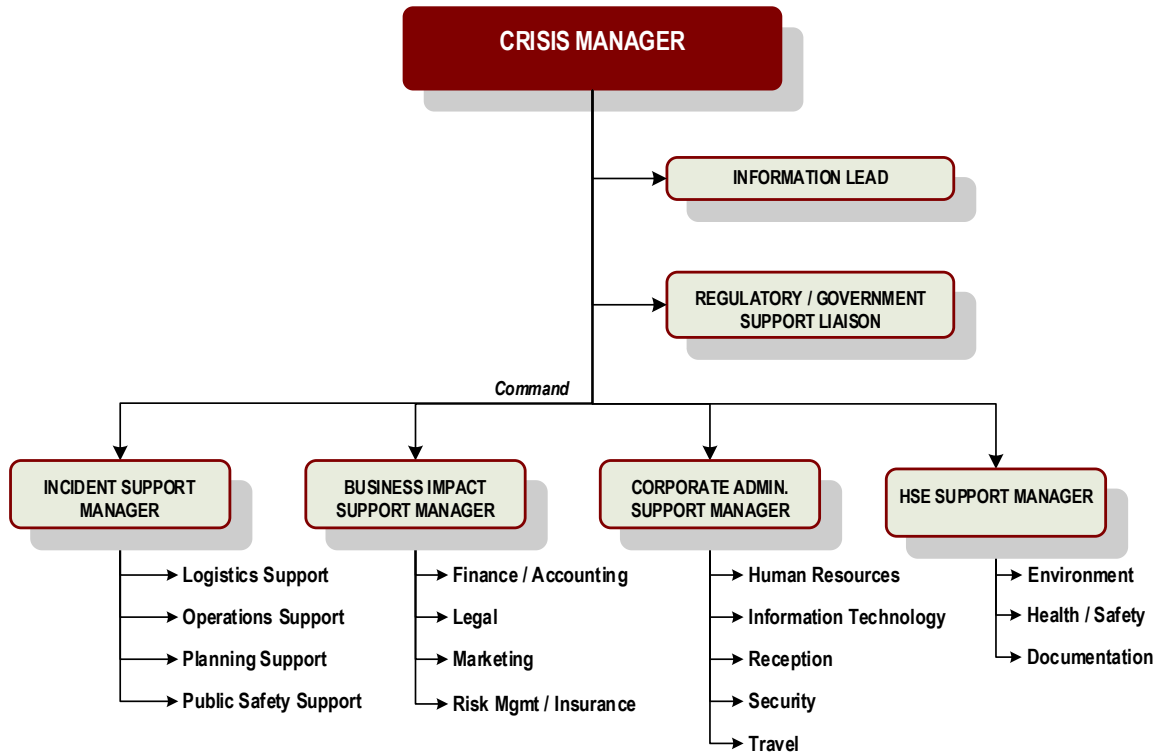
## 9.7 Field Response Team Organization



The designated ARC Incident Commander must be notified of all incidents.

- One individual can fill more than one function, however, the Incident Commander and the Operations Section Chief positions will always be filled by two separate people
- The Incident Commander proactively mobilizes the functions needed for the incident
- The team structure and the functions are activated based on the needs of the incident.

### 9.8 Crisis Management Team Organization



## 9.9 Response Management Centres

Facility	Purpose	Key Activities	Location
<b>On-site</b>	<ul style="list-style-type: none"> <li>This is where the Operations Section Chief works from to manage all on-site Control and Containment operations</li> </ul>	<ul style="list-style-type: none"> <li>Control and Containment</li> <li>Ensure safety of on-site personnel</li> <li>Site access control</li> <li>May work with government reps that arrive on-site.</li> </ul>	<ul style="list-style-type: none"> <li>Where the Operations Section Chief is located</li> <li>Close proximity to or at the incident site outside the present or potential hazard zone.</li> </ul>
<b>Staging Area</b>	<ul style="list-style-type: none"> <li>Where tactical response resources are stored while awaiting assignment.</li> </ul>	<ul style="list-style-type: none"> <li>Resources in the staging area are under the control of the Logistics Lead and / or Staging Manager.</li> </ul>	<ul style="list-style-type: none"> <li>Close proximity to or at the incident site outside the present or potential hazard zone.</li> </ul>
<b>Incident Command Post / Centre</b>	<ul style="list-style-type: none"> <li>This is the location of the Incident Commander who will assess the situation.</li> <li>While ARC may prepare designated ICP locations in advance of an emergency, the Incident Commander manages the incident from wherever it is best to manage the incident.</li> </ul>	<ul style="list-style-type: none"> <li>Overall coordination of all response activities including public safety actions</li> <li>Coordination of security and isolation</li> <li>Coordinates technical support of personnel in the field</li> <li>Coordinate on going government and public communications</li> </ul>	<ul style="list-style-type: none"> <li>Where the Incident Commander is located</li> <li>May be within the Local Field Office or wherever the IC feels that it is best to manage the incident.</li> <li>May co-locate at a Government Operations Centre, if established,</li> </ul>
<b>Calgary Emergency Operations Centre</b>	<ul style="list-style-type: none"> <li>Provides assistance and direction to the Incident Commander</li> <li>Provides overall direction and assistance to on-site and off-site responders in accordance with the corporate management and support team decisions.</li> </ul>	<ul style="list-style-type: none"> <li>Provides logistical support to local response.</li> <li>Directs media communication in conjunction with the appropriate oil and gas regulator</li> <li>Liaison with governmental officials as required</li> <li>Immediate source for public media information in conjunction with appropriate oil and gas regulator</li> <li>Provides technical support</li> </ul>	<ul style="list-style-type: none"> <li>Calgary Office where the Crisis Manager and support team is located.</li> <li>May send representative to a Government Operations Centre, if established, and a coordinated response is warranted.</li> </ul>

Facility	Purpose	Key Activities	Location
<p><b>Reception Centre</b> <i>(As part of a site-specific plan. This must be considered if an incident could require temporary relocation of the public.)</i></p>	<ul style="list-style-type: none"> <li>• Activation by the Incident Commander, as required. An ARC representative will be assigned to lead / staff reception centre. Must be located a safe distance from the release source.</li> <li>• Established to receive residents and business evacuees from the emergency planning zone</li> <li>• Usually established when more than 5 residences / businesses are to be evacuated</li> </ul>	<ul style="list-style-type: none"> <li>• Registers evacuees</li> <li>• Addresses immediate and extended needs for food, housing and information</li> <li>• Records destination details of evacuees leaving the centre</li> <li>• Addresses immediate compensation claims (short term)</li> <li>• Provides information to the Incident Commander on status of evacuee registration</li> </ul>	<ul style="list-style-type: none"> <li>• Local community halls, hotels, motels, etc.</li> <li>• Usually established at the same locations as those identified by local government (i.e. municipalities) response plan</li> <li>• Away from incident and outside the EPZ.</li> </ul>
<p><b>Depending on the nature and magnitude of the incident, up to 3 additional centres may be established by the lead regulatory agency, municipal government, and the provincial government to support and oversee the response (as follows). Regulators encourage combining industry and municipal responses into a single regional emergency operations centre (REOC). It is important to assign and dispatch an ARC Representative(s) to any activated government MEOC or EOC.</b></p>			
<p><b>Municipal Emergency Operations Centre (MEOC)</b></p>	<ul style="list-style-type: none"> <li>• Municipal EOC Team – established by municipality with responsibility for emergency management – e.g. County / MD</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinates municipal involvement in emergency response</li> <li>• Work with ARC in managing public safety, in particular public safety actions outside hazardous area</li> <li>• Address local media issues and provide coordinated information releases to the public and media</li> </ul>	<ul style="list-style-type: none"> <li>• MEOC location varies depending on jurisdiction</li> <li>• Location of local government representatives, ARC representative</li> </ul>
<p><b>Regional Emergency Operations Centre (REOC)</b></p>	<ul style="list-style-type: none"> <li>• Established by lead agency personnel</li> <li>- Local government</li> <li>- Health authority</li> <li>- Provincial government departments</li> </ul>	<ul style="list-style-type: none"> <li>• Advise and assist on larger scale aspects of the emergency response and public protection measures</li> <li>• Media gathering area</li> <li>• Coordinate lead agency involvement in emergency response</li> </ul>	<ul style="list-style-type: none"> <li>• Regional EOC / PMIR established close to the incident site; or</li> <li>• May co-locate with ARC (Incident Command Post)</li> </ul>

Facility	Purpose	Key Activities	Location
<b>Alberta Emergency Management Provincial Emergency Coordination Centre (PECC)</b>	<ul style="list-style-type: none"> <li>Established by Emergency Management Alberta, as required</li> </ul>	<ul style="list-style-type: none"> <li>Provides information to and seeks direction from, elected officials when necessary</li> <li>Provides provincial policy guidance</li> <li>Establishes provincial protection priorities when necessary and manages provincial emergency public information activities</li> <li>Manages acquisition and deployment of provincial, federal and inter-provincial emergency assistance resources</li> <li>Provides coordination and other support services to provincial agencies.</li> </ul>	<ul style="list-style-type: none"> <li>Alberta – PECC, Edmonton</li> <li>Location of lead agency, provincial government departments, federal government departments (if appropriate), and an ARC representative.</li> </ul>
<b>EMCR Provincial Emergency Coordination Centre (PECC)</b>	<ul style="list-style-type: none"> <li>Supports the activities of the Provincial Regional (PREOC) and the Local Authority's EOC.</li> </ul>	<ul style="list-style-type: none"> <li>Supports PREOCs;</li> <li>Coordinates Provincial response and recovery activities;</li> <li>Assigns provincial critical resources;</li> <li>Provides provincial messaging;</li> <li>Creates and distributes provincial situation reports;</li> <li>Liaises with federal government;</li> <li>Ensures provincial senior officials are apprised of provincial response activities; and</li> <li>Implements policy directives received from the Central Coordination Group (CCG).</li> </ul>	<ul style="list-style-type: none"> <li>Victoria</li> </ul>

## 9.10 Post Incident Guidelines

After the emergency situation has been brought under control, ARC's Incident Commander, in consultation with the appropriate government agencies will assess the situation and determine when the emergency can be declared over and response activities terminated.

The Incident Commander will ensure that residents, stakeholders, or any other parties that ARC has notified during the incident are re-notified and told that the emergency has been downgraded or resolved and that the "All Clear" has been given.

Once the emergency has been declared over, work can begin to return operations to normal. The Incident Commander, Operations Section Chief and Public Safety Group Supervisor will:

- Check any residences within a toxic gas emergency hazard area, using ARC personnel equipped with air quality monitors and SCBA. The resident should be present but should not enter the building until the inspection is complete.
- Appoint an ARC representative as the on-going contact for persons directly affected by the emergency
- Manage outstanding matters related to any displaced residents, employees or contractors directly involved with the emergency response
- Appoint or maintain the Logistics Section Chief function to act as the on-going ARC liaison with government agencies
- Ensure that all data collection and investigations required for internal review purposes, the police, government agencies, and insurance adjusters are completed. Until these are completed, the incident site should not be disturbed
- Prepare reports and analysis to assess the overall effectiveness of the response, the sequence of events causing the incident, and potential improvements to ARC's overall emergency preparedness
- Ensure learnings are communicated internally to prevent similar emergencies in the future. i.e. ERP Bulletin, HSE Bulletin or email notifications.
- Continue on-going monitoring required to assess environmental or health effects

### Incident Site

- When practical, have the incident site kept as undisturbed as possible for the investigation follow-up. If people or materials have been moved from their original positions and their locations could be of important in the follow-up, the approximate positions should be marked or noted.
- Should it be necessary to disturb the incident scene subsequent to treatment of the injured and making the area safe, then take pictures.
- If photos are taken, document the following information for all photos on a site map:
  - Location of photographer
  - Direction of view of photographer and
  - Area captured in photograph

### **Internal Debriefing**

The Incident Commander, in consultation with the Lead Agency and/or other regulatory body, will order “Return to Normal” status.

- All response team members and on-site personnel, including contract personnel and emergency services, will be notified.
- All previous contacts including public, workers, landowners, government and industrial operators must also be notified of the end of the emergency.
- Ensure a media statement is prepared and delivered by Senior Management.
- Debriefing meeting(s) with ARC Resources personnel (including insurance, legal, and human resources as appropriate) must be conducted.
- Debriefing meeting(s) to review effectiveness of the Emergency Response Plan must be conducted. Feedback and comments as a result of the debrief must be incorporated into the ERP revision and procedures. This feedback should be submitted to the ERP provider.
- Debriefing meeting(s) with residents, landowners, Lead Agency and other government agencies and all other impacted parties may be conducted.
- Document all “Return to Normal” activities.
- Complete response debriefing for all response teams. Submit, in writing, response findings and recommendations to the Incident Commander when applicable, which will be submitted to the overall report writer.

### **Public Debriefing**

When the public has been impacted, ARC Resources operations should provide public information as soon after the emergency as possible, to answer any questions or concerns. This should be done by either a senior ARC Resources personnel, a trained Media Advisor, or by the Incident Commander.

After an emergency, a number of additional items should be considered:

- Debriefings, as mentioned above.
- Crisis management for company personnel and for other members of the public that may have been significantly affected by the emergency.
- If the emergency is of a level where it has impacted the public, an information center may be established within the community where the emergency occurred to answer any questions posed by the public.
- Establish a means of compensating citizens who may have had out-of-pocket expenses (such as meals and lodging costs) as a result of the emergency.
- Through the media, provide details of the investigation into the incident that are pertinent to the public, as it becomes available.

### **Critical Incident Stress Debriefing**

At the conclusion of the emergency, the Incident Commander will assess the need for Critical Incident Stress debriefing for any ARC emergency responders and their families. Symptoms of trauma include severe agitation, emotional upset or other signs of stress, such as inability to sleep.

Responders are often under a great deal of stress. They must act quickly, often in the face of pain and fear, to assess the situation, determine priorities and begin rescuing others who are in danger. They may have experienced a serious injury themselves or witnessed the death of co-workers or the public.



If necessary, the Incident Commander will request that the company's Human Resource personnel dispatch specially trained counselors to meet with responders, preferably within 24 to 48 hours, to provide support and reassurance to those affected by an emergency. Team members should include a mental health professional and trained peer support personnel (fire-fighters, paramedics, police, military, etc.).

CISDs allow individuals to express the circumstances they were confronted with, how they felt at the incident and what their reactions were after the incident. The participants must understand that the meetings are strictly confidential and are not intended to judge or lay blame on an individual's actions. Recording devices and note taking should be prohibited. Meetings should be limited to a maximum of 20 individuals. Individuals who are perceived to be responsible for the incident should be excluded from group meetings and met on a one-on-one basis.

These sessions provide the responders with a supportive environment that helps them deal with their emotions. It also provides them with information about stress and its effects (severe agitation, emotional upset, inability to sleep, etc.) and it educates them about stress management techniques.

### **9.11 Compensation**

The Finance / Admin Section Chief will arrange timely compensation payments to area residents for accommodation; meals and other out-of-pocket expenses incurred during the emergency.

The Public Safety Group Supervisor is responsible for addressing all resident safety concerns and issues associated with the emergency. If the incident involved a fire, a significant spill, or an H<sub>2</sub>S release near agricultural operations, livestock and health concerns may also need to be addressed. The health of family pets will also need to be considered.

Any other claims arising from residents or businesses directly affected by the emergency will be referred to ARC's Legal Counsel.

Once the compensation has been agreed upon, the Finance /Admin Section Chief will be responsible for issuing payment)

### **9.12 Record Keeping**

Training and exercise records must be retained for a period of seven (7) years, as per CEPA E2 regulatory requirements, or for three (3) years otherwise.

ARC must keep documentation of all pre-sour and / or critical sour meetings, such as meeting sign-in sheets, invitations, and minutes for possible review under the AER ER Assessment Program.

In BC, when a new facility is constructed for which an ERP is required or there are major modifications to an existing facility which significantly changes the roles and responsibilities of implementing an ERP, the licensee must hold a meeting with licensee personnel and extend invitations to government departments and agencies and other responders who have a role in initial response within 30 days prior to facility start-up or start-up of the modified portion of the plant. Documentation of all meetings, such as meeting sign-in sheets, invitations, and minutes, must be retained for a period of one year for audit purposes.

The BCER Notification of Facility / Producing Well Start-Up / Modification Meeting form is used by permit holders to notify BCER of start-up or major modification ERP review meetings. Startup or major modifications to existing facility ERP review meetings are required for: Gas Processing Plants, Compressors  $\geq 250\text{kw}$ , Dehydration Facilities, Multi-well Oil Batteries, Treatment, Recovery, Disposal (TRD) & Waste Management Facilities, LNG Facilities, Wells/ Facilities with  $\geq 5\%$  H<sub>2</sub>S or upon request by BCER.

Refer also to the Pre-Sour and Critical Sour Meeting requirements in Section 11: Drilling & Completions.

### **During the Response**

Unless they contain specific routing information, all completed forms are to be given to the Incident Commander. If solicitor-client privilege has not yet been established with the legal department, this should be discussed.

Ideally, incident documentation should be marked “confidential.” External agency representatives should be aware that caution needs to be exercised in what written information they leave the incident with, as it may later form part of a publicly accessible file.

### **Upon Conclusion of Response**

Ensure all responders provide all incident related documents to the Incident Commander who will compile and secure records and conduct incident response debriefing and reporting as required. Within 30 days of the end of an incident, file with the BCER an Operator Incident Summary Report.

## **9.13 Emergency Response Training and Competency Guidelines**

ARC conducts regular training and validation of emergency preparedness through drills and simulation exercises. Training and exercise sessions are conducted in accordance with industry standards and regulatory requirements to ensure that responsible personnel remain competent in emergency response procedures to:

- Promote emergency preparedness
- Test or evaluate emergency operations, policies, plans procedures or facilities
- Train personnel in emergency duties
- Demonstrate operational capability
- The overall Emergency Response Plan
- Public protection measures used during an emergency
- Available communication methods

Sour operations, HVP pipelines and cavern storage facility Emergency Response Plans must be tested through the following types of planned exercises to promote emergency response preparedness:

- Tabletop or communications exercise, held annually for each area Emergency Response Plan, except in a year when a major exercise is held, or
- Major exercise, held once every three years for each area ERP, and
- Annual emergency response exercise for each CEPA E2 regulated facility

The local AER Field Centre must be notified 30 days in advance of a scheduled exercise via the AER DDS system. ARC is expected to retain all training records for a period of three years.

**Orientation Seminar (Refresher / Discovery)**

The orientation seminar is used as a refresher or introduction to plans and procedures, through lecture, discussion, presentations, or talk through. All levels of personnel (management, administration, operations, and field) are involved.

**Drill**

The drill tests a single emergency response function. It involves actual field response. Its effectiveness lies in focusing on a single or relatively limited portion of the overall response system in order to evaluate and improve it (e.g. notification drill or a man down drill).

**Tabletop Exercise**

In a tabletop exercise, actions and discussion are based on a described emergency situation plus a series of messages to players. Participants practice problem solving for emergency situations through on-going discussion and critiques of the appropriateness of actions taken and decisions made. The facilitated tabletop session is not run in real time and there is time to discuss proper response. The appropriate provincial oil and gas regulator and government agencies may expect an invitation to observe the exercise.

**Internal Simulation Exercise**

The simulation exercise is a timed sequence of messages (exercise inputs) and communication between ARC personnel and a simulation group. Company personnel practice coordinated, effective response in a time-pressured, realistic emergency situation. Individual and system performance is evaluated. It can involve site, field office and Calgary personnel (or any one or combination thereof).

**Full Scale (Major) Exercise**

The full-scale exercise adds a field component to interact with a simulation exercise through actual and simulated messages. It tests the deployment of seldom-used resources and may involve policy, coordination and operations between field personnel, Calgary staff and External Agencies and Support Services.

ARC must notify the appropriate AER Field Centre 30 days in advance of a scheduled exercise via the AER DDS system and invite the local authority, Alberta Health Services and / or any other government department or agency to participate and / or observe at major exercises.

**Exercise Report**

Following each exercise, within 60 days, a report is prepared. Emergency response exercise reports typically contain the following information:

- Type of exercise held
- Scope and objectives
- Persons involved
- Outcome (objectives achieved)
- Lessons learned
- Improvement Action Plan, including timelines

**Presour Meetings**

Documentation of all presour and / or critical sour meetings must be kept for possible review under the AER ER Assessment Program. i.e. such as Meeting sign-in sheets, Invitations and Minutes of Meetings.

**CEPA E2 Emergency Response Exercises**

ARC Resources must conduct an annual emergency response exercise for each CEPA E2 regulated facility. As the type of annual exercise is not specified by Environment and Climate Change Canada. ARC Resources understands that this could be a Table Top exercise or a Major Exercise.

The type of exercise chosen depends on its purpose, the availability of resources and the limitations of conducting exercises that apply to the location of operations. It is recommended that ARC Resources invite local first responders (e.g. Fire Chief) to attend the annual CEPA exercise.

The Federal Environment and Climate Change Canada CEPA regulations state that responding to an actual incident is not usually a valid or appropriate test of the emergency plan. An actual incident may be considered a test of the plan only if it includes the appropriate agencies, proper debriefing and evaluation, corrective actions and documentation as in a typical exercise.

If more than one of the regulated substances is identified in this facility / area ERP, it is not necessary to carry out exercises for each regulated substance. For example, the exercise could focus on the flammables during the first year, while the other hazardous substances could be covered the following year. The principal objective is to ensure that all aspects of the plan are fully evaluated over the multi-year training and exercise cycle.

The CEPA regulations require that a record of all results obtained during the annual review or exercise of the ERP for the regulated substances must be kept on site for not less than five years. This record must be available for inspection with the emergency response plan itself.

**Spill Co-Op Training and Exercises**

Under Alberta Energy Regulator's Directive 071 (Section 10) WCSS Oil Spill Cooperative members (licensees) must have a representative attend the annual training exercise in the Cooperative where that member has operations. Exemption criteria allows for the licensee to have a representative attend an exercise in another area or complete a recognized oil spill response program provided that the licensee that chooses the exemption notifies the appropriate Cooperative Area Administrator. WCSS is responsible for tracking exercise attendance, and provides a list of non-compliant licensees at year end for AER follow-up as well as for lead regulators in Northeast British Columbia (BC Energy Regulator). ARC must complete the training exercise report summary within 30 days following the training exercise and make it available to the AER upon request for a period of two years following each training exercise.

## 9.14 Sale of Property

If a well, facility, or pipeline with an ERP has been sold, the new licensee must contact the EPA Section within 30 days of the transfer of license to discuss a timeframe for submitting a new ERP. The new licensee is also expected to provide notification to the EPA Section at [EPAssessment@aer.ca](mailto:EPAssessment@aer.ca) within 7 working days of the date of the transfer of license and include an itemized summary of changes, such as

- corporate structure change,
- contact numbers,
- internal communication changes, and
- signing authority changes.

Residents within the EPZ and the local authority should also be notified of the change in ownership and advised that the licensee will be conducting a public involvement program as part of the development of a new ERP.

The new licensee must ensure that the emergency response procedures in place will not be compromised prior to approval of the new ERP.

## 9.15 Toxicity Tables

### Introduction

ARC is required to provide information about their operations to general public in the area of the operations. The content of the information package may be prescribed by local regulatory authorities and may include detailed health information about the chemicals dealt with on site.

H<sub>2</sub>S and SO<sub>2</sub> are chemicals commonly encountered in sour gas operations. In Canada, several communication packages have been published containing different, but not contradictory, information about H<sub>2</sub>S and SO<sub>2</sub>. Inconsistent information about these chemicals may affect ARC's reputation and create vulnerability for ARC.

The goal of this document is to provide consistent and clear health information about H<sub>2</sub>S and SO<sub>2</sub>.

### Hydrogen Sulphide – H<sub>2</sub>S

The impact of H<sub>2</sub>S on people varies dependent on the concentration, length of exposure and current state of health. Animals are affected at similar levels to human beings.

#### Hydrogen Sulphide

- is found in decaying organic matter, natural oil and gas, silos and sewers.
- is colourless.
- is flammable - burns to form SO<sub>2</sub>.
- has an odour of rotten eggs at low concentrations and kills sense of smell at higher concentrations.
- may tend to disperse more slowly in sheltered or calm or low lying areas.
- is extremely toxic.
- at lower concentrations (20-50 ppm) irritates mucous membranes (eyes, throat, lungs), causes headache, dizziness, nausea, may cause pulmonary edema (fluid in the lungs) upon prolonged exposure.
- at high concentrations (500-1000 ppm) causes paralysis of the respiratory centre in the brain - breathing stops, suffocation occurs.

**Worker Exposure Limits for H<sub>2</sub>S - Provincial OHS Regulations / Codes**

Exposure Limit	Alberta	B.C.	Description
8-Hour	10 ppm	-	Time-weighted average (TWA) for 8 hours
15-Minute	(15 ppm is 15 min & ceiling)	-	TWA average for up to 15 minutes with 60 minute breaks
Ceiling	15 ppm	10 ppm	Never exceed without respiratory protection

Sources: Sour Gas Questions and Answers 2nd Edition, 2006

The following table results from consulting a variety of sources, including Alberta Health and the US Public Health Service, Agency for Toxic Substances and Disease Registry (ATSDR, <http://www.atsdr.cdc.gov>). The health effects table is adapted from the Technical Advisory Committee on Public Health and the Oil and Gas Industry, Environmental Public Health Manual for Oil and Gas Activities in Alberta, 2007

**Occupational Exposure Guidelines for H<sub>2</sub>S**

Concentration	Occupational Exposure Guideline
1 ppm	8-hour TLV-TWA 1, ACGIH 3 2011
5 ppm	15-minute TLV-STEL 2, ACGIH, 2011
10 ppm	8-hour Occupational Exposure Limit, Alberta OHS, 2009
15 ppm	Ceiling Limit 4, Alberta OHS, 2009
<p>1 Threshold Limit Value – Time-Weighted Average: The TWA concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect.</p> <p>2 Threshold Limit Value – Short term Exposure Limit: A 15-minute TWA exposure that should not be exceeded at any time during a workday, even if the 8-hour TWA is within the TLV-TWA. The TLV-STEL is the concentration to which it is believed that workers can be exposed continuously for a short period of time without suffering from 1) irritation, 2) chronic or irreversible tissue damage, 3) dose-rate-dependent toxic effects, or 4) narcosis of sufficient degree to increase the likelihood of accidental injury, impaired self-rescue, or materially reduced work efficiency.</p> <p>3 American Conference of Governmental Industrial Hygienists</p> <p>4 Ceiling Limit: the concentration of a substance in air which may not be exceeded at any time during the work period.</p>	



**Acute Health Effects of Hydrogen Sulphide (H<sub>2</sub>S) (Alberta Regulations)**

Concentrations H <sub>2</sub> S in Air (ppm)	Description of Potential Health Effects
1	A noticeable odour that may be offensive to some individuals. People may temporarily experience mild symptoms of discomfort, including nausea, headache, and irritability due to the odour. Asthma symptoms may worsen.
10-20	An obvious offensive odour. Temporary eye irritation may occur after a single exposure and last several hours. Symptoms include mild itchiness, dryness, increased blink reflex and slight watering. Some people may experience headaches, nausea and vomiting. Symptoms of asthma, bronchitis or other forms of chronic respiratory disease may worsen.
50	A strong, intense offensive odour that may irritate eyes and breathing passages. Eyes may be itchy, stinging, and red with increased blinking, tearing and tendency to rub eyes. Breathing passages could feel tingly or sting, with increased tendency to clear throat and cough. Symptoms of pre-existing respiratory disease may worsen. No permanent injury to eyes or breathing passages is expected unless exposure is prolonged. Odour-sensitive individuals may experience headaches, nausea, vomiting and diarrhea.
100	Initially there is a strong objectionable odour that lessens with prolonged exposure due to olfactory "fatigue". Eyes and breathing passages are often irritated within one hour of exposure. Eyes may be sore, stinging, burning, tearing, redness, swelling of eyelids, and possible blurred vision. Respiratory irritation may include sore throat, cough, soreness or stinging of breathing passages, and wheezing. The symptoms of asthma, bronchitis or other forms of chronic respiratory disease will worsen. Odour may cause headache, nausea, vomiting and diarrhea.
250	There may or may not be an odour present due to olfactory paralysis. Eyes and breathing passages will become irritated within minutes of exposure, and the irritation will worsen with longer exposure. The outer surface of the eyes and inner eyelids will be inflamed, red and sore. Eyes will begin watering and tearing immediately and vision may be blurred. Eyes may be permanently harmed if exposure is prolonged. Respiratory irritation will include sore throat, cough, difficulty breathing, soreness of chest, and wheezing. Asthma symptoms will worsen. People may experience "systemic" effects, including headache, nausea and vertigo depending on duration of exposure.
500	No odour is present due to olfactory paralysis. Severe irritation and possible permanent injury to the eyes and breathing passages within 30 minutes of exposure. Lung and breathing passage damage may cause chemical pneumonia following exposure if the exposure was prolonged. Systemic effects involving the central nervous system may occur within one hour of exposure and include headache, anxiety, dizziness, loss of coordination and slurred speech. People may lose consciousness or collapse suddenly, and die if exposure persists.
750	No odour is present due to olfactory paralysis. Central nervous system effects will be most obvious and could include anxiety, confusion, headache, slurred speech, dizziness, stumbling, loss of coordination, and other signs of motor dysfunction. People may lose consciousness, collapse suddenly and possibly die, if exposure continues for more than a few minutes. Lung and breathing passage damage will likely cause "chemical pneumonia" among survivors.
1000	Immediate "knock-down" and loss of consciousness. Death within moments to minutes. Immediate medical attention needed if victim is to survive.

**Acute Health Effects of Hydrogen Sulphide (H<sub>2</sub>S) (British Columbia Regulations)**

Concentrations H <sub>2</sub> S in Air (ppm)	Description of Potential Health Effects
0.01 – 0.03	Odour threshold.
1 – 5	Moderate to strong offensive odour may create nausea, tearing of the eyes, headaches or loss of sleep upon prolonged exposure – effects are moderate.
10	Ceiling limit (BC WCB).
<b>Over 10 ppm, Protective Equipment is Necessary</b>	
20 –50	Slight eye and lung irritation; may cause eye damage after several days of exposure; may cause digestive upset and loss of appetite.
100	Eye and lung irritation.
150	Kills sense of smell; severe eye and lung irritation.
500	Serious damage to the eyes within 30 minutes; severe lung irritation; unconsciousness and death within 4 to 8 hours.
1000	Breathing stops within one or two hours.



**Sulphur Dioxide – SO<sub>2</sub>**

SO<sub>2</sub> gas is an irritant gas which results from the burning of H<sub>2</sub>S gas. SO<sub>2</sub> gas is more toxic than H<sub>2</sub>S; however the thermal rise during combustion results in lower ground level concentrations.

**Sulphur Dioxide**

- has the odour that occurs when a wooden match is extinguished
- is highly irritating - dissolves to form sulphuric acid
- at lower concentrations irritates the eyes, nose and throat, causes difficulty in breathing and shortness of breath
- causes pulmonary edema at high concentrations - may be fatal
- effects on heavy smokers are more severe

**Occupational Exposure Guidelines for SO<sub>2</sub>**

Concentration	Occupational Exposure Guideline
2 ppm	8-hour TLV-TWA1, ACGIH3 2011; Alberta OHS, 2009; WorkSafeBC, 2010
5 ppm	15-minute TLV-STEL2, ACGIH, 2011 Alberta OHS, 2009; WorkSafeBC, 2010
<p>1 Threshold Limit Value – Time-Weighted Average: The TWA concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed, day after day, for a working lifetime without adverse effect.</p> <p>2 Threshold Limit Value – Short term Exposure Limit: A 15-minute TWA exposure that should not be exceeded at any time during a workday, even if the 8-hour TWA is within the TLV-TWA. The TLV-STEL is the concentration to which it is believed that workers can be exposed continuously for a short period of time without suffering from 1) irritation, 2) chronic or irreversible tissue damage, 3) dose-rate-dependent toxic effects, or 4) narcosis of sufficient degree to increase the likelihood of accidental injury, impaired self-rescue, or materially reduced work efficiency.</p> <p>3 American Conference of Industrial Hygienists</p>	

**Acute Health Effects of Sulphur Dioxide (SO<sub>2</sub>) (Alberta Regulations)**

Concentration SO <sub>2</sub> in Air (ppm)	Description of Potential Health Effects
0.1	Transient bronchoconstriction <sup>1</sup> in sensitive exercising asthmatic individuals that ceases when exposure ceases. <sup>2</sup>
0.3 – 1	Possible detection by taste or smell.
0.75	Transient lung function changes in healthy, moderately exercising, non-asthmatic individuals.
1 – 2	Lung function changes in healthy non-asthmatics. Symptoms in asthmatics would likely increase in severity. There may be a shift to clinical symptoms from changes detectable only via spirometry.
3.0	Easily detected odour.
6 – 12	May cause nasal and throat irritation.
10	Upper respiratory irritation, some nosebleeds.
20	Definitely irritating to the eyes; chronic respiratory symptoms develop; respiratory protection is necessary.
50 – 100	Maximum tolerable exposures for 30 – 60 minutes.
greater than 100	Immediate Danger to Life (NIOSH recommendation).

<sup>1</sup> At low levels, bronchoconstriction was generally observed as changes in airway conductance detectable by spirometry rather than as clinical symptoms.

<sup>2</sup> It should be noted that clinical studies on humans are generally designed to elicit a response and consequently subject study volunteers to challenging conditions such as exercising, mouth breathing, cold, dry air, etc. Real-life responses in asthmatics should be viewed as being individual-specific dependent on severity of asthma, whether the individuals are medicated or not, how cold and/or dry the air is, mouth breathing (vs. nose-breathing, which can act as an effective scrubber mechanism), and exercise.

**Acute Health Effects of Sulphur Dioxide (SO<sub>2</sub>) (British Columbia Regulations)**

<b>Concentration SO<sub>2</sub> in Air (ppm)</b>	<b>Description of Potential Health Effects</b>
0.13	24 hour level (MWLAP Level B Criteria).
0.34	One hour average evacuation level (MWLAP Level B criteria).
2	Eight hour occupational Exposure Limit (BC WCB)
3-5	Odour threshold.
5	15 minute Occupational Exposure Limit (BC WCB)
8-12	Throat irritation, coughing, constriction in chest, tearing and smarting of the eyes.
10-50	5 – 15 minutes exposure produces increased irritation of eyes, nose, and throat, choking, coughing, and in some cases wheezing due to narrowing of the airways (which increases the resistance of the air flow).
150	Short-term endurance lost due to the severe eye irritation and because of the effects on the membranes of the nose, throat, and lungs.
500	Highly dangerous after exposure of 30 – 60 minutes.
1000 - 2000	May be fatal with continued exposure.

## 9.16 Glossary / Definitions

<b>Adjacent to</b>	Within 25 m.
<b>Air quality monitoring</b>	Measurement of atmospheric concentrations of a hazardous substance, such as H <sub>2</sub> S or SO <sub>2</sub> .
<b>Alberta Energy Regulator (AER)</b>	The AER ensures the safe, efficient, orderly, and environmentally responsible development of hydrocarbon resources over their entire life cycle. This includes allocating and conserving water resources, managing public lands, and protecting the environment while providing economic benefits for Albertans.
<b>Alert</b> <i>(Alberta specific)</i>	An incident that can be handled on-site by the licensee through normal operating procedures and is deemed to be a very low risk to members of the public.
<b>Auto-ignition temperature</b>	All NGL products are flammable and will flash at extremely low temperatures. An open flame or spark is not necessary to cause ignition. Any hot surface which exceeds the auto-ignition temperature of a product can cause a fire if the vapours reaching the hot surface are within their flammable range.
<b>Best practices</b>	A technique or methodology that, through experience and research, has proven to reliably lead to a desired result. A commitment to using the best practices in any field is a commitment to using all the knowledge and technology at one's disposal to ensure success.
<b>British Columbia Emergency Management and Climate Readiness (EMCR)</b> <i>(British Columbia specific)</i>	Aids local governments in analyzing hazards and risks, develop and test emergency plans, train and organize emergency staff and volunteers. EMCR also manages all agencies in the event of an emergency or disaster, which cannot be handled locally.
<b>Body of water</b>	Streams, lakes, and rivers.
<b>Boiling Liquid Expanding Vapour Explosion (BLEVE)</b>	Boiling Liquid Expanding Vapour Explosion, which is associated with natural gas liquids and high vapour pressure liquids.

<p><b>Boiling point</b></p>	<p>This is the temperature that a liquid changes to a gas. NGL products change to a gas at extremely low temperatures and will absorb heat from the surrounding environment during the phase change. Therefore, caution must be used when working with NGLs because contact with flesh can reduce the temperature of the flesh to the NGL boiling point and cause severe frostbite.</p>
<p><b>British Columbia Energy Regulator (BCER)</b></p>	<p>The BCER is the lead agency for all regulated oil and gas related activities within British Columbia.</p>
<p><b>Businesses</b></p>	<p>Industrial operators, retail outlet operators, suppliers, residents, outfitters, foresters and other entities that normally operate within the Emergency Planning Zone, but do not necessarily reside in the Emergency Planning Zone.</p>
<p><b>Closure order</b> <i>(British Columbia specific)</i></p>	<p>When the BCER believes that, because of hazardous conditions in a field or at a well, it is necessary or expedient to close an area and to shut out all persons except those specifically authorized, the BCER may make an order in writing setting out and delimiting the closed area. For Alberta see Fire Hazard (FH) Order.</p>
<p><b>Corporate Emergency Response Plan</b></p>	<p>Plans prepared by the duty holder under provincial regulations, statues, or conditions imposed by the regulator. A corporate ERP contains planned procedures which allows for effective incident response.</p>
<p><b>Crisis Manager</b></p>	<p>The Crisis Manager activates the Corporate Emergency Operations Centre with staff to provide advice and support to the Incident Commander (Field Response Team).</p> <p>Note: If the emergency happens outside an area that has a site specific Emergency Response Plan, only then will the Crisis Manager assume or appoint the role of Incident Commander and dispatch a Field Response Team to the incident site.</p>
<p><b>Crisis Management Team</b></p>	<p>Provides advice and logistical support to the Field Response Team and Incident Commander in particular. The team is comprised of head office personnel and any contract emergency experts.</p>
<p><b>Critical Incident Stress Debriefing (CISD)</b></p>	<p>Critical Incident Stress Debriefing is a specially structured counselling process between the debriefers and those who are directly involved and/or impacted by an incident.</p>

<p><b>Critical sour well</b> <i>(Alberta specific)</i></p>	<p>A well with an H<sub>2</sub>S release rate greater than 2.0 m<sup>3</sup>/s or wells with lower H<sub>2</sub>S release rates in near an urban centre as defined in Directive 056: Energy Development Applications and Schedules.</p>
<p><b>Emergency</b></p>	<p>A present or imminent event outside the scope of normal operations that requires prompt coordination of resources to protect the health, safety, and welfare of people and to limit damage to property and the environment.</p>
<p><b>Emergency Awareness zone (EAZ)</b> <i>(British Columbia Specific)</i></p>	<p>A distance outside of the EPZ where public protection measures may be required due to poor dispersion of the hazard. This area is twice the radius of the Emergency Planning Zone (EPZ).</p>
<p><b>Emergency Operations Centre (EOC)</b></p>	<p>An Emergency Operations Centre is a designated facility in a suitable location (i.e. head office, regional office, etc.) established by the permit holder to support Incident Command and to manage the larger aspects of an emergency. In a high-impact emergency, there may be a number of EOCs established to support the response. They may include the Incident Command Post, regional and corporate EOCs, a municipal EOC (MEOC), and the provincial government EOC (PECC).</p>
<p><b>Emergency Planning Zone (EPZ)</b></p>	<p>An EPZ is a geographic area around wells, pipelines, or facilities where the presence of hazardous substances requires specific emergency preparedness by the duty holder.</p>
<p><b>Emergency Response Plan (ERP)</b></p>	<p>A comprehensive plan to protect the public that includes criteria for assessing an emergency situation and procedures for mobilizing response personnel and agencies and establishing communication and coordination among the parties.</p>
<p><b>ERCBH2S</b> <i>(Alberta specific)</i></p>	<p>A software program that calculates site-specific EPZs using thermodynamics, fluid dynamics, atmospheric dispersion modelling and toxicology.</p>

<p><b>Evacuation</b></p>	<p>An organized, phased, and supervised withdrawal of persons from dangerous or potentially dangerous areas to safe areas.</p> <p>Tactical Evacuation – A measure to immediately move people to a safe area as part of emergency response and operations. Does not require approval from local authority but the local authority may enact an evacuation order, if required, and local authority must be advised if a tactical evacuation has occurred.</p> <p>Planned Evacuation – An evacuation coordinated by local government authority that can authorize evacuation alerts and orders.</p>
<p><b>Explosive Limits (Lower and Upper)</b></p>	<p>Each gaseous hydrocarbon substance has a minimum (Lower Explosive Limit or LEL) and a maximum (Upper Explosive Limit or UEL) percentage in air below or above which combustion will not take place. Explosive limit and flammability limit are used interchangeable. The terms "Too Lean" and "Too Rich" are used for levels outside of the explosive range.</p>
<p><b>Facility</b></p>	<p>Any building, structure, installation, equipment, or appurtenance that is connected to or associated with the recovery, development, production, handling, processing, treatment, or disposal of hydrocarbon-based resources or any associated substance or wastes. This does not include wells or pipelines.</p>
<p><b>Field Response Team</b></p>	<p>Company and contractor personnel directly involved in controlling the incident at the emergency site and from the EOC.</p>
<p><b>Fire Hazard (FH) Order</b> <i>(Alberta specific)</i></p>	<p>An order issued by the AER during an emergency to restrict public access to a specified area.</p>
<p><b>Gathering system</b></p>	<p>The network of pipelines, pumps, tanks, and other equipment that carries oil and gas to a processing plant or to other separation equipment.</p>
<p><b>Hazard</b></p>	<p>A situation with potential to harm persons, property, or the environment.</p>

<p><b>Hazard Planning Zone (HPZ)</b> <i>(British Columbia specific)</i></p>	<p>A geographical area (a) determined by using the hazard planning distance as a radius, and (b) within which persons, property or the environment may be affected by an emergency. Defined in Emergency Management Regulation.</p>
<p><b>Hazardous product</b></p>	<p>A substance released in quantities that may harm persons, property, or the environment</p>
<p><b>High Vapour Pressure Liquids (HVPLs)</b></p>	<p>HVPLs have a vapour pressure greater than 240 kPa at 38°C (34.8 PSIG @ 100°F) and include ethane, propane, butane, and pentanes plus, either as a mixture or as a single component.</p> <p>Note: Comparisons</p> <p>Gasoline - Vapour pressure between 55 and 100 kPa at 38°C (8 - 14.5 PSIG @ 100°F).</p> <p>Condensate - Often a component of a propane/butane mixture, has a vapour pressure of 59 to 72 kPa at 38°C (8.6 - 10.4 PSIG @ 100°F).</p>
<p><b>High Vapour Pressure (HVP) plume dispersion geometry</b></p>	<p>An uncontrolled release of NGL product on flat terrain will form a vapour plume as it disperses. If the vapour plume formed at the leak site has not been ignited, it will most likely reach its maximum size within the first half hour of the leak occurrence. Two unique features of an NGL plume are:</p> <p>The downwind edge of the plume tends to spread out significantly forming a broad frontal edge.</p> <p>Under certain conditions, the plume will travel upwind for a short distance.</p>
<p><b>High Vapour Pressure (HVP) pipeline</b></p>	<p>A pipeline system conveying hydrocarbons or hydrocarbon mixtures in the liquid or quasi-liquid state with a vapour pressure greater than 110 kilopascals absolute at 38°C. Some examples are liquid ethane, ethylene, propane, butanes, and pentanes plus.</p>
<p><b>High Vapour Pressure (HVP) products</b></p>	<p>HVP products have a vapour pressure greater than 240 kPa at 38°C (34.8 PSIG at 100°F) and include ethane, propane, butane and pentanes plus, either as a mixture or as a single component. A leak from a vessel or pipe containing HVP products can result in a BLEVE.</p>
<p><b>Hydrogen sulphide (H<sub>2</sub>S)</b></p>	<p>A naturally occurring gas found in a variety of geological formations and also formed by the natural decomposition of organic matter in the absence of oxygen. H<sub>2</sub>S is colourless, has a molecular weight that is heavier than air, and is</p>



	<p>extremely toxic. In small concentrations, it has a rotten egg smell and causes eye and throat irritations. Depending on the particular gaseous mixture, gas properties, and ambient conditions, a sour gas release may be:</p> <p>Heavier than air (dense), so it will tend to drop towards the ground with time,</p> <p>Lighter than air (buoyant), so it will tend to rise with time, or</p> <p>About the same weight as air (neutrally buoyant), so it will tend to neither rise nor drop but with time disperse.</p>
<p><b>Hydrogen sulphide (H<sub>2</sub>S) release rate</b></p>	<p>The rate that sour gas escapes into the atmosphere is often calculated for sour gas wells. It is usually defined in cubic metres per second (m<sup>3</sup>/s). The size of the emergency planning zone is estimated from the H<sub>2</sub>S release rate.</p>
<p><b>Hydrogen sulphide (H<sub>2</sub>S) release volume</b></p>	<p>The volume of sour gas that escapes into the atmosphere is often calculated for facilities that have a defined retention volume, usually defined in cubic metres. Emergency planning zone sizes are often estimated using the volume of H<sub>2</sub>S that may be released from a facility. More sophisticated models may also incorporate the rate at which the release could occur and the nature of the gas and the atmospheric conditions when determining the emergency planning zone size.</p>
<p><b>Hyper-susceptible</b></p>	<p>A person or persons who may be abnormally reactive to a given exposure to toxins and whose reaction may occur in orders of magnitude greater than that of the susceptible population. Hypersusceptibles include those persons with impaired respiratory function, heart disease, liver disease, neurological disorders, eye disorders, severe anemia, and suppressed immunological function.</p>
<p><b>Ignition</b></p>	<p>Process of setting a hydrocarbon release on fire.</p>
<p><b>Ignition Team</b></p>	<p>Consists of at least two personnel trained in plume ignition.</p>
<p><b>Incident</b></p>	<p>An unexpected occurrence or event that requires action by emergency personnel to prevent or minimize the impacts on people, property, and the environment.</p>

<p><b>Incident classification</b></p>	<p>A system that examines the risk level to members of the public following an incident and assigns a level of emergency based on the consequence of the incident and the likelihood of the incident escalating.</p>
<p><b>Incident Command Post (ICP)</b></p>	<p>A designated place where the Incident Commander and staff is located. The ICP should be located outside of the hazard area, but close to the incident. The ICP may be a vehicle, trailer, fixed facility or any location suitable to accommodate the function.</p>
<p><b>Incident Commander</b></p>	<p>Manages the overall response to emergency incidents. The Incident Commander is responsible for: developing objectives, strategies and tactics that guide the response; assigning personnel to fill necessary positions; ensuring the safety of all personnel; keeping internal and external stakeholders updated; coordinating with other response agencies.</p>
<p><b>Incident Command System (ICS)</b></p>	<p>A standardized, on-scene, all-hazard incident management system. The Incident Command System (ICS) is flexible in that it can be adapted for large and small incidents.</p>
<p><b>Initial Isolation Zone (IIZ)</b></p>	<p>The area in close proximity to a continuous hazardous release where indoor sheltering may provide temporary protection due to the proximity of the release.</p>
<p><b>Incident Management System</b></p>	<p>A system used to coordinate preparedness and incident management.</p>
<p><b>Isolating the release</b></p>	<p>Ensuring access to the hazard area is controlled.</p>
<p><b>Level 1 Emergency</b> <i>(Alberta specific)</i></p>	<p>The incident presents no danger outside the duty holder's property or threat to the public and has a minimal environmental impact. Duty holder personnel can manage the incident themselves with immediate control of the hazard. There is little or no media interest.</p>
<p><b>Level 1 Emergency</b> <i>(British Columbia specific)</i></p>	<p>There is no immediate danger to the public or environment as no H<sub>2</sub>S has been released; the emergency is confined to the lease or company property.</p>

<p><b>Level 2 Emergency</b> <i>(Alberta specific)</i></p>	<p>The incident presents no immediate danger outside the duty holder's property but could potentially extend beyond the duty holder's property. Outside agencies must be notified. Imminent control of the hazard is probable, but there is a moderate threat to the public or the environment or both. There may be local and regional media interest in the event.</p>
<p><b>Level 2 Emergency</b> <i>(British Columbia specific)</i></p>	<p>There is potential risk to the public or environment, as the emergency could extend beyond company property. However, control is still possible.</p>
<p><b>Level 3 Emergency</b> <i>(Alberta specific)</i></p>	<p>The safety of the public is in jeopardy from a major uncontrolled hazard. There are likely significant and ongoing environmental impacts. Immediate multiagency municipal and provincial government involvement is required.</p>
<p><b>Level 3 Emergency</b> <i>(British Columbia specific)</i></p>	<p>An immediate danger to the public or environment exists; control of the situation has been lost.</p>
<p><b>Licensee</b></p>	<p>The responsible duty holder as specified in legislation.</p>
<p><b>Liquid to gas expansion</b></p>	<p>NGL products will expand greatly when released to the atmosphere. For example, propane expands 272 times its liquid volume. Other products expand at different rates, but all have a high gas to liquid ratio.</p>
<p><b>Liquefied Petroleum Gas (LPG)</b></p>	<p>Mixture of heavier, gaseous hydrocarbons (butane and propane), liquefied as a portable source of energy.</p>
<p><b>Local Authority</b></p>	<p>A local authority is considered to be:</p> <ol style="list-style-type: none"> <li>1) The council of a city, town, village or municipal district;</li> <li>2) in the case of an improvement district or special area, the Minister of Municipal Affairs;</li> <li>3) for a national park, the park superintendent or the park superintendent's delegate;</li> <li>4) the settlement council of a Métis settlement; or</li> <li>5) the band council of a First Nations Reserve.</li> </ol>
<p><b>Local State of Emergency</b></p>	<p>See State of local emergency.</p>

<b>Lower Explosive Limit (LEL)</b>	The lowest concentration of gas or vapour (per cent by volume in air) that explodes if an ignition source is present at ambient temperatures.
<b>M.D.</b>	Municipal District
<b>Major (full-scale) exercise</b>	As described in CAN/CSA Z246.2-18, a multi-agency, multi-jurisdictional activity involving actual deployment of resources in a coordinated response, as if a real emergency had occurred. The full-scale exercise includes the mobilization of units, personnel, and equipment. Participants will assess plans and procedures and evaluate coordinated responses under crisis conditions.
<b>Maximum Operating Pressure (MOP)</b>	The maximum licensed operating pressure for a vessel or pipeline or a section of it.
<b>On-site command post (OSCP)</b>	An emergency operations centre established in the immediate vicinity of the incident to provide immediate and direct response to the emergency and initially staffed by licensee personnel.
<b>Partially controlled flow</b>	A restricted flow of product at surface that cannot be shut off at the licensee's discretion with equipment on-site.
<b>Personal consultation</b>	Consultation through face-to-face visits or telephone conversations with all requisite individuals.
<b>Petroleum industry</b>	Refers to all petroleum industry operations.
<b>Plume (gas plume)</b>	An elongated mobile column of gas or smoke.
<b>Protective Action Zone (PAZ)</b>	An area downwind of a hazardous release where outdoor pollutant concentrations may result in life threatening or serious irreversible health effects on people.
<b>Protective Action Distance (PAD)</b>	The distance from the incident to the EPZ outer boundary.
<b>Provincial Emergency Coordination Centre (PECC)</b>	An operations centre with the capacity to accommodate representatives from each government department.
<b>Public</b>	The group of people who may be or are impacted by an emergency (e.g., employees, contractors, neighbours,

<b>Public (Continued)</b>	emergency response organizations, regulatory agencies, the media, appointed or elected officials, visitors, customers, etc., as appropriate).
<b>Public facility</b> <i>(Alberta specific)</i>	A public building, such as a hospital, rural school, or major recreational facility, situated outside of an urban centre that can accommodate more than 50 individuals and/or that requires additional transportation to be provided during an evacuation.
<b>Public protection measures</b>	The use of sheltering, evacuation, ignition, and isolation procedures to mitigate the impact of a hazardous release on members of the public.
<b>Public Safety Group Supervisor</b>	Member of the field response team. Individual charged with the responsibility of co-ordinating the evacuation or shelter of people in the emergency hazard Area. The Public Safety Group Supervisor reports to and may be located in the same location as the Incident Commander.
<b>Publicly used development</b> <i>(Alberta specific)</i>	Places where the presence of 50 individuals or less can be anticipated (e.g., places of business, cottages, campgrounds, churches, and other locations created for use by the non-resident public).
<b>Publicly used facility</b> <i>(British Columbia specific)</i>	Places where the presence of people can be anticipated. Examples include places of business, cottages, campgrounds, churches, and other locations created for use by the public. Includes any similar development the BCER may designate as a public facility.
<b>Publicly used facility</b>	Places where the presence of people can be anticipated. Examples include places of business, cottages, campground, churches, and other locations created for use by the public.
<b>Reception centre</b>	A centre established to register evacuees for emergency shelter, to assess their needs, and, if temporary shelter is not required because evacuees will stay elsewhere, to ascertain where they can be contacted.
<b>Regional Emergency Operations Centre (REOC)</b>	An operations centre established in a suitable location to manage the larger aspects of the emergency that is manned jointly by government and industry staff.
<b>Residence</b>	A dwelling that is occupied full time or part time.

<b>Resident data record</b>	Form used to track the contact made with residents, businesses and transients.
<b>Response zones</b> <i>(Alberta specific)</i>	The Initial Isolation Zone (IIZ), Protective Action Zone (PAZ) and Emergency Planning Zone (EPZ).
<b>Roadblock Crew</b>	Personnel responsible for controlling access to the Emergency Hazard Area, reporting to the Public Safety Group Supervisor.
<b>Rover</b>	Member of the field response team. Individual responsible for assisting in the evacuation of the Hazard Area, reporting to the Public Safety Group Supervisor. May also be directed to shut-in / shut down equipment that may cause future safety hazards.
<b>Rover Kit</b>	A briefcase containing maps, forms, supplies and instructions needed by the Rover to carry out their duties.
<b>S.A.B.A.</b>	Supplied Air Breathing Apparatus.
<b>S.C.B.A.</b>	Self-Contained Breathing Apparatus.
<b>Serious injury</b>	A serious injury includes the following: <ul style="list-style-type: none"> <li>• an injury that results in death;</li> <li>• fracture of a major bone;</li> <li>• amputation other than a portion of a finger or toe;</li> <li>• loss of sight in an eye;</li> <li>• internal haemorrhage;</li> <li>• third degree burns;</li> <li>• unconsciousness;</li> <li>• An injury that results in paralysis (permanent loss of function).</li> </ul>
<b>Shelter-in-Place</b>	Remaining indoors for short-term protection from exposure to toxic gas releases.
<b>Sour gas</b>	Natural gas, including solution gas, containing hydrogen sulphide (H <sub>2</sub> S).
<b>Sour gas release</b>	An uncontrolled release of natural gas containing hydrogen sulphide (H <sub>2</sub> S).
<b>Sour multiphase product</b> <i>(British Columbia)</i>	Any liquid that contains H <sub>2</sub> S in the gas phase.

<i>specific)</i>	
<b>Sour multiphase pipeline</b> <i>(British Columbia specific)</i>	A pipeline that transmits a multiphase product that contains more than 10 moles of H <sub>2</sub> S per kilomole of natural gas in the gas phase.
<b>Sour pipeline</b>	Pipeline that conveys gas and/or liquid that contains sour gas.
<b>Sour production facility</b>	Facility that processes gas and/or liquid that contains sour gas
<b>Sour well</b>	An oil or gas well expected to encounter during drilling formations bearing sour gas or any oil or gas well capable of producing sour gas.
<b>Special needs</b>	Those persons for whom early response actions must be taken because they require evacuation assistance, requested early notification, do not have telephones, require transportation assistance, have a language or comprehension barrier, or have specific medical needs. Special needs also include those who decline to give information during the public consultation process and any residences or businesses where contact cannot be made.
<b>Special sour well</b> <i>(British Columbia specific)</i>	A designation that reflects the proposed well's proximity to populated centers and its maximum potential H <sub>2</sub> S release rate during the drilling state. The casing or open-hole flow configuration is used in arriving at this designation.
<b>Standing well</b>	A well that has been drilled and cased but not perforated. A company is generally allowed to leave the well as standing for up to one year.
<b>State of local emergency</b>	A declaration by a local authority providing the necessary authority, resources, and procedures at the municipal level to allow an emergency to be resolved effectively and efficiently.
<b>Sulphur dioxide (SO<sub>2</sub>)</b>	A colourless, water-soluble, suffocating gas formed by burning sulphur in air; also used in the manufacture of sulphuric acid. SO <sub>2</sub> has a pungent smell similar to a burning match. SO <sub>2</sub> is extremely toxic at higher concentrations. The molecular weight of SO <sub>2</sub> is heavier than air; however, typical releases are related to combustion, which makes the gaseous mixture lighter than air (buoyant).



<p><b>Surface development</b></p>	<p>Dwellings that are occupied full-time or part-time, publicly used development, public facilities, including campgrounds and places of business, and any other surface development where the public may gather on a regular basis. Surface development includes residences immediately adjacent to the EPZ and those from which dwellers are required to egress through the EPZ.</p>
<p><b>Susceptible</b></p>	<p>The subpopulation of persons who may be considered more sensitive to the effects of H<sub>2</sub>S and SO<sub>2</sub>, including the elderly, pregnant women, and the very young, particularly preschool-aged children.</p>
<p><b>Tabletop exercise</b></p>	<p>As described in CAN/ CSA Z246.2-18, an informal exercise generally used to review resource allocations and roles and responsibilities of personnel and to familiarize new personnel with emergency operations without the stress and time constraints of a major exercise.</p>
<p><b>Technically complete Emergency Response Plan (ERP)</b></p>	<p>A plan that meets all applicable requirements.</p>
<p><b>Telephoners</b></p>	<p>Telephoners place calls to residents as directed by the Public Safety Group Supervisor.</p>
<p><b>Threatening telephone call</b></p>	<p>Any communication that threatens the well-being of company personnel or property. A form is provided in the manual to capture data from or about a person who calls with a threatening message.</p>
<p><b>Transient</b></p>	<p>An individual that is temporarily in the area (e.g., camper, cross-country skier).</p>
<p><b>Trapper</b></p>	<p>The holder of a provincial licensed and registered trapline for the purpose of hunting and trapping fur bearing animals.</p>
<p><b>Uncontrolled flow</b></p>	<p>A release of product that cannot be shut off at the licensee's discretion.</p>
<p><b>Urban centre</b></p>	<p>A city, town, village, summer village, or hamlet with no fewer than 50 separate buildings, each of which must be an occupied dwelling, or any similar development.</p>



<p><b>Unrestricted country development</b></p>	<p>Any collection of permanent dwellings situated outside of an urban centre and having more than eight permanent dwellings per quarter section.</p>
<p><b>Urban density development</b></p>	<p>Any incorporated urban centre, unincorporated rural subdivision, or group of subdivisions with no fewer than 50 separate buildings, each of which must be an occupied dwelling.</p>
<p><b>Vapour pressure</b></p>	<p>The pressure exerted by the vapour when the rate of evaporation is equal to the rate of condensation of the vapour. All NGL products have vapour pressure greater than atmospheric pressure air and therefore have to be kept under pressure or else they will vaporize.</p>
<p><b>Vapour-air plume / vapour cloud</b></p>	<p>When released to atmosphere, products form a vapour-air plume that is colourless, heavier than air and has a faint gasoline odour. Depending on the product released and the atmospheric conditions, water vapour may condense to form a cloud.</p>
<p><b>Water body</b></p>	<p>Natural or manmade; contains or conveys water continuously, intermittently, or seasonally. A natural water body is any location where water flows or is present, whether the flow or the presence of water is continuous, seasonal, intermittent, or occurs only during a flood. This includes, but is not limited to, the bed and shore of a river, stream, lake, creek, lagoon, swamp, marsh, slough, muskeg, or other natural drainage, such as ephemeral draws, wetlands, riparian areas, floodplains, fens, bogs, coulees, and rills. Examples of a manmade water body include, but are not limited to, a canal, drainage ditch, reservoir, dugout or other manmade surface feature.</p>
<p><b>Well servicing</b></p>	<p>The maintenance procedures performed on a producing or injecting well after the well has been completed and operations have commenced. Well servicing activities are generally conducted to maintain or enhance well productivity or injectivity.</p>
<p><b>Workover</b></p>	<p>The process of re-entering an existing well to perform remedial action that will restore or improve the productivity or injectivity of the target formation.</p>

## 9.17 Acronyms

<b>Acronym</b>	<b>Meaning</b>	<b>Acronym</b>	<b>Meaning</b>
<b>ABSA</b>	Alberta Boilers Safety Association	<b>IAP</b>	Incident Action Plan
<b>AEMA</b>	Alberta Emergency Management Agency	<b>ICS</b>	Incident Command System
<b>AER</b>	Alberta Energy Regulator	<b>IIZ</b>	Initial Isolation Zone
<b>AHS</b>	Alberta Health Services	<b>INAC</b>	Indigenous and Northern Affairs Canada
<b>AH</b>	Alberta Health	<b>LA</b>	Local Authority
<b>AT</b>	Alberta Transportation	<b>LBV</b>	Line Block Valve
<b>BCER</b>	BC Energy Regulator	<b>LEL</b>	Lower Explosive Limit
<b>BLEVE</b>	Boiling Liquid Expanding Vapour Explosion	<b>LPG</b>	Liquefied Petroleum Gas
<b>CANUTEC</b>	Canadian Transport Emergency Centre	<b>MD</b>	Municipal District
<b>CAPP</b>	Canadian Association of Petroleum Producers	<b>MEP</b>	Municipal Emergency Plan
<b>CEOC</b>	Corporate Emergency Operations Centre	<b>MOP</b>	Maximum Operating Pressure
<b>CEPA</b>	Canadian Environmental Protection Act	<b>NGL</b>	Natural Gas Liquids
<b>CER</b>	Canada Energy Regulator	<b>NOTAM</b>	Notice to Airmen
<b>CISD</b>	Critical Incident Stress Debriefing	<b>OHS</b>	Occupational Health and Safety
<b>CMT</b>	Crisis Management Team	<b>OSCAR</b>	Oil Spill Containment and Recovery
<b>CPE</b>	Communications and Public Engagement	<b>OSCP</b>	On-Site Command Post
<b>CSA</b>	Canadian Standards Association	<b>PAD</b>	Protective Action Distance
<b>DFO</b>	Department of Fisheries and Oceans	<b>PAZ</b>	Protective Action Zone
<b>ECCC</b>	Environment & Climate Change Canada	<b>PECC</b>	Provincial Emergency Coordination Centre
<b>EMCR</b>	Emergency Management and Climate Readiness	<b>PPB</b>	Parts Per Billion
<b>EMO</b>	Emergency Management Organization	<b>PPE</b>	Personal Protective Equipment
<b>EOC</b>	Emergency Operations Centre	<b>PPM</b>	Parts Per Million
<b>EPZ</b>	Emergency Planning Zone	<b>RCMP</b>	Royal Canadian Mounted Police
<b>ERAC</b>	Emergency Response Assistance Canada	<b>RD</b>	Rural District
<b>ERP</b>	Emergency Response Plan	<b>REOC</b>	Regional Emergency Operations Centre
<b>ESD</b>	Emergency Shut Down	<b>RHA</b>	Regional Health Authority
<b>ESDV</b>	Emergency Shut-Down Valve	<b>RM</b>	Rural or Regional Municipality
<b>ETA</b>	Estimated Time of Arrival	<b>SABA</b>	Supplied Air Breathing Apparatus
<b>FH Order</b>	Fire Hazard Order	<b>SCBA</b>	Self-Contained Breathing Apparatus
<b>FNIHB</b>	First Nations and Inuit Health Branch – Health Canada	<b>SDS</b>	Safety Data Sheet
<b>FRT</b>	Field Response Team	<b>SO2</b>	Sulphur Dioxide
<b>GEOC</b>	Government Emergency Operations Centre	<b>STARS</b>	Shock Trauma Air Rescue Society
<b>HVAC</b>	Heating Ventilation Air Conditioning	<b>TDG</b>	Transportation of Dangerous Goods
<b>HVP</b>	High Vapour Pressure	<b>WCSS</b>	Western Canadian Spill Service
<b>HVPL</b>	High Vapour Pressure Liquid	<b>WHMIS</b>	Workplace Hazardous Materials Information System
<b>H<sub>2</sub>S</b>	Hydrogen Sulphide		

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## SECTION 10. Phone List

### 10.1 ARC Corporate Phone List

ARC Resources Ltd. Corporate Response Team		
<b>Calgary EOC Location</b> ARC Resources Ltd. Head Office 1200, 308 – 4th Avenue SW Calgary, Alberta T2P 0H7	<b>Calgary EOC Numbers</b> 24 Hour Emergency Telephone: 403-292-0434 Phone: 403-509-6437 Direct EOC Fax: 403-509-6569	
<b>Alternate Calgary EOC Location</b> 109, 7007 – 54 <sup>th</sup> Street, Bay C-17 Calgary, Alberta	<b>Alternate Calgary EOC Number</b> Phone: 403-503-8615	
Name	Office	Cell
Crisis Manager		
Tina Osiowy	403-776-5064	403-477-2551
Cory Beliveau	403-503-8684	403-612-9768
Andrew McDicken	403-503-8757	403-860-3291
Mike West	403-776-5045	403-999-3522
Geoff Bygrave	403-509-6479	403-803-7587
Jeff Hillier	587-349-8164	587-839-8830
HSE Support Manager		
Cory Beliveau	403-503-8684	403-612-9768
Breanden Daniels	403-509-6460	403-369-7904
Colin Kasa	403-509-8189	825-945-6520
Jeff Wisby	403-503-8719	403-701-0740
Regulatory / Government Support Liaison		
Justin Stoppler	403-509-7209	403-809-7400
Breanden Daniels	403-509-6460	403-369-7904
Colin Kasa	403-509-8189	825-945-6520
Jeff Wisby	403-503-8719	403-701-0740
Corporate Admin. Support Manager		
Lisa Olsen	403-509-6570	403-471-8926
Mike Henry	403-509-8153	403-472-5547

<b>ARC Resources Ltd. Corporate Response Team</b>		
<b>Calgary EOC Location</b> ARC Resources Ltd. Head Office 1200, 308 – 4th Avenue SW Calgary, Alberta T2P 0H7		<b>Calgary EOC Numbers</b> 24 Hour Emergency Telephone: 403-292-0434 Phone: 403-509-6437 Direct EOC Fax: 403-509-6569
<b>Alternate Calgary EOC Location</b> 109, 7007 – 54 <sup>th</sup> Street, Bay C-17 Calgary, Alberta		<b>Alternate Calgary EOC Number</b> Phone: 403-503-8615
<b>Name</b>	<b>Office</b>	<b>Cell</b>
<b>Information Lead</b>		
Taryn Bolder	403-718-0715	403-512-8101
Justine Lissack	403-503-8759	403-880-0647
Chad Cummins	403-509-6465	403-305-1613
<b>Senior Advisor, Environmental Management &amp; Security</b>		
Justin Stoppler	403-509-7209	403-809-7400
<b>Incident Support Manager</b>		
Chris Wallace	403-503-8792	403-629-2765
Dave Mack	-	403-878-7390
Sheldon Kashuba	403-776-5038	780-263-4096
Rick Rohl	403-509-6411	403-700-1107
Kris Kruse	403-503-8693	403-850-7023
Kyle Dobson	403-776-5068	403-880-7606
<b>Business Impact Support Manager</b>		
Kris Bibby	403-509-6493	-
Lara Conrad	403-503-8711	403-472-9982
<b>CMT Documentation</b>		
Jody Wilson	403-509-8172	-
Breanden Daniels	403-509-6460	403-369-7904
Jamie Salm	587-299-6053	780-805-1294

**10.2 ARC Field Phone List**

<b>ARC Resources Ltd.</b>			
<b>Northeast British Columbia Field Response Team</b>			
<b>Incident Command Post Location</b> ARC Resources Ltd. Dawson Creek Field Office #721 – Highway 2 Dawson Creek, BC V1G 0B8		<b>Incident Command Post Numbers</b> 24 Hour Emergency 403-292-0434 Office Telephone: 250-795-2265 Office Fax: 250-782-7437	
<b>Alternate Incident Command Post Location</b> 05-35-79-14 W6M Gas Plant Office		<b>Alternate Incident Command Post Numbers</b> Office Telephone: 250-759-4589 Office Fax: 250-759-4725	
Name	Title	Office	Cell
<b>Incident Commander &amp; Deputy Incident Commander</b>			
<b>All Other Fields</b>			
Terry Harder	Manager, Field Operations	250-795-2255	780-517-9850
Darryl Ireland	Operations, Support Coordinator	250-795-2250	250-784-4254
Dean Gordon	Foreman – Sunrise/Attachie	250-795-2256	250-264-8989
Duane Halma	Foreman – Parkland/Tower	250-795-2458	250-219-1936
Jordan Oliver	Foreman – Dawson 1 & 2 /Pouce	250-795-2254	250-784-5631
Byron Hingley	Foreman – Dawson 3 & 4	250-795-2234	780-864-5825
<b>Dawson Field</b>			
Jordan Oliver	Foreman – Dawson 1 & 2/Pouce	250-795-2254	250-784-5631
Byron Hingley	Foreman – Dawson 3 & 4	250-795-2234	780-864-5825
<b>Sunrise / Attachie Fields</b>			
Dean Gordon	Foreman – Sunrise/Attachie	250-795-2256	250-264-8989
Orrin Berry	Field Production Engineer	-	780-512-2003
Terry Harder	Manager, Field Operations	250-795-2255	780-517-9850
Ty Tews	Field Production Engineer	-	780-897-4091
<b>Parkland / Tower Field</b>			
Terry Harder	Manager, Field Operations	250-795-2255	780-517-9850
Duane Halma	Foreman – Parkland/Tower	250-795-2458	250-219-1936

ARC Resources Ltd. Northeast British Columbia Field Response Team			
<b>Incident Command Post Location</b> ARC Resources Ltd. Dawson Creek Field Office #721 – Highway 2 Dawson Creek, BC V1G 0B8		<b>Incident Command Post Numbers</b> 24 Hour Emergency 403-292-0434 Office Telephone: 250-795-2265 Office Fax: 250-782-7437	
<b>Alternate Incident Command Post Location</b> 05-35-79-14 W6M Gas Plant Office		<b>Alternate Incident Command Post Numbers</b> Office Telephone: 250-759-4589 Office Fax: 250-759-4725	
Name	Title	Office	Cell
All Other Fields			
Brett Henschel	Field Health & Safety Advisor	250-795-2252	250-784-5746
Christine MacLean	Field Office Coordinator	250-795-2251	780-864-5429
Colin Tajcnar	Team Lead – Well Servicing	250-795-2258	250-219-4946
Orrin Berry	Field Production Engineer	-	780-512-2003
Stacey Rowan	Senior Field Office Coordinator	250-795-2262	780-832-1820
Ty Tews	Field Production Engineer	-	780-897-4091
Dawson Field			
Brett Henschel	Field Health & Safety Advisor	250-795-2252	250-784-5746
Charlie Kettner	Team Lead – Programming	250-795-2261	250-784-5645
Christine MacLean	Field Office Coordinator	250-795-2251	780-864-5429
Colin Tajcnar	Team Lead – Well Servicing	250-795-2258	250-219-4946
Elliot MacTavish	Team Lead – Maintenance NEBC	250-795-2253	250-219-0874
Orrin Berry	Field Production Engineer	-	780-512-2003
Stacey Rowan	Senior Field Office Coordinator	250-795-2262	780-832-1820
Parkland / Tower Field			
Brett Henschel	Field Health & Safety Advisor	250-795-2252	250-784-5746
Christine MacLean	Field Office Coordinator	250-795-2251	780-864-5429
Colin Tajcnar	Team Lead – Well Servicing	250-795-2258	250-219-4946
Elliot MacTavish	Team Lead – Maintenance NEBC	250-795-2253	250-219-0874
Orrin Berry	Field Production Engineer	-	780-512-2003
Stacy Rowan	Senior Field Office Coordinator	250-795-2262	780-832-1820
Ty Tews	Field Production Engineer	-	780-897-4091

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Name	Title	Office	Cell
<b>Sunrise Field</b>			
Brett Henschel	Field Safety Advisor	250-795-2252	250-784-5746
Elliot MacTavish	Team Lead – Maintenance NEBC	250-795-2253	250-219-0874
Christine MacLean	Field Office Coordinator	250-795-2251	780-864-5429
<b>Dawson 05-35-79-14 W6M Gas Plant</b> Main: 250-759-4589 Fax: 250-759-4725			
Taylor Connelly	Lead Operator – Plant	250-795-4589	250-784-6659
Jack Lekei	Operator	-	250-219-5938
Jakob Peterson	Operator	-	250-719-8587
Justin McLeod	Operator	-	250-784-6646
Rogan Currie	Operator	-	250-219-4513
Sean Fearon	Operator	-	250-219-7271
Tyler Meadows	Operator	-	250-784-4013
Zane Burton	Operator	-	250-219-1931
<b>Dawson 13-07-80-14 W6M Gas Plant</b> Main: 250-795-2271 Control Room: 250-795-2265			
Ryan Hecker	Lead Operator - Plant/Field	250-795-2271	250-219-3722
Alex Hanson	Operator	-	250-219-5658
Cody Parker	Operator	-	250-219-1467
Jacob Wandling	Operator	-	250-719-5159
Kienan Braun	Operator	-	250-719-4329
Kyle Chantree	Operator	-	250-219-4691
Spencer Gover	Operator	-	250-784-4165
Thomas Jessen	Operator	-	250-219-0124



<b>ARC Resources Ltd. Northeast British Columbia Field Response Team</b>			
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<b>Alternate Incident Command Post Location</b> 05-35-79-14 W6M Gas Plant Office		<b>Alternate Incident Command Post Numbers</b> Office Telephone: 250-759-4589 Office Fax: 250-759-4725	
Name	Title	Office	Cell
Tyler Cairns	Operator	-	250-219-4064
Mark Barton	Operator	-	250-219-0422
Sean Ryder	Operator	-	250-219-4853
Jacob Wandling	Operator	-	250-719-5159
Tyler Haugen	Operator	-	250-784-5780
<b>Dawson Creek Phase 3 Field 13-07-80-14 W6M</b>			
Damian Clavier	Operator	-	250-219-3719
Riley Shawchuk	Operator	-	250-719-8897
John Eales	Operator	-	250-219-5580
Stephen Mackie	Operator	-	250-784-6652
<b>Dawson 01-34-79-14 W6M Compressor Station</b> Main: 250-759-4296 Fax: 250-759-4297			
Kyle Bartels	Operator	-	250-219-0036
Tyson Keen	Operator	-	250-219-0168
Tove Trotter	Operator	-	250-219-8038
Kenn Kitzmann	Operator	-	250-219-0487
Micheal Bouchard	Operator	-	250-219-1587
Tanner Isaak	Operator	-	250-784-6650
<b>Parkland 03-09-81-16 W6M Gas Plant</b> Control Room: 250-795-2274 Call Out: 250-261-5897 Front Office: 250-795-2273 Back Office: 250-795-2272			
Chris Stevens	Lead Operator - Plant	250-759-4589	250-719-5367
Austin Power	Operator	-	250-219-4481
Cam Baerg	Operator	-	250-793-5128

<b>ARC Resources Ltd. Northeast British Columbia Field Response Team</b>			
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<b>Alternate Incident Command Post Location</b> 05-35-79-14 W6M Gas Plant Office		<b>Alternate Incident Command Post Numbers</b> Office Telephone: 250-759-4589 Office Fax: 250-759-4725	
Name	Title	Office	Cell
Darin Kantz	Operator	-	250-787-6714
Hayden Lindballe	Operator	-	250-219-4836
Jacob Getahun	Operator	-	250-793-7862
Keenan Halverson	Operator	-	250-219-9432
Kyle Trask	Operator	-	250-793-7211
James Andor	Operator	-	250-219-3642
Devin Seafoot	Operator	-	250-219-2544
<b>Tower Field</b>			
Derek Wood	Lead Operator – Tower Field	-	250-219-5062
Chris Jessen	Operator	-	778-256-4693
Dwayne Andrus	Operator	-	250-719-8008
Josh Filmer	Operator	-	250-719-6472
Leighton Gileo	Operator	-	250-719-4476
Dusten Gebhart	Operator	-	250-219-3864
Ryan Taylor	Operator	-	780-864-5962
Tyler Miller	Operator	-	250-793-9839
Wyatt Kuenzl	Operator	-	250-793-4702
<b>Parkland 08-13-81-17 W6M Comp Station/Field</b> Main: 250-789-3793 Call Out: 250-261-2519 Fax: 250-789-3796			
Derek Wood	Lead Operator – Tower Field	-	250-219-5062
Connor Rose	Operator	-	250-719-9725
Greg Kilgour	Operator	-	250-784-5636
Lucas Stratuliak	Operator	-	250-784-3984

<b>ARC Resources Ltd. Northeast British Columbia Field Response Team</b>			
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<b>Alternate Incident Command Post Location</b> 05-35-79-14 W6M Gas Plant Office		<b>Alternate Incident Command Post Numbers</b> Office Telephone: 250-759-4589 Office Fax: 250-759-4725	
Name	Title	Office	Cell
Scott Fisher	Operator	-	250-784-5626
Ceanne Lindquist	Operator	-	250-219-3351
Chad Torrie	Operator	-	250-793-7556
Jeff Kelly	Operator	-	250-261-1591
<b>Sunrise 02-25-78-18 W6M</b> Control Room 1: 250-219-3947			
Jeff Wilson	Operator	-	250-219-3045
Steve Fraser	Operator	-	250-219-8131
Derek Ray	Operator	-	250-219-0954
Warren Keunzl	Operator	-	250-219-8493
<b>Sunrise 13-36-78-18 W6M Gas Plant</b> Control Room 1: 250-795-2276 Control Room 2: 250-795-2279 Control Room 3: 250-795-2275			
Don Hanna	Lead Operator - Plant/Field	250-795-2279	250-219-0941
Aaron Curtis	Operator	-	
Abel Fradette	Operator	-	250-219-1567
Alex Fraser	Operator	-	250-219-4612
Anton Tornquist	Operator	-	250-219-1176
Craig Fossum	Operator	-	
Charles Radke	Operator	-	250-219-0611
Niall Hogan	Operator	-	250-219-5603
<b>Attachie 04-20-84-22 W6M Facility</b>			
Clint Erickson	Operator	-	250-784-6694
Dan Kraeleman	Operator	-	250-219-7240
Justin Andrekson	Operator	-	250-793-0149

ARC Resources Ltd. Northeast British Columbia Field Response Team			
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<b>Alternate Incident Command Post Location</b> 05-35-79-14 W6M Gas Plant Office		<b>Alternate Incident Command Post Numbers</b> Office Telephone: 250-759-4589 Office Fax: 250-759-4725	
Name	Title	Office	Cell
Parkland Water Hub 08-05-81-16 W6M			
Derek Wood	Lead Operator – Tower Field	-	250-219-5062
Chad Torrie	Operator	-	250-793-7556

If additional resources are needed during an emergency, ARC operators from nearby production fields will be called in to assist. Service providers and safety companies are also available to assist during an emergency.

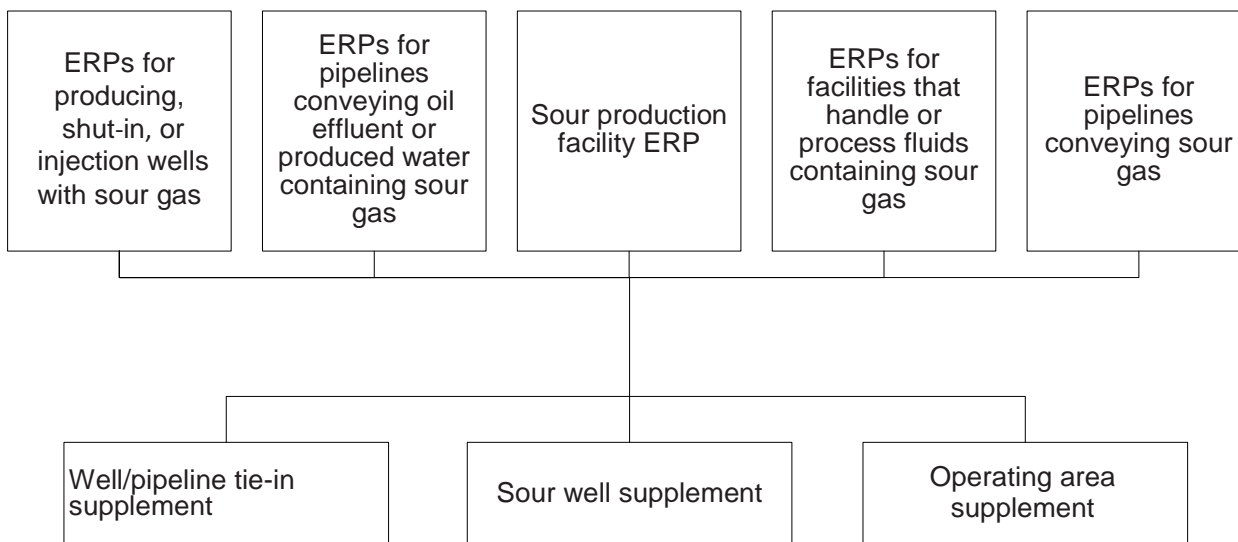
The above-mentioned names and positions may change depending on where and when the emergency takes place and what kind of emergency it is.



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**SECTION 11. DRILLING & COMPLETIONS - ALBERTA**

### 11.1 Types of Sour Operations ERPs and Supplements



### 11.2 Sour Well Site-Specific Drilling and/or Completion ERPs

#### ERP Submission Requirements

- 1) ARC Resources must submit a sour well site-specific drilling and/or completion ERP to the AER for approval in accordance with table 4 or for any other situation in which the AER determines that a plan is required.

#### Need for a sour well site-specific drilling and/or completion ERP

Well type	Operation	Surface development within the EPZ	No surface development within the EPZ
Critical Sour	Drilling and or Completion	Yes	Yes
Noncritical sour		Yes	No

A sour well site-specific drilling and/or completion ERP may be used for testing, workover, or well servicing operations on that well for a period of up to one year after AER approval provided that those operations are detailed in the ERP at the time of approval and the resident information is kept current.

### 11.3 Critical Sour Well Approval

All critical sour well site-specific drilling and/or completion ERPs are approved by the AER in conjunction with the well licence.

ARC Resources must ensure that the approved critical sour well site-specific drilling and/or completion ERP is:

- on site prior to drilling out surface casing and for the duration of the drilling operation, and
- on site prior to commencement of any completion operation and for the duration of the completion operation.

#### **11.4 Noncritical Sour Well Approval**

Noncritical sour well site-specific drilling and/or completion ERPs can be submitted to the AER before, during, or after the well licence application.

- ARC Resources must ensure that noncritical site-specific sour well drilling and/or completion
- ERPs are approved prior to spud,
- on site prior to drilling out surface casing and for the duration of the drilling operation, and
- approved and on site prior to commencement of any completion operation and for the duration of the completion operation.

If a sour well site-specific ERP has been approved for drilling and/or completion operations and the operations covered by the ERP have not commenced within a year of issuance of the ERP approval, the approval expires. A new ERP has to be submitted for review and approval if ARC Resources wishes to carry out the drilling and/or completion operations. A sour well site-specific drilling and/or completion ERP is in effect immediately after drilling out surface casing and for the duration of the completion operation

#### **11.5 Additional Conditions to ERP Approval**

A sour well site-specific drilling and/or completion ERP can be used for testing, workover, or well servicing operations for a period of one year after AER approval. Prior to commencing any of these operations, on-site activities, such as rigging up and/or spotting of equipment, may proceed without having the ERP on site.

- ARC must not remove any component from the wellhead until the approved sour well site-specific drilling and/or completion ERP is on site.

#### **11.6 ERPs for Temporary Surface Pipelines**

For in-line testing of a sour gas well, a temporary surface pipeline connected to a gathering system will minimize or eliminate flaring. ARC Resources may include the temporary surface pipeline in its sour well site-specific drilling and/or completion ERP provided that the EPZ for the pipeline falls within the well EPZ and that public notification and consultation for residents within the pipeline EPZ have taken place. A separate approval will be required if the temporary surface pipeline extends beyond the EPZ boundary for the well.

#### **11.7 ERPs for Multiwell Programs**

ERPs may be developed and submitted for multiwell programs if site-specific information for each individual well is included. Common procedures and infrastructure may be developed for the entire program as long as they remain current for the duration of the project.



## **11.8 Sour Underbalanced Drilling Operations**

ARC Resources may conduct underbalanced operations prior to entering a sour zone with surface development within the EPZ. Before conducting underbalanced drilling operations, ARC is expected to:

- file the sour well ERP as a nonroutine application, and
- submit a letter to the AER confirming that no sour formation will be encountered while drilling underbalanced and providing details on the start and end dates for the underbalanced drilling operation.

The AER will not approve sour underbalanced drilling operations if members of the public are located inside the EPZ. The AER will, however, consider licensing sour underbalanced drilling operations if members of the public would be temporarily relocated from the EPZ during drilling operations.

## **11.9 Use of Supplements for Drilling and/or Completion Operations**

If ARC intends to drill and/or complete a noncritical or critical sour well and the entire proposed sour well EPZ is included within ARC's sour operations ERP emergency planning zone, ARC may submit a supplement for approval of those operations in place of a new sour well site-specific drilling and/or completion ERP. In addition, the sour operations ERP has to address emergency response procedures and personnel responsibilities specific to drilling and/or completion operations. Once the AER approves the additional information, it becomes an approved supplement to the sour operations ERP.

A new sour well site-specific drilling and/or completion ERP is required if the proposed well EPZ is not entirely within the sour operations ERP emergency planning zone. An exception to this would be if the portion of the well EPZ that lies outside of the sour operations ERP emergency planning zone does not contain surface development. ARC is allowed to use a supplement in such instances.

- ARC must ensure that a copy of the approved sour operations ERP and supplement is on site during all drilling and completion operations.

### 11.10 Use of Supplements for Sour Well Workovers, Well Servicing, and Testing

For workovers, well servicing, or testing operations on sour wells that are currently included in an approved sour operations ERP, ARC may use that ERP for the operation provided that:

- the sour operations ERP addresses emergency response procedures and personnel responsibilities specific to the operation,
- the sour operations ERP has up-to-date information on residents within the EPZ of the well, and
- a supplement is submitted for approval in accordance with table 6, as required.

#### Need for a Supplement to a Sour Operations ERP

	<b>Sour Well EPZ falls entirely within the sour operations EPZ</b>		
	<b>Surface development within the well EPZ</b>	<b>No surface development within the well EPZ</b>	
Critical sour well workover, well servicing, or testing	Supplement required	Supplement required	
	<b>Wellhead on</b>	<b>Wellhead off</b>	<b>Wellhead on/off</b>
Noncritical sour well workover, well servicing, or testing	No supplement required	Supplement required	No supplement required

ARC is required to submit a new sour well site-specific ERP if:

- the sour operations ERP does not have the required information, or
- the entire well EPZ is not included within the sour operations ERP EPZ; an exception to this would be if there is no surface development in the portion of a noncritical well EPZ that lies outside of the sour operations ERP EPZ. ARC is allowed to use a supplement in such instances.

Prior to sour well workover, well servicing, or testing operations, on-site activities, such as rigging up and spotting of equipment, may proceed without having the ERP and/or supplement on site.

ARC must not remove any component of the wellhead until the supplement has been approved and is on site.

**Procedures for overlapping EPZs**

Procedures	Critical sour wells		Noncritical sour wells	
	Surface development	No surface developmen	Surface development	No surface development
Review and modify ERPs as required (e.g., communication protocol changes).	Yes	Yes	Yes	N/A
Advise appropriate AER field centre prior to conducting sour operations	Yes	Yes	Yes	N/A
Maintain communication	Yes	Yes	Yes	Yes
During drilling operations, once the first well penetrates approximately 1 m into the critical zone porosity top, the second well may proceed to	Yes	Yes	N/A	N/A
If both wells are conducting sour operations and an emergency level is declared at either well, the second well suspends operations until the	Yes	No	Yes	No

**Notification and consultation requirements**

Situation	Notification and consultation requirements
<b>Prior to entering the first sour zone and prior to nonconsecutive completion operations on a sour well</b>	<b>Notification</b> of members of the public within the EPZ is required at least 24 hours prior to entering the first sour zone for all sour well drilling operations and prior to nonconsecutive completion operations* on a sour well in order to provide sufficient time for members of the public who wish to leave prior to commencement of operations.
<b>Wellhead-off workovers</b>	<b>Notification</b> of members of the public who have indicated during the public involvement program that they wish to leave prior to commencement of operations.

Situation	Notification and consultation requirements
<b>Delayed completion operations</b>	<b>Notification</b> of and <b>consultation</b> with members of the public within the EPZ are required prior to completion operations that were not carried out within six months after conclusion of drilling operations.
<b>End of drilling and/or completion operations</b>	ARC is expected to ensure that those holding copies of the ERP, residents listed in the ERP, and the AER are notified at the end of drilling and/or completion operations and advised of the status of the plan.

## 11.11 Ignition Criteria

### Sour Well Releases

ARC is expected to take immediate steps to prepare for ignition at the earliest signs of a release or a well control problem to ensure there will be no delay. For manned well operations, prompt ignition mitigates the threat of H<sub>2</sub>S exposure that could threaten public safety during a major sour gas release. During a sour well control problem, ignition discussions between ARC and the AER should occur at preset intervals until the well is brought under control.

ARC is required to ensure that all sour wells have an ignition system such as a flare gun on site during all drilling, completion, well testing, or workover operations in the sour zone(s).

ARC is required to ensure that all critical sour wells have a dual ignition system on site during all drilling operations in the critical zone(s) and during all completion, well testing, or workover operations when the wellhead is off. The primary ignition system should be installed such that remote activation can be achieved from a safe location through a triggering device. The secondary system may be a manual system, such as a flare gun.

ARC must:

- keep the local AER field centre informed about the ignition situation and ignite a sour gas flow to the atmosphere in accordance with the Assessment and Ignition Criteria Flowchart
- (appendix 7) unless discussions with the AER determine that ignition may be delayed,
- ensure that appropriate ignition equipment is available during all operations, and
- assign the decision-making authority to ignite the release to the representative on site.

## 11.12 Presour and Critical Sour Meeting Requirements

For all noncritical or critical sour drilling and/or completion, workover, and well servicing operations, ARC must conduct a meeting within 96 hours (4 days) prior to entering the first sour zone to identify hazards associated with the operation, review roles and responsibilities, and assess on-site personnel capabilities required to implement the ERP. Those required at the meeting include:

- field response personnel with assigned roles and responsibilities in the ERP, and
- key personnel involved in supervision and management of the emergency response activities.

ARC may have to schedule additional meetings for those who were not present at the initial meeting.

If drilling and/or completion, workover, or well servicing operations include a critical sour zone or a combination of zones that makes the well a critical sour well, ARC must conduct a critical sour meeting prior to entering that zone.

As a minimum, each meeting should include the following:

- verification of the assigned roles and responsibilities as set out in the ERP,
- identification of any revisions to the ERP,
- confirmation that the emergency contact numbers are correct, and
- communication of EPZ information to well site personnel

ARC must advise the appropriate AER field centre 24 hours in advance of a presour meeting and provide at least 4 business days' prior notice of a critical sour zone meeting so that schedules may be adjusted to facilitate attendance.

ARC must provide at least 4 business days' prior notice to the local authority, health authority, and other applicable government departments and agencies of the critical sour zone meeting so that they may elect to participate.

Meetings for noncritical wells do not require the involvement of government departments and agencies other than the AER.

## **11.13 Equipment Requirements for Critical Sour Well Operations**

### **Conducting Operations**

ARC must ensure that for critical sour well drilling and/or completion operations, the equipment identified in the ERP is located where specified in the ERP prior to entering the critical sour zone.

ARC must ensure that for critical sour well completion, testing, well servicing, or workover operations, the equipment identified in the ERP is located where specified in the ERP prior to conducting the operation.

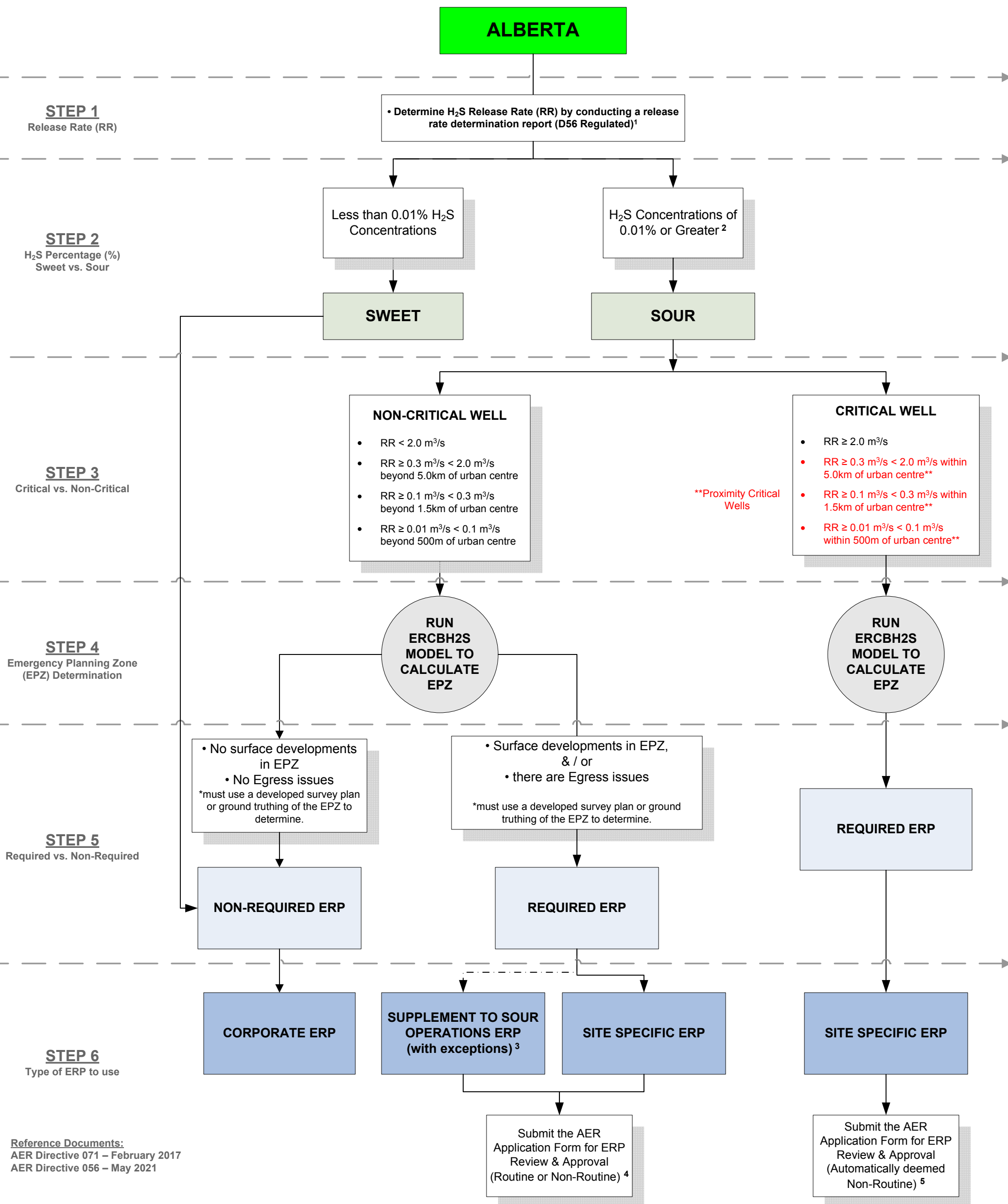
### **Release of Equipment**

The equipment identified in the ERP may be released from a location when:

- the rig has been released,
- the wellbore is isolated with casing and cement and the well is not perforated, or
- the wellhead is on.

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# Alberta Energy Regulator (AER) Regulations for Drilling & Completions



1 \*AER requires an applicant to conduct an H<sub>2</sub>S release rate assessment for all Category C, D or E well(s). The AER strongly encourages the filing of a presubmission H<sub>2</sub>S release rate assessment to its Geology and Reserves Group for review prior to the submission of an application.

2 All wells with H<sub>2</sub>S Concentrations of 0.1 moles per kilomole (mol / kmol) (0.0001 mole fraction) (100 ppm) (0.01%) or greater, the licensee must use ERCBH2S model calculation properly to calculate the size of the EPZ, prior to filing an ERP

3 For a Non-Critical sour well where the sour well EPZ falls entirely within the sour operations EPZ and a surface development is within the well EPZ; then, wellhead on, no supplement required, but wellhead off, supplement is required. If the sour well EPZ falls entirely within the sour operations EPZ and NO surface development within the well EPZ; then, wellhead on/off, no supplement required. Licensees are required to submit a new site specific ERP instead of a supplement if the following cannot be met; the sour operations ERP does not have the required information, the entire well EPZ is not included within the sour operations ERP EPZ; an exception to this would be if there is no surface development in the portion of the non-critical well EPZ that lies outside of the sour operations ERP EPZ, must ensure that a copy of the approved sour operations ERP and supplement is onsite during all operations, must ensure that all required plan holders have a copy of the approved supplement and a copy of the current sour operations ERP.

4 Licensees are required to use the application form to apply for approval of an ERP. Responses to questions on the form will determine whether the application is considered routine or non-routine. Applications may be audited and if found to be noncompliant, the applicant will be subject to enforcement action.

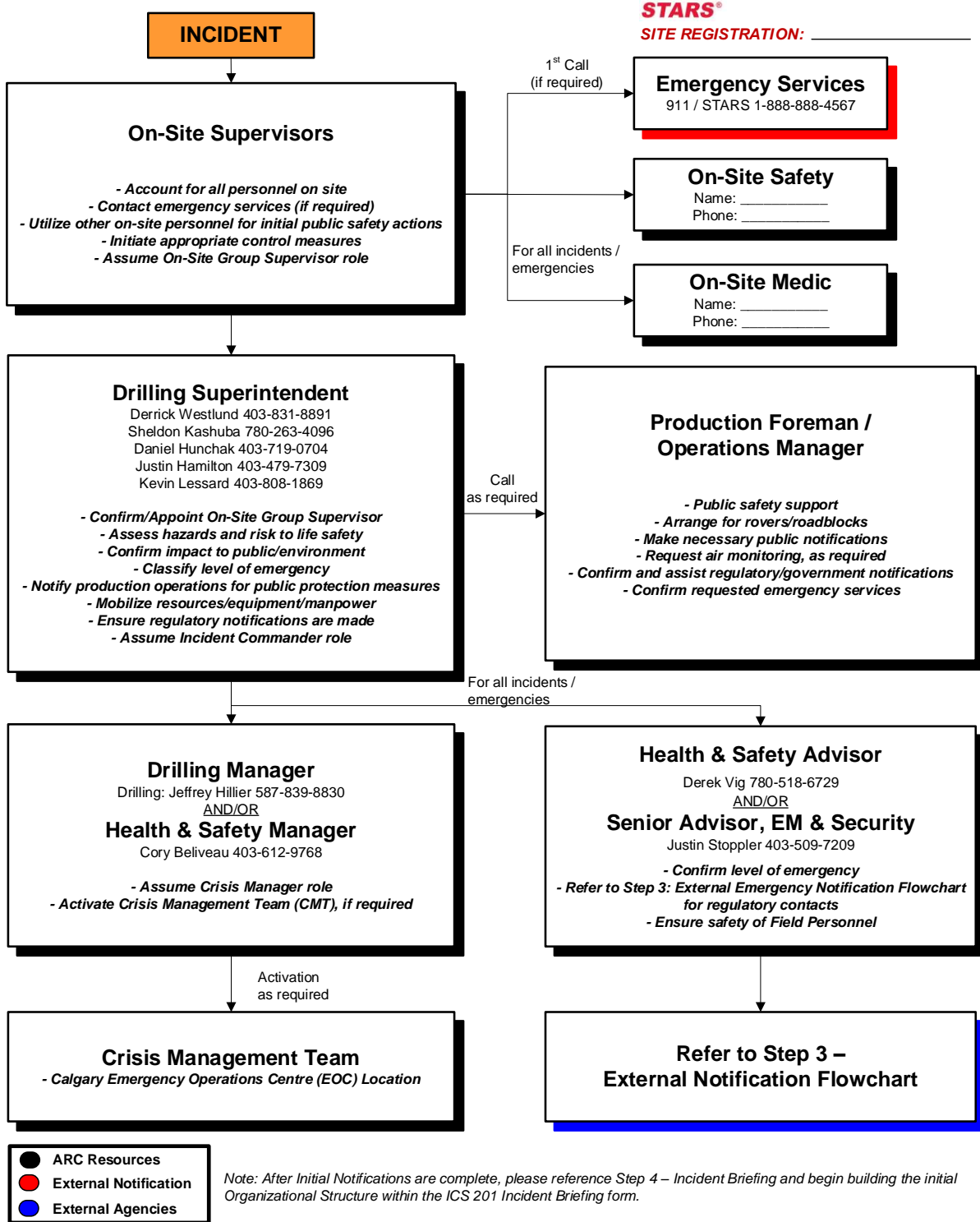
5 Critical wells are automatically deemed non-routine. (May go through an extensive review and approval process by the AER Emergency Planning & Assessment Group)

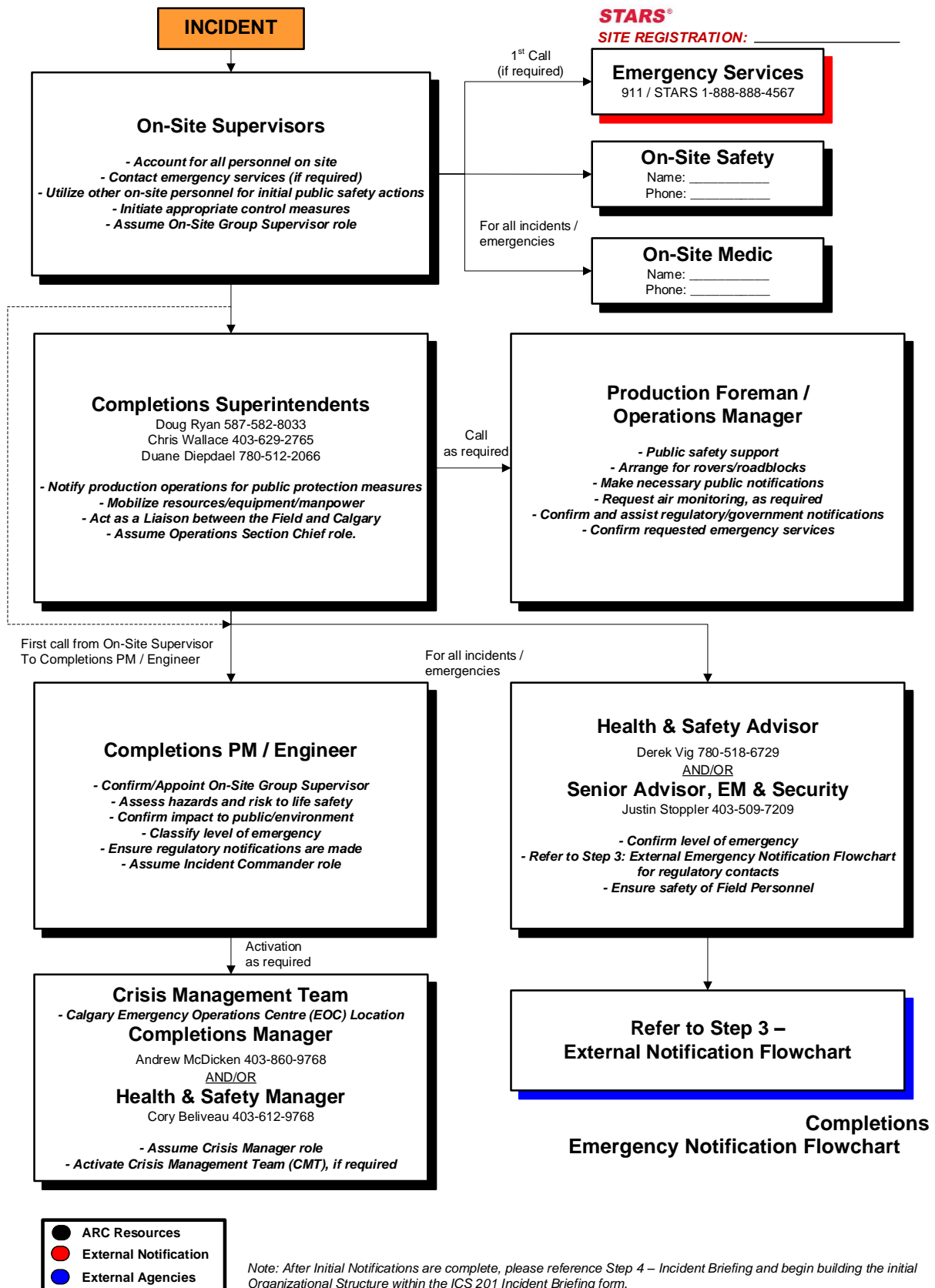




### 11.15 Drilling & Completions Internal Notification Flowchart

#### Drilling Emergency Notification Flowchart

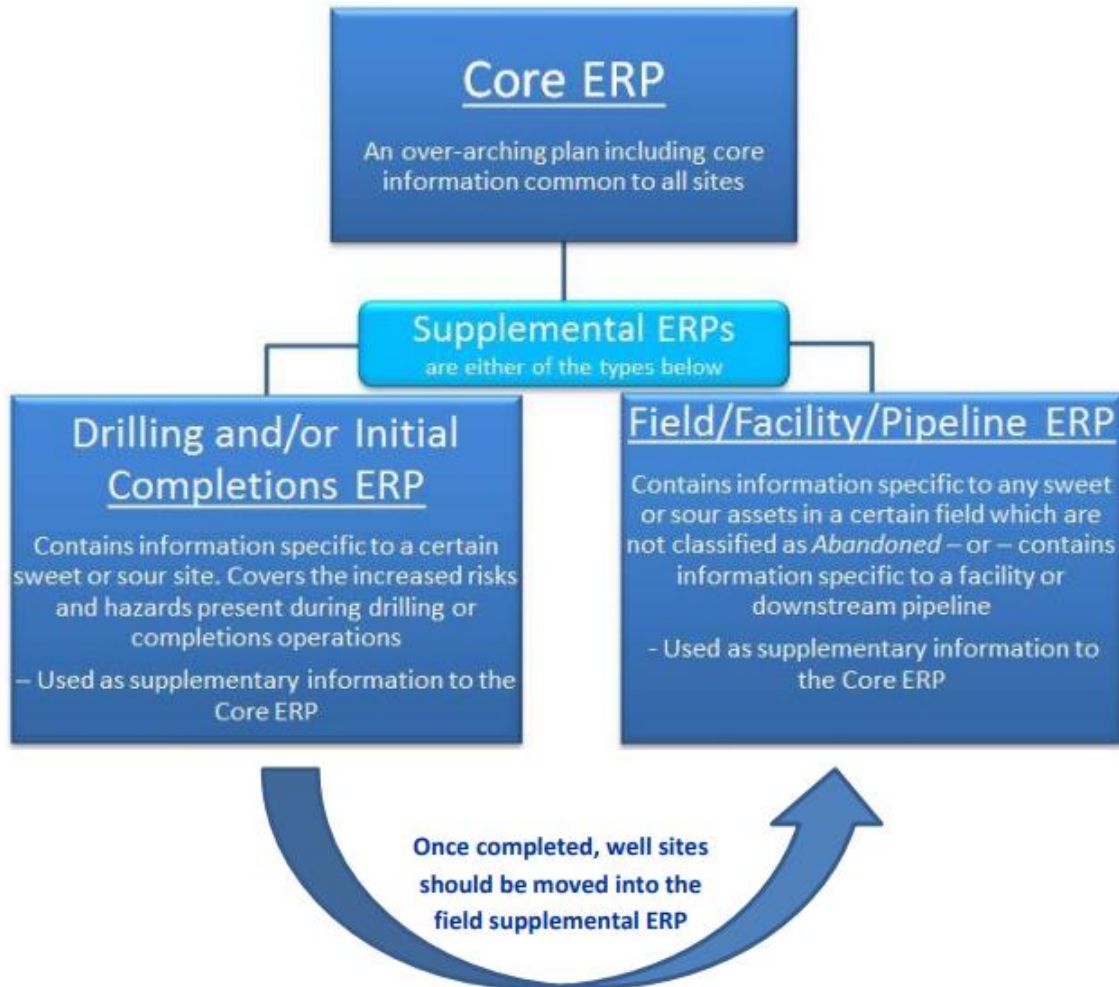




<b>SECTION 11. DRILLING &amp; COMPLETIONS – BRITISH COLUMBIA</b>	<b>1</b>
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**SECTION 11. DRILLING & COMPLETIONS – BRITISH COLUMBIA**

### 11.16 BCER Drilling & Completions Flowchart



## 11.17 Submission of Plans

ARC is required to develop a drilling and initial completions (D&C) supplemental emergency response plan (ERP) when involved in ANY drilling or initial completion operations. ARC must submit a supplemental plan for each location before operations commence, to be used in conjunction with the NEBC plan. If ARC wishes to use different sized Hazard Planning Zones (HPZs) for drilling and then initial completions operations, then the plan must show both release rates and HPZ's on the map.

- When drilling a multi-well pad, one supplemental plan may be used for all wells.
- The plan format for drilling and completions may also be used for workover operations.
- This plan is valid for one year from the date the supplement was created, or until the well(s) have been moved into production, at which time the Field supplemental plan should be updated to include the new well(s).

Plans must be received by the BC Energy Regulator (BCER) prior to commencement of any drilling and completions activity. This includes spudding/setting of surface casing, and applies to both sweet and sour operations

## 11.18 BCER Pre-Penetration Requirements

### BCER REQUIREMENTS

The BCER requires the licensee to conduct a meeting with key responders prior to conducting operations in the sour zones. If drilling and/or completion, workover, or well servicing operations include a special sour zone, the licensee must conduct a special sour meeting prior to entering that zone. At a minimum, the meeting must contain the following:

- Verification of the assigned roles and responsibilities in the ERP.
- Identification of any revisions of the ERP.
- Confirmation that the emergency contact numbers are correct.
- Communication of EPZ information to well site personnel.

**THE LICENSEE MUST PROVIDE THE BCER AT LEAST 48 HOURS NOTICE PRIOR TO THE MEETING AND PROVIDE AT LEAST FOUR BUSINESS DAYS' PRIOR NOTICE TO LOCAL AUTHORITY, HEALTH AUTHORITIES AND OTHER APPLICABLE GOVERNMENT AGENCIES OF THE DRILLING MEETING TO FACILITATE ATTENDANCE.**

Workovers and maintenance activities that will extend the hazard beyond the EPZ contained in the applicable supplemental plan must submit a workover plan (and mapping if residents are affected) showing the temporary extension to the EPZ, and listing rights holders affected.

## **11.19 Stakeholder Notifications**

### **Prior to commencement of sour drilling and / or completion operations:**

- Provide (via fax/email) BCER with “Notification of Drilling/Initial Completions ERP Review Meeting form. Must be submitted within 48 hours (2 days) of meeting and meeting may be held further out so long as all personnel playing a role in the ERP are present at the meeting.
- Notify public 24 hours prior to the commencement/conclusion of drilling operations.
- Notify public 24 hours prior to entering the 1st sour zone.
- Ensure applicable safety equipment, ignition kits and roadblock kits are available at wellsite prior to sour well operations. Roadblock kits may be required for all phases of well operations to appropriately manage the all hazard planning system.
- Ensure to review potential roadblock locations with on-site personnel.

### **Prior to Flaring Operations:**

- Notify residents at least 24 hours prior to flaring event if exceedances occur.

### **Upon conclusion of sour drilling and / or completions operation:**

- Ensure public is notified.
- Ensure ERPs are collected from site and returned to the Calgary office.

## 11.20 BCER Notification of a Drilling/Initial Completions ERP Review Meeting – Form M-2



### Form M2: Notification of ERP Review Meeting

The drilling crew and company representatives on a drilling site must be familiarized with the Drilling and Completions ERP. An ERP Review Meeting is required before surface casing is set for the first well on any multi-well pad. If the rig crew for subsequent wells on a specific pad site is different, or if a new drilling and completions ERP has been submitted for a well or well pad site, a subsequent meeting is required.

Submission required to [EMP@bc-er.ca](mailto:EMP@bc-er.ca) with at least 2 business days notice.

<b>Notification Type</b>	<input type="checkbox"/> New Submission <input type="checkbox"/> Cancellation <input type="checkbox"/> Revision (specify changes):
<b>Permit Holder Name</b>	
<b>Well Information</b>	
<b>WA #(s)</b>	
<b>Well Name(s)</b>	
<b>Rig Name</b>	<input type="checkbox"/> Not applicable
<b>Meeting Information</b>	
<b>Review Meeting Type</b>	<input type="checkbox"/> Drilling <input type="checkbox"/> Initial Completion
<b>Date and Time</b>	Date: Time (FSJ Local Time):
<b>Meeting Location</b>	<input type="checkbox"/> Pad site <input type="checkbox"/> Other (specify):
<b>Permit Holder Contact</b>	Name: Phone Number: Email:
<b>External Meeting Facilitator Contact</b>	Name: <input type="checkbox"/> Not applicable Phone Number: Email:
<b>Travel Information</b>	
<b>Travel to Meeting</b>	Travel time from FSJ: Directions from FSJ: Road channels required: <input type="checkbox"/> Yes (specify): <input type="checkbox"/> No





**11.21 Pre-Penetration Meeting Checklist**

COMPANY NAME:	WELL AUTHORIZATION #:
WELL NAME/LOCATION:	DATE OF REVIEW MEETING: DD / MMM / YYYY
DATE TO ENTER FIRST SOUR ZONE: DD / MMM / YYYY	MEETING FACILITATOR:
CALGARY OFFICE PARTICIPATING:    YES     NO	BCER IN ATTENDANCE:    YES     NO

**ATTENDANCE SHEET**

Name	Position	Company

	Item	Yes	No	N/A	Comments
1	Was there a sign in sheet for participants?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Did everyone have an ERP or some form of it?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Do all ERP's have the same date?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Discussed notification to public, tenure holders, non-resident landowners and users when entering sour zone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Participants have a good understanding of their ERP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Performed a survey of transients in the area such as other drilling rigs, logging, pipelining, surveying, seismic, farmers, four wheelers, camping, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	Reviewed directions to site in manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8	Confirmed accuracy of map by driving the EPZ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	Reviewed road radio channels in manual	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10	Well H2S	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11	Maximum Potential Release Rate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12	Size of HPZ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13	Discussed on-site hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14	Discussed use of a hazard assessment form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15	Discussed where hazard procedures are referenced in the ERP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16	Discussed Muster Areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17	Discussed locations of wind sock	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18	Discussed correct response priorities 1. Responder Safety, 2. Public Safety, 3. Control of Incident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19	Reviewed how to use matrix for classifying incidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20	Reviewed incident reporting procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21	Reviewed confirmation, downgrading and standing down emergency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

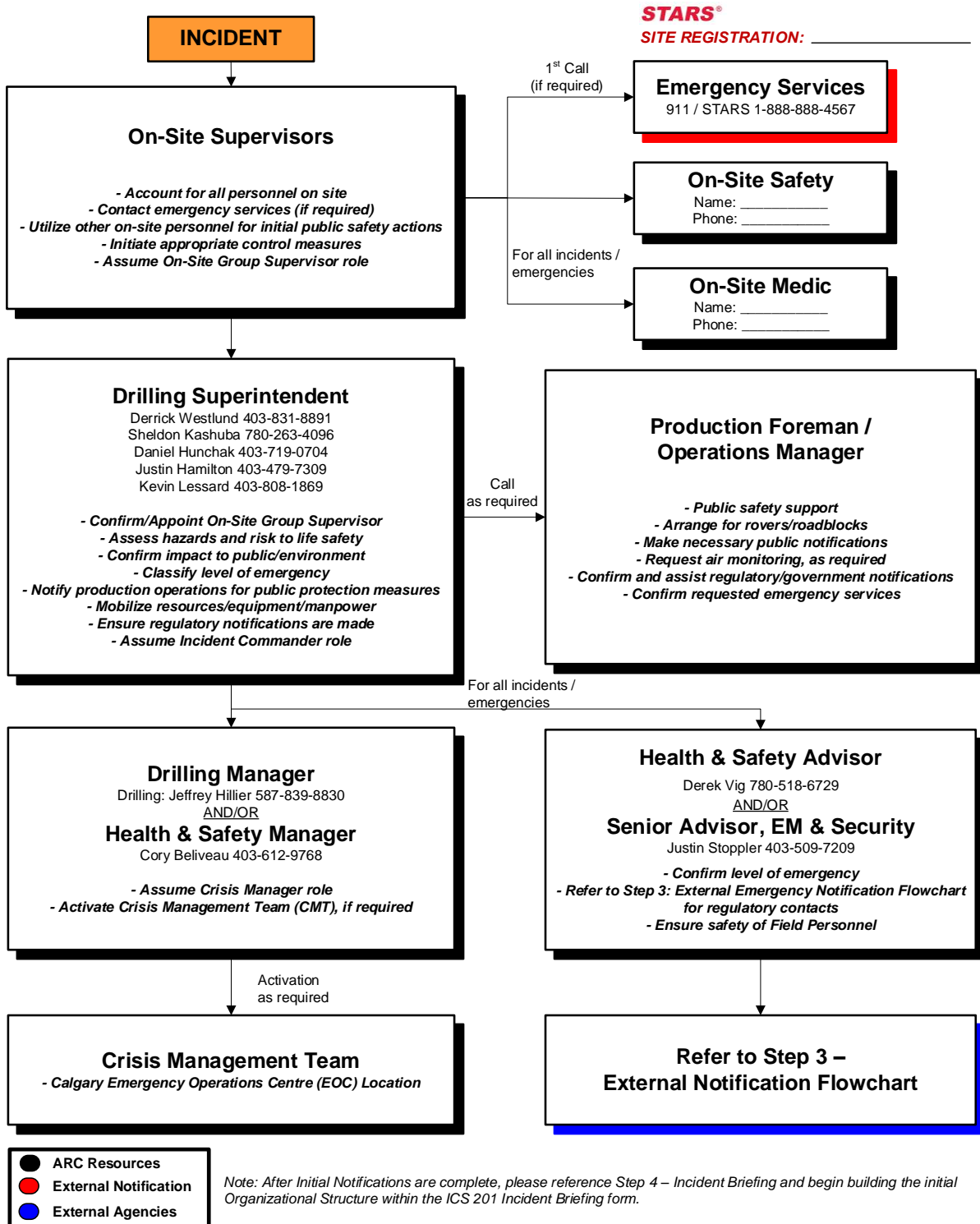
	Item	Yes	No	N/A	Comments
22	Reviewed Sheltering Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23	Reviewed Evacuation Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24	Reviewed Evacuation Centre Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25	Reviewed Ignition Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26	Reviewed Person with Authority to Ignite	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27	Reviewed Air Monitoring Procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28	Reviewed the use of public statements for Evacuation and Sheltering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29	Reviewed locating transients (helicopter) and transient activity in area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30	Discussed NOTAM orders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31	Reviewed HPZ information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32	Reviewed how to determine HPZ for non H2S hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33	Reviewed the map and how to read it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34	Verified map has correct information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35	Reviewed road block locations (pre-mark on ground)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36	Discussed closure orders for different types of roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37	Reviewed major road and dead end roads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38	Reviewed information regarding public in HPZ (special needs, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39	Reviewed tenure holders, other permit holders, and known transients information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
40	Discussed transient activity in area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41	Discussed confidentiality of ERP and public information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42	Reviewed communication and back up methods and any barriers for the area.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43	Checked communication between field staff and ICP & EOC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44	Discussed location of ICP and alternate ICP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45	Discussed location of EOC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46	Discussed Evacuation Center	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

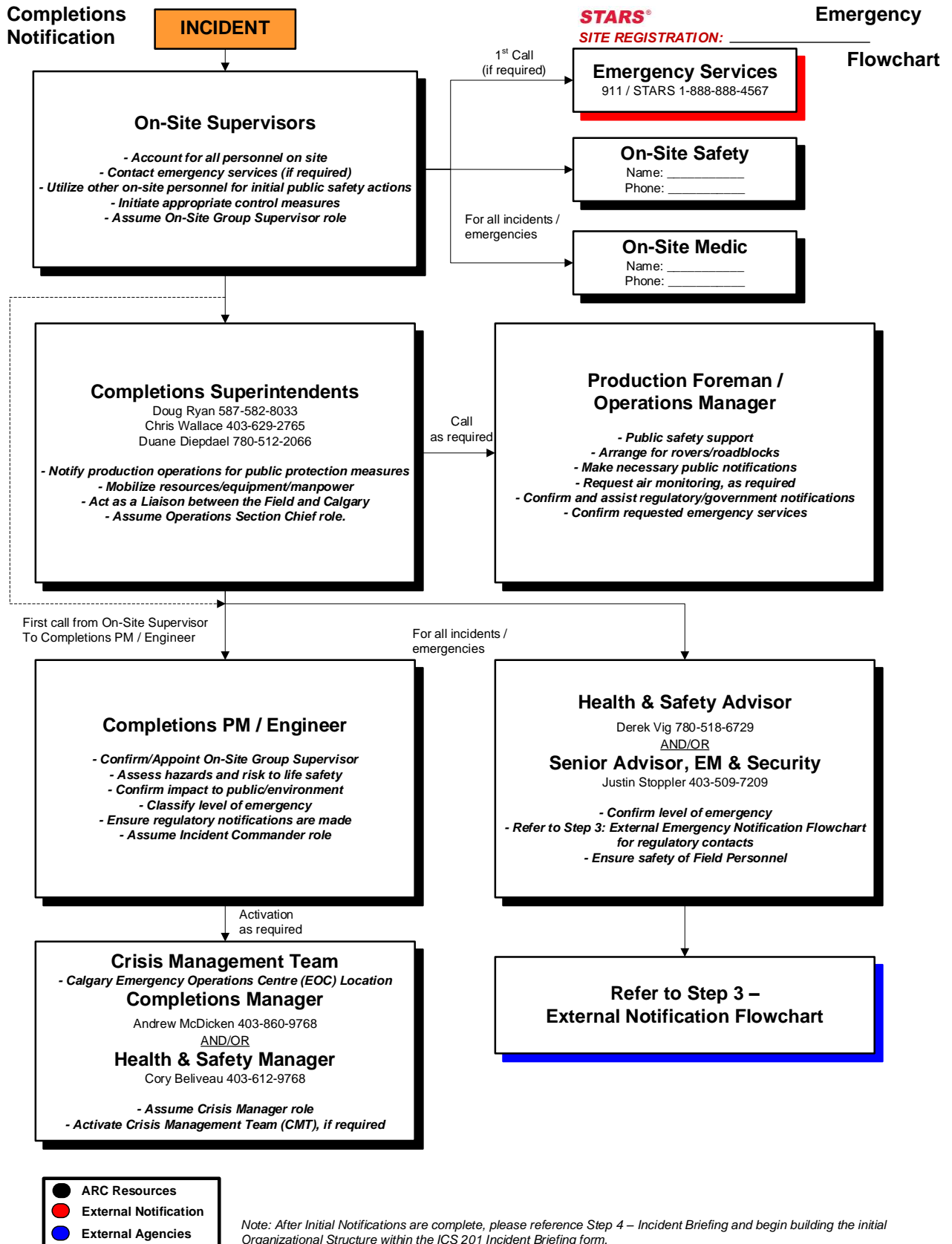
	Item	Yes	No	N/A	Comments
47	Discussed location of staging area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
48	Discussed location and number of communication and backup equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
49	Discussed location and number of SCBA or SABA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50	Discussed location and number of ignition equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
51	Discussed location and number of roadblock equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
52	Discussed number of vehicles for roving, roadblocks, evacuation needs, etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
53	Discussed location and number of H2S detection devices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
54	Confirmed staff ability to use equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
55	Reviewed the ICS & EOC System	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
56	Confirmed fillable ICS wall chart or paper chart	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
57	Reviewed Chain of Command	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
58	Reviewed Span of Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59	Assigned roles to participants and made them aware of their specific response role	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60	Reviewed role checklist (flag their role checklist)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61	Reviewed forms and who will collect them	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62	Confirmed internal contact names & phone numbers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
63	Confirmed external resource list	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64	Reviewed location of list of roles and responsibilities of government agencies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65	Discussed which government agencies are required to be contacted during emergency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
66	Discussed media procedures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
67	Discussed releasing news releases in consultation with BCER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68	Discussed how to downgrade/stand down an incident	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69	Discussed calling public back and checking homes for hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70	Post Incident Report to be filed with BCER within 60 days for level 1, 2, 3 incidents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



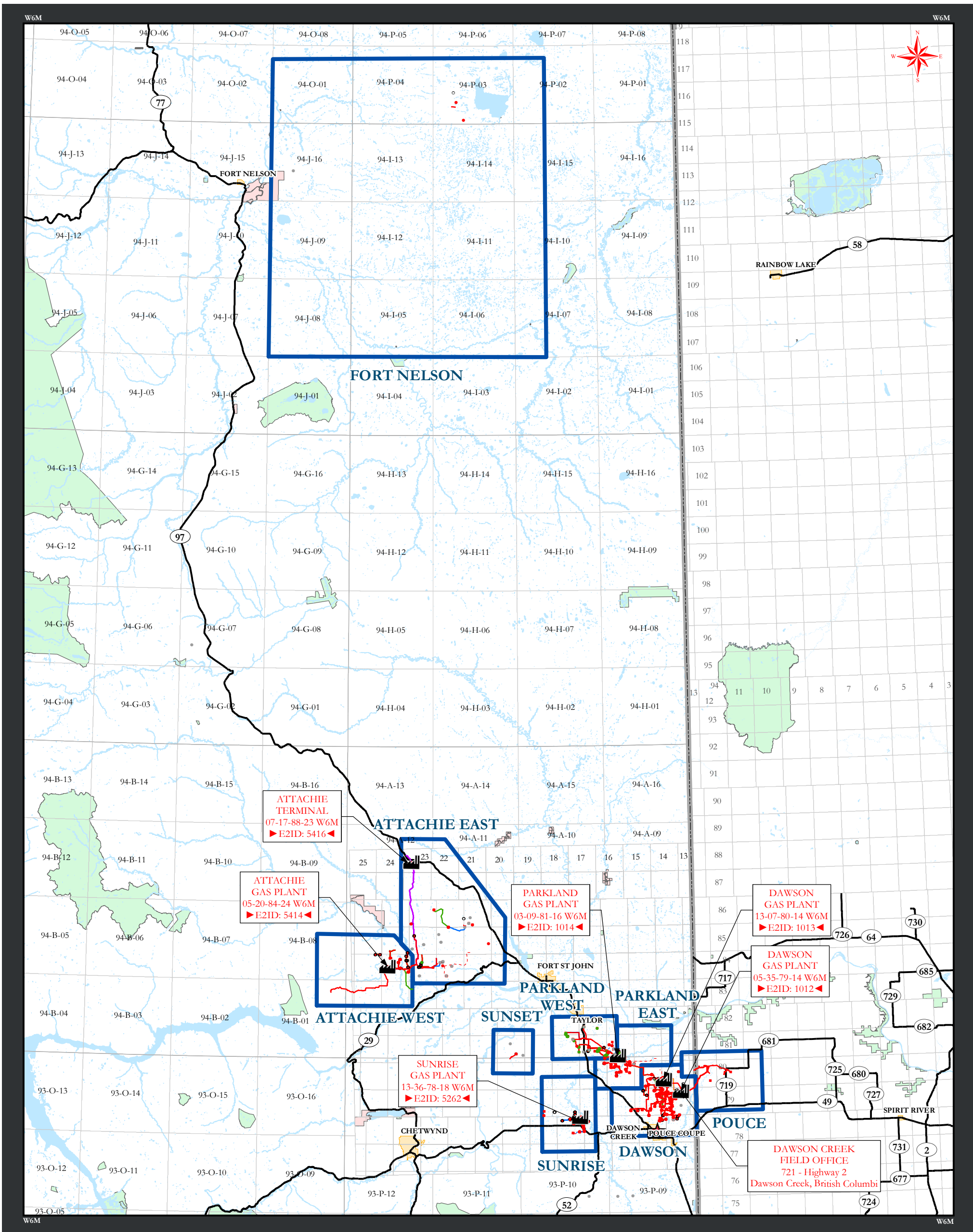
**11.22 Drilling & Completions Internal Notification Flowchart**

**Drilling Emergency Notification Flowchart**









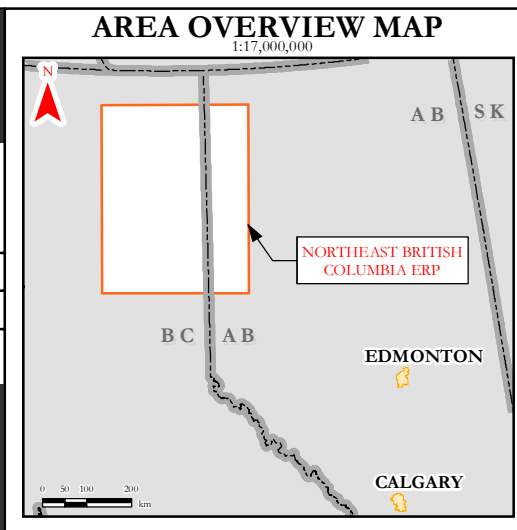
**NORTHEAST BRITISH COLUMBIA ERP OVERVIEW**

**ARC RESOURCES LTD.**

Draft Date: June 22, 2015 LE    Scale: 1:1,300,000    Map: 4835  
 Revision Date: March 7, 2025 LS    UTM ZONE 10 NAD83

0 20 40 60 80 km

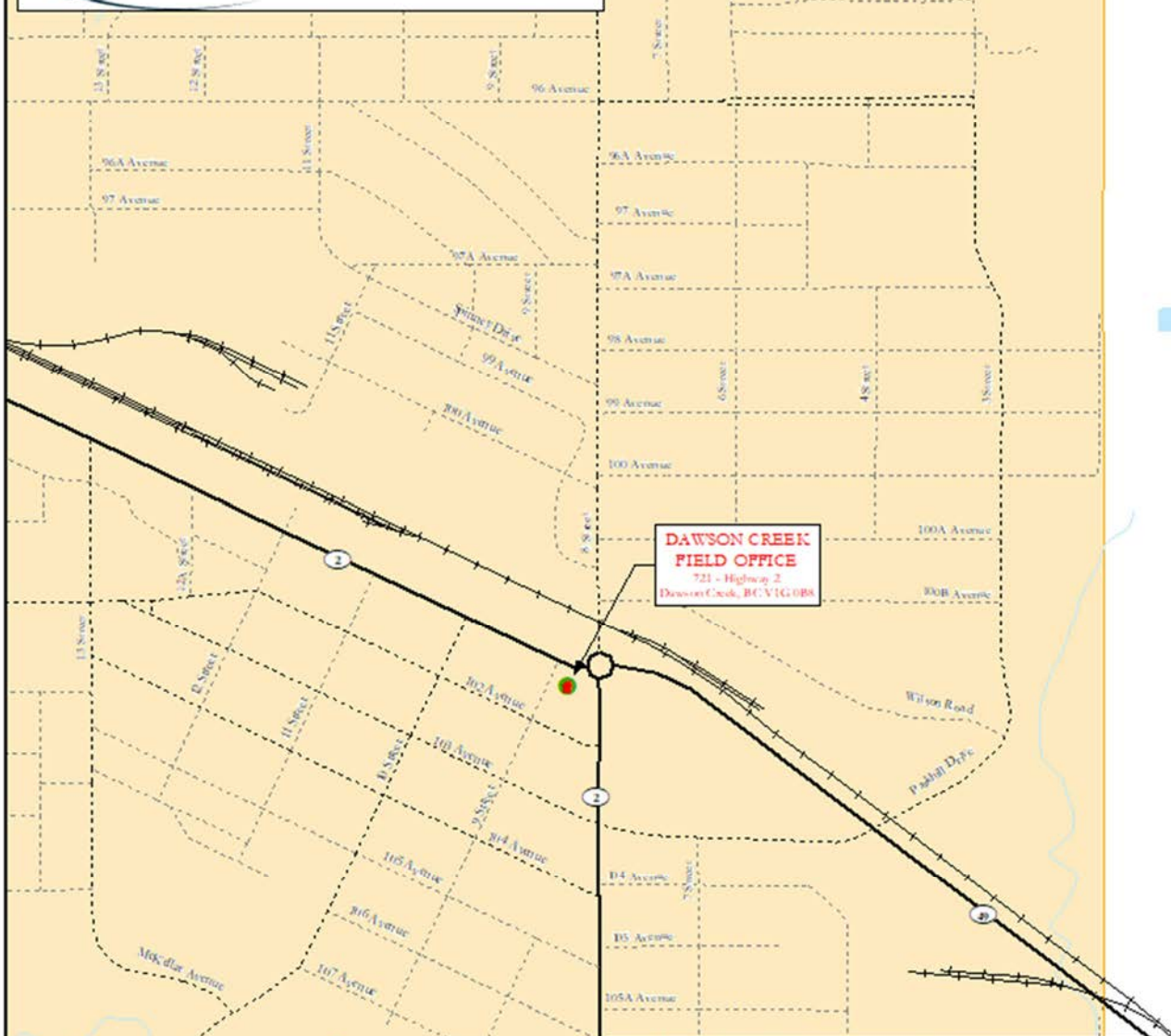
MAP PRODUCED BY **H2Safety** h2safety.ca



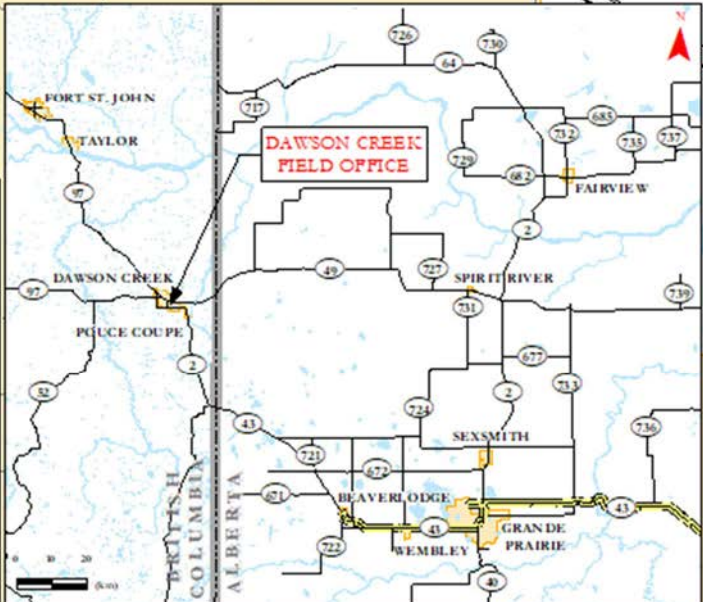
- Gas Well
- Oil Well
- Well Location
- Suspended Well
- CEPA Facility
- Facility
- ★ Field Office
- Gas Pipeline
- - - Discontinued Gas Pipeline
- Oil Pipeline
- - - Discontinued Oil Pipeline
- HVP Pipeline
- LVP Pipeline
- Water Pipeline
- - - Discontinued Water Pipeline
- Main Hwy
- Waterbody
- Protected Areas
- First Nations
- First Nations Settlement
- Urban Area
- Site Section Boundary







DAWSON CREEK



**Dawson Creek Field Office**



Map: 4912

Dawson Creek Field Office



Students living in the area take school buses and attend schools both in and out of the immediate area. Emergency procedures established by the School Divisions and the individual schools include notification of the individual schools during any stage of the emergency that occur during school, or school transport hours. If the buses are en route, they will be redirected to the Reception Centre established in conjunction with the Regional District. ARC is expected to provide notification to the parents that the students have been taken to the Reception Centre.

SCHOOLS	SCHOOL BUS TRANSPORTATION	CONTACT
Canalta Elementary School 250-782-8403	Peace River South District #59	Jeff Lekstrom Transportation Manager Admin: 250-782-8571 Office: 250-782-2106 Cell: 250-219-1503
Crescent Park Elementary School 250-782-8412		
Dawson Creek Secondary School (Central Campus) 250-784-7676		
Dawson Creek Secondary School (South Peace Campus) 250-782-5585		
Devereaux Elementary School 250-843-7300		
Ecole Frank Ross Elementary 250-782-5206		
McLeod Elementary School 250-843-7374 250-784-8022		
Mountain Christian School 250-782-9528		
Parkland Elementary School 250-843-7777		
Notre Dame School 250-782-4923		
Bonanza School 780-353-3788	Peace Wapiti School Division No. 76	Ted Gobin Director of Transportation Admin: 780-532-8133 Cell: 780-402-1576
Energetic Learning Campus 250-263-9855	Peace River North District No. 60	Cindy Dettling Transportation Supervisor Office: 250-785-1577 Admin: 250-785-1577
North Peace Secondary School 250-785-4429		

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# Hazard Assessment



**ARC Resources British Columbia Field  
Operations**

February 2025

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## 1.0 Introduction

The objective of the hazard assessment process is to identify, assess, and quantify the consequential emergency events which may result from Arc Resources' specific oil and gas activities. This is achieved by identifying all relevant oil and gas substances currently under process / storage containment within a defined area. From that, the realistic worst-case scenario resulting from an incident which could directly or indirectly impact public safety has been determined.

Utilizing best practices in the field of emergency management and with consideration of CSA Z246.2-18 Emergency Preparedness and Response for Petroleum and Natural Gas Industry Systems, this hazard assessment process will permit ARC Resources to deliver an effective and timely response protocol for each identified consequential emergency event in order to protect the public, the environment and assets.

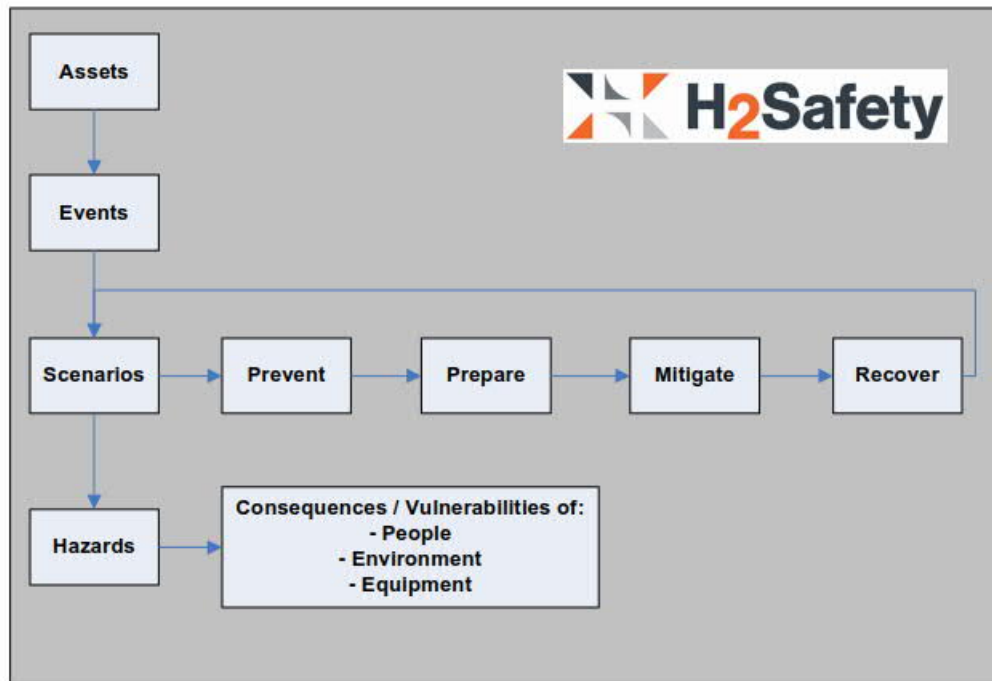
This document also intends to meet the following regulations:

- BC Energy Regulator Emergency Management Manual; November 2023; Version 2.4
- Canada Energy Regulator Onshore Pipeline Regulations – SOR/99-294
- Canadian Environmental Protection Act, 1999



## 2.0 Hazard Risk Vulnerability Assessment (HRVA)

The first step in our hazard assessment is to complete a Hazard Risk Vulnerability Assessment (HRVA) for the area which includes the following steps:



Assets – a complete list of assets in a geographical area.

Events – these are triggers that start an emergency. These can be natural (earthquake, flood) or manmade (human error, equipment failure).

Scenarios – the event then triggers an emergency scenario to occur. We then review these scenarios to look at Prevention, Preparation, Mitigation, and Recovery.

Hazards – the various scenarios then create a hazard that can affect people, the environment, or property.

## 2.1 Scenarios

Included below is a list of most probable scenarios that could occur at an oil and gas location. This would include wellsite's, pipelines, pipeline risers, or at a facility. Scenarios are then reviewed from the following perspectives:

- Preventative – steps taken to reduce the occurrence of a scenario happening
- Preparation – ensuring preparedness if a scenario occurs
- Response – steps taken to reduce impacts if a scenario does occur
- Recovery – actions taken after the scenario has been resolved

Emergency Scenario	Preventative Measures	Preparation Measures	Response Actions	Recovery Actions
<b>Fire</b>	<ul style="list-style-type: none"> <li>- Engineering Controls</li> <li>- Administrative Controls</li> <li>- Training / exercises</li> <li>- Grounding procedures for vessels and trucks</li> </ul>	Emergency response plan preparation, training, and exercising	See ERP for Response Actions	<ul style="list-style-type: none"> <li>- Repair / Replace damaged equipment</li> </ul>
<b>Container Rupture</b>	<ul style="list-style-type: none"> <li>- Engineering Controls</li> <li>- Administrative Controls</li> <li>- Training / exercises</li> <li>- Preventative maintenance procedures</li> <li>- Operator present daily</li> <li>- Pressure Safety Valve (PSV)</li> <li>- PSV serviced regularly</li> <li>- Secondary containment</li> <li>- Berms</li> </ul>	Emergency response plan preparation, training, and exercising	See ERP for Response Actions	<ul style="list-style-type: none"> <li>- Incident investigation</li> <li>- Recover Product</li> <li>- Environmental and/or wildlife cleanup and rehabilitation</li> </ul>
<b>Loading / unloading incident</b>	<ul style="list-style-type: none"> <li>- Engineering Controls</li> <li>- Administrative Controls</li> <li>- Training / exercises</li> <li>- Operator present daily</li> <li>- Secondary containment</li> <li>- Berms</li> <li>- Truck loading / unloading procedures</li> <li>- Positive grounding procedures</li> <li>- Driver competency check</li> </ul>	Emergency response plan preparation, training, and exercising	See ERP for Response Actions	<ul style="list-style-type: none"> <li>- Incident investigation</li> <li>- Environmental and/or wildlife cleanup and rehabilitation</li> </ul>
<b>Physical Container Damage</b>	<ul style="list-style-type: none"> <li>- Engineering Controls</li> <li>- Administrative Controls</li> <li>- Training / exercises</li> <li>- Operator present daily</li> <li>- Restricted areas</li> <li>- Physical barriers</li> <li>- Tank farm design</li> <li>- Signage</li> <li>- Check Valves</li> <li>- Secondary containment</li> </ul>	Emergency response plan preparation, training, and exercising	See ERP for Response Actions	<ul style="list-style-type: none"> <li>- Incident investigation</li> <li>- Recover Product</li> <li>- Repair / Replace equipment</li> </ul>

Emergency Scenario	Preventative Measures	Preparation Measures	Response Actions	Recovery Actions
<b>Container Degradation</b>	<ul style="list-style-type: none"> <li>- Engineering Controls</li> <li>- Administrative Controls</li> <li>- Training / exercises</li> <li>- Operator present daily</li> <li>- External inspections</li> <li>- Vessel coating</li> <li>- Asset integrity program</li> </ul>	Emergency response plan preparation, training, and exercising	See ERP for Response Actions	<ul style="list-style-type: none"> <li>- Incident investigation</li> <li>- Recover Product</li> <li>- Repair / Replace equipment</li> </ul>
<b>Environmental Impacts (freezing, excess heat, etc)</b>	<ul style="list-style-type: none"> <li>- Engineering Controls</li> <li>- Administrative Controls</li> <li>- Training / exercises</li> <li>- Preventative maintenance procedures</li> <li>- Operator present daily</li> <li>- Pressure Safety Valve (PSV)</li> <li>- PSV serviced regularly</li> <li>- Secondary containment</li> <li>- Berms</li> </ul>	Emergency response plan preparation, training, and exercising	See ERP for Response Actions	<ul style="list-style-type: none"> <li>- Incident investigation</li> <li>- Recover Product</li> <li>- Environmental and/or wildlife cleanup and rehabilitation</li> </ul>
<b>Pipe System Failure</b>	<ul style="list-style-type: none"> <li>- Engineering Controls</li> <li>- Administrative Controls</li> <li>- Training / exercises</li> <li>- Preventative maintenance procedures</li> <li>- Operator present daily</li> <li>- Equipment and lines clearly identified</li> <li>- Check Valves</li> <li>- Manual Block Valves</li> <li>- Automatic or remote Emergency Shutdown Valve (ESD)</li> <li>- Asset Integrity program</li> <li>- Technical Safety BC compliance</li> </ul>	Emergency response plan preparation, training, and exercising	See ERP for Response Actions	<ul style="list-style-type: none"> <li>- Incident investigation</li> <li>- Recover Product</li> <li>- Environmental and/or wildlife cleanup and rehabilitation</li> </ul>

## 2.2 Hazards

Based on typical oil and gas products and the scenarios above, we can typically classify hazards into the following categories:

- Physical Hazard: Flammable, Combustible, or Oxidizing Substances
- Physical Hazard: Potential for Pool Fires
- Human Health Hazard: Inhalation Toxicity
- Human Health Hazard: Carcinogenicity
- Human and Environmental Health Hazard: Corrosive Substances
- Environmental Health Hazard: Persistent, Bioaccumulative, or Aquatically Toxic

These hazards have the potential to result in the following consequences:

Impacted	Potential Consequences
<b>Company Employees</b>	<ul style="list-style-type: none"> <li>- Fatality</li> <li>- Permanent Disability</li> <li>- Lost time Injury</li> <li>- Illness</li> <li>- Medical Aid</li> <li>- Low to no potential consequences</li> </ul>
<b>Other Workers in the Area</b>	<ul style="list-style-type: none"> <li>- Fatality</li> <li>- Permanent Disability</li> <li>- Lost time Injury</li> <li>- Illness</li> <li>- Medical Aid</li> <li>- Low to no potential consequences</li> <li>- Evacuation / restricted access / road closures</li> </ul>
<b>General Public</b>	<ul style="list-style-type: none"> <li>- Fatality</li> <li>- Permanent Disability</li> <li>- Lost time Injury</li> <li>- Illness</li> <li>- Medical Aid</li> <li>- Low to no potential consequences</li> <li>- Evacuation / restricted access / road closures</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>- Release into atmosphere / plume</li> <li>- Release of flammable gas / liquid</li> <li>- Release of corrosive liquid</li> <li>- Liquid spill on land and negative impacts to plant life</li> <li>- Liquid spill into water body and negative impacts to water and plant life</li> <li>- Negative impacts to wildlife (illness, injury, disability, or fatality)</li> </ul>
<b>Equipment</b>	<ul style="list-style-type: none"> <li>- Equipment failure / damage</li> <li>- Complete loss of equipment</li> <li>- Lost revenues</li> </ul>

### 3.0 Hazard Planning Zones

The purpose of the Hazard Assessment is to determine zones for emergency planning purposes. Hence, actual response zones may be smaller or larger than the planning zones based on real world air monitoring, terrain impacts, weather, etc.

The Hazard Assessment considers hazards from primary sources only. Cascading events (one BLEVE event leading to another) and chemical reactions are not considered in the Hazard Planning Zone (HPZ) calculations.

To quantify the hazards described above, we must determine how an HPZ is defined. This is typically done by determining what endpoint is used in the modeling. Modeling endpoints are often based on a Level of Concern (LOC) which is a threshold that relates a modeling endpoint to a human health effect.

Hazard	Endpoint	Units	Health Effects
Flammable Vapour Dispersion	1/2 LFL	N/A	Thermal radiation, smoke, and toxic byproducts from the fire
Thermal Radiation	5.00	kW / m <sup>2</sup>	2 <sup>nd</sup> degree burns within 60 seconds
Overpressure	1.00	Psi	Light injuries from fragments occurs
Toxic Effects	Dependent on substance released		

- Thermal radiation – high temperatures associated with the burning of gas can cause significant burns or even death to individuals that are too close to the heat source.
- Overpressure – is the pressure above atmospheric pressure that is caused by the shock wave created from an explosion. Overpressure can result in structural damage leading to public harm or directly by damaging hollow organ systems such as auditory, respiratory, and gastrointestinal systems.
- Toxic Effects – Various substances will have different effects

Thermal Radiation and Overpressure LOC's are from ALOHA; which is an air hazard modeling program developed jointly by NOAA and the Environmental Protection Agency (EPA). Toxic Effect HPZ's are determined utilizing numerous methods and LOC's depending on the substance, but are generally completed using one of the following:

- BC Energy Regulator Emergency Management Manual; November 2023; Version 2.4
- Alberta Energy Regulator (AER) ERCBH2S Dispersion Model
- Transport Canada 2020 Emergency Response Guidebook
- ALOHA Dispersion Model

### 3.1 Deactivated Pipelines

In accordance with the BCER Oil and Gas Activities act – Pipeline Regulation, all pipelines being re-licensed to Deactivated status must be deactivated in accordance with CSA Z662. CSA Z662 states under section *10.15.1.1 Deactivation of piping*:

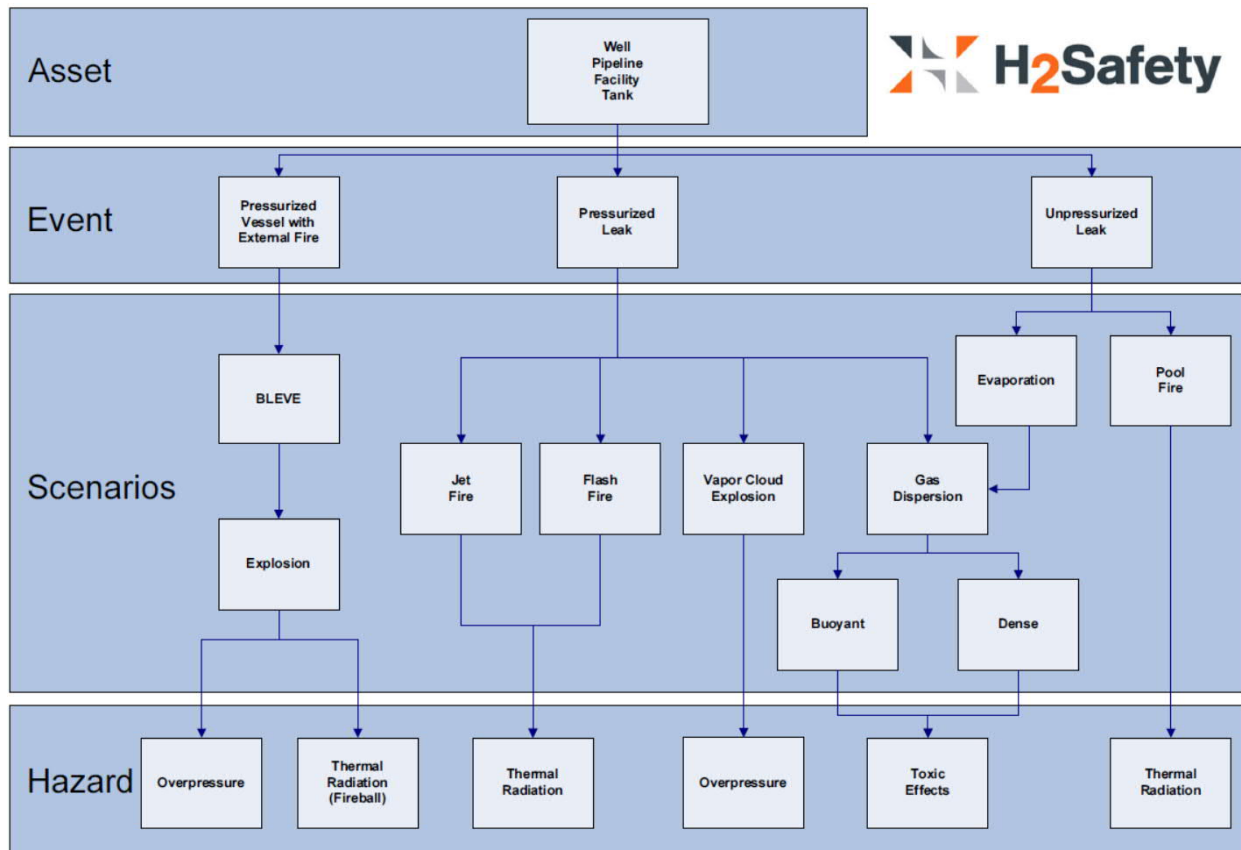
Operating companies deactivating piping shall

- a) Isolate the piping, using blind flanges, weld caps, or blanking plates suitable for the pressure from which the deactivated piping is being isolated;
- b) Where required, provide a pressure-relief system; and
- c) Fill the piping with a suitable medium, having regard for the intended duration of the deactivation, the effects of the medium on the integrity of the piping, and the potential consequences of a leak.

As a corrosion inhibitor may be utilized in deactivated pipelines, a hazard planning zone (HPZ) of 10 meters has been assigned to all deactivated pipelines to represent the pipeline right-of-way.

## 4.0 Methodology

Included below is the methodology used to determine HPZ's.



## 5.0 Asset Tables

For asset tables, refer to the back of the applicable supplement area (white tabs). Each set of asset tables will include their associated Hazard Planning Zones (HPZ's).

## 6.0 Health Effects

Included below is a list of most probable health effects that could occur at an oil and gas location.

Hazardous Product	General Description	Health Effects
<b>Natural Gas</b>	<ul style="list-style-type: none"> <li>- Extremely flammable.</li> <li>- Will be easily ignited by heat, sparks or flames.</li> <li>- Will form explosive mixtures with air.</li> <li>- Vapours from liquefied gas are initially heavier than air and spread along ground.</li> </ul>	<p>Hydrogen sulphide gas and hydrocarbon vapours may:</p> <ul style="list-style-type: none"> <li>- Cause irritation of eyes, nose and throat, dizziness and drowsiness.</li> <li>- At higher concentrations, severe irritation of eyes, nose, throat and lungs may occur.</li> <li>- Unconsciousness and respiratory failure may happen without warning. Death may result if not promptly revived.</li> <li>- Contact with skin may cause irritation and possibly dermatitis. Hydrocarbons are absorbed through intact skin.</li> <li>- Contact of liquid with eyes may cause severe irritation.</li> </ul>
<b>Carbon Dioxide</b>	<ul style="list-style-type: none"> <li>- Vapours from liquefied gas are initially heavier than air and spread along ground.</li> </ul>	<ul style="list-style-type: none"> <li>- Vapours may cause dizziness or asphyxiation without warning.</li> <li>- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.</li> </ul>
<b>Hydrogen Sulphide</b>	<ul style="list-style-type: none"> <li>- Flammable - explosive when mixed with air – forms SO<sub>2</sub> when combusted</li> <li>- Rotten egg smell at low concentrations – inhibits olfactory senses at high concentrations.</li> <li>- Heavier than air; will tend to disperse slower in sheltered or low lying areas.</li> <li>- Extremely toxic.</li> </ul>	<ul style="list-style-type: none"> <li>- Initial odour of H<sub>2</sub>S detected at about 0.1 ppm. Gas/vapour may cause irritation of eyes, nose and throat, dizziness and drowsiness.</li> <li>- H<sub>2</sub>S may cause a loss of sense of smell at 100 ppm. At higher concentrations, severe irritation of eyes, nose, throat and lungs, dizziness. Headache, nausea, unconsciousness and respiratory failure may occur. Death may result if not revived promptly.</li> <li>- Contact with skin may cause irritation and possibly dermatitis. Absorbed through intact skin.</li> <li>- Contact of liquid with eyes may cause severe irritation and possible damage.</li> </ul>



Hazardous Product	General Description	Health Effects
<b>Oil or Condensate</b>	<ul style="list-style-type: none"> <li>- Colourless/straw coloured liquid, hydrocarbon and rotten eggs odour.</li> <li>- Material will ignite at normal temperatures.</li> </ul>	<ul style="list-style-type: none"> <li>- Gas/vapour may cause irritation of eyes, nose and throat, dizziness and drowsiness.</li> <li>- H<sub>2</sub>S may cause a loss of sense of smell at 100 ppm. At higher concentrations, severe irritation of eyes, nose, throat and lungs, dizziness. Headache, nausea, unconsciousness and respiratory failure may occur. Death may result if not revived promptly.</li> <li>- Contact with skin may cause irritation and possibly dermatitis. Absorbed through intact skin.</li> <li>- Contact of liquid with eyes may cause severe irritation and possible damage.</li> </ul>
<b>Nitrogen</b>	<ul style="list-style-type: none"> <li>- Containers may explode when heated. Ruptured cylinders may rocket.</li> </ul>	<ul style="list-style-type: none"> <li>- Vapours may cause dizziness or asphyxiation without warning.</li> <li>- Vapours from liquefied gas are initially heavier than air and spread along ground.</li> </ul>
<b>Compressed Air</b>	<ul style="list-style-type: none"> <li>- High pressure air</li> </ul>	<ul style="list-style-type: none"> <li>- Possible burns, abrasions and skin irritation.</li> </ul>
<b>Steam</b>	<ul style="list-style-type: none"> <li>- High pressure, high temperature air/water</li> </ul>	<ul style="list-style-type: none"> <li>- Possible burns and skin irritation.</li> </ul>
<b>Emissions</b>	<ul style="list-style-type: none"> <li>- Carbon monoxide</li> </ul>	<ul style="list-style-type: none"> <li>- Very toxic.</li> <li>- Can harm the blood (decreased ability to carry oxygen). Symptoms may include headache, nausea, dizziness, drowsiness and confusion</li> <li>- May cause permanent damage to organs including the brain and heart.</li> <li>- Symptoms of mild frostbite include numbness, prickling and itching.</li> <li>- Symptoms of more severe frostbite include a burning sensation and stiffness. The skin may become waxy white or yellow. Blistering, tissue death and infection may develop in severe cases.</li> </ul>
	<ul style="list-style-type: none"> <li>- Sulphur Dioxide</li> </ul>	<ul style="list-style-type: none"> <li>- Very toxic if inhaled.</li> <li>- Causes severe skin burns and eye damage</li> <li>- Corrosive to the respiratory tract.</li> </ul>

Hazardous Product	General Description	Health Effects
<b>Produced Water</b>	<ul style="list-style-type: none"> <li>- Clear to dirty grey liquid.</li> <li>- Flammable liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- Can be fatal if inhaled.</li> <li>- Causes serious eye irritation.</li> <li>- May cause skin irritation.</li> <li>- May cause gastrointestinal irritation.</li> </ul>
<b>Diesel</b>	<ul style="list-style-type: none"> <li>- Bright, oily liquid; clear to yellow in colour with mild petroleum-like odour.</li> <li>- Flammable liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- May be fatal if swallowed and enters airways.</li> <li>- Causes skin irritation.</li> <li>- Harmful if inhaled.</li> <li>- May cause damage to organs through prolonged or repeated exposure.</li> </ul>
<b>Gasoline</b>	<ul style="list-style-type: none"> <li>- Clear to slightly yellow or green liquid with Gasoline odour.</li> <li>- Extremely flammable liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- May be fatal if swallowed and enters airways.</li> <li>- Causes skin irritation.</li> <li>- May cause drowsiness or dizziness.</li> <li>- May cause cancer.</li> <li>- May cause damage to organs through prolonged or repeated exposure.</li> </ul>
<b>Lube Oil</b>	<ul style="list-style-type: none"> <li>- Yellow liquid with petroleum oil like odour.</li> </ul>	<ul style="list-style-type: none"> <li>- May cause skin and eye irritation.</li> <li>- Repeated or long term exposure may cause dizziness or drowsiness.</li> </ul>
<b>Propane</b>	<ul style="list-style-type: none"> <li>- Colourless, liquefied gas.</li> <li>- Extremely flammable and may explode when heated.</li> <li>- Will be easily ignited by heat, sparks or flames.</li> <li>- Will form explosive mixtures with air.</li> <li>- Vapours from liquefied gas are initially heavier than air and spread along ground.</li> </ul>	<ul style="list-style-type: none"> <li>- May displace oxygen and cause rapid suffocation.</li> <li>- May cause respiratory irritation.</li> <li>- Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite.</li> <li>- May cause eye and skin irritation.</li> </ul>
<b>Corrosion Inhibitor</b>	<ul style="list-style-type: none"> <li>- Black liquid.</li> <li>- Highly flammable liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- Harmful if swallowed or in contact with skin.</li> <li>- Causes skin irritation.</li> <li>- Causes serious eye damage.</li> <li>- Toxic if inhaled.</li> <li>- May cause drowsiness or dizziness.</li> <li>- May cause kidney damage through prolonged or repeated exposure.</li> </ul>

Hazardous Product	General Description	Health Effects
<b>Scale Inhibitor</b>	<ul style="list-style-type: none"> <li>- Colourless liquid.</li> <li>- Flammable liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- Harmful if swallowed.</li> <li>- May cause damage to eyes.</li> <li>- May cause damage to kidneys through prolonged or repeated exposure.</li> </ul>
<b>Paraffin Inhibitor</b>	<ul style="list-style-type: none"> <li>- Clear liquid.</li> <li>- Hydrocarbon-like odour.</li> <li>- Flammable liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- Harmful in contact with skin and can cause skin irritation.</li> <li>- Causes serious eye irritation.</li> <li>- May cause respiratory irritation.</li> <li>- May cause drowsiness or dizziness.</li> <li>- May cause cancer or genetic defects.</li> <li>- May cause damage to nervous system through prolonged or repeated exposure.</li> <li>- May be fatal if swallowed and enters airways.</li> </ul>
<b>Biocide</b>	<ul style="list-style-type: none"> <li>- Colourless liquid.</li> <li>- Pungent odour.</li> <li>- Flammable liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- Causes serious eye damage.</li> <li>- Causes severe skin burns.</li> <li>- May cause allergic skin reaction.</li> <li>- Harmful if swallowed.</li> <li>- Causes digestive tract burns.</li> <li>- May cause allergic respiratory tract irritation.</li> <li>- Toxic if inhaled.</li> </ul>
<b>Demulsifier / Emulsion Breaker</b>	<ul style="list-style-type: none"> <li>- Clear amber liquid.</li> <li>- Highly flammable liquid and vapour.</li> <li>- Hydrocarbon-like odour.</li> </ul>	<ul style="list-style-type: none"> <li>- Harmful if swallowed.</li> <li>- May be fatal if swallowed and enters airways.</li> <li>- Causes skin irritation.</li> <li>- Causes serious eye irritation.</li> <li>- May cause respiratory irritation.</li> <li>- May cause drowsiness or dizziness.</li> <li>- May cause genetic defects.</li> </ul>
<b>Ethylene Glycol</b>	<ul style="list-style-type: none"> <li>- Clear, colourless, viscous liquid.</li> </ul>	<ul style="list-style-type: none"> <li>- May cause eye irritation.</li> <li>- May be harmful if inhaled. Causes respiratory tract irritation.</li> <li>- May be harmful if absorbed through skin. Causes skin irritation.</li> <li>- May be harmful if swallowed.</li> </ul>

Hazardous Product	General Description	Health Effects
<b>Natural Gas Liquids (NGL)</b>	<ul style="list-style-type: none"> <li>- Colourless, liquefied gas.</li> <li>- Extremely flammable and may explode when heated.</li> <li>- Will be easily ignited by heat, sparks or flames.</li> <li>- Will form explosive mixtures with air.</li> <li>- Vapours from liquefied gas are initially heavier than air and spread along ground.</li> </ul>	<ul style="list-style-type: none"> <li>- May displace oxygen and cause rapid suffocation.</li> <li>- May cause respiratory irritation.</li> <li>- Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite.</li> <li>- May cause eye and skin irritation.</li> </ul>
<b>Liquefied Petroleum Gas (LPG)</b>	<ul style="list-style-type: none"> <li>- Colourless, liquefied gas.</li> <li>- Extremely flammable and may explode when heated.</li> <li>- Will be easily ignited by heat, sparks or flames.</li> <li>- Will form explosive mixtures with air.</li> <li>- Vapours from liquefied gas are initially heavier than air and spread along ground.</li> </ul>	<ul style="list-style-type: none"> <li>- May displace oxygen and cause rapid suffocation.</li> <li>- May cause respiratory irritation.</li> <li>- Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite.</li> <li>- May cause eye and skin irritation.</li> </ul>
<b>Methanol</b>	<ul style="list-style-type: none"> <li>- Clear, colourless liquid.</li> <li>- Alcohol-like odour.</li> <li>- Highly flammable in liquid and vapour.</li> </ul>	<ul style="list-style-type: none"> <li>- Toxic if swallowed.</li> <li>- Toxic in contact with skin.</li> <li>- Toxic if inhaled.</li> <li>- Causes damage to organs.</li> </ul>
<b>Jet Fuel (Jet B or Avgas)</b>	<ul style="list-style-type: none"> <li>- Clear to straw-coloured liquid.</li> <li>- Highly flammable liquid and vapour.</li> <li>- Gasoline-like odour.</li> </ul>	<ul style="list-style-type: none"> <li>- May be fatal if swallowed and enters airways.</li> <li>- Causes skin irritation.</li> <li>- May cause drowsiness or dizziness.</li> <li>- May cause cancer.</li> <li>- May cause damage to organs through prolonged or repeated exposure.</li> </ul>
<b>Amine (MEA)</b>	<ul style="list-style-type: none"> <li>- Clear, colourless liquid.</li> <li>- Amine-like odour.</li> <li>- Combustible at high temperatures.</li> </ul>	<ul style="list-style-type: none"> <li>- Harmful if swallowed, in contact with skin or inhaled.</li> <li>- Causes severe skin burns and eye damage.</li> <li>- May cause respiratory irritation.</li> <li>- May cause damage to organs through prolonged or repeated exposure if swallowed.</li> </ul>

Hazardous Product	General Description	Health Effects
<b>H2S Scavenger</b>	<ul style="list-style-type: none"> <li>- Clear liquid.</li> <li>- Soluble in Water.</li> </ul>	<ul style="list-style-type: none"> <li>- Irritating to eyes and skin.</li> <li>- Irritating to respiratory system. May cause severe irritation burns.</li> <li>- May cause allergic skin reaction.</li> <li>- May be harmful if swallowed.</li> </ul>
<b>Other</b>	<ul style="list-style-type: none"> <li>- At facilities, well-sites, risers, etc., other hazardous materials are likely to be present. Refer to SDS sheets and Transportation Canada Emergency Guidebook for a description and health effects of unlisted hazardous products.</li> </ul>	

# NORTHEAST BC CER REGULATED PIPELINES EMERGENCY CONTACT INFORMATION

For Emergencies involving inter-provincial pipelines, the Canada Energy Regulator is the primary management agency – they will be contacted by the Transportation Safety Board.

\*\*A pipeline is CER-regulated due to the fact that it crosses a Provincial Border.\*\*

**THIS MUST BE YOUR FIRST CALL**

<b>Transportation Safety Board of Canada (TSB)</b>	24 Hr Incident Line	819-997-7887
	Facsimile	403-292-5503
	Email	<a href="mailto:pipelinenotifications@tsb.gc.ca">pipelinenotifications@tsb.gc.ca</a>

Call the TSB 24 Hr Incident Line when an incident meets the Immediately Reportable Events (see page 2 for criteria) for all Canada Energy Regulator (CER) regulated pipelines and facilities.

**Both** the phone notification and the input of information into the **CER's Online Event Reporting System (OERS): <https://apps.cer-one.gc.ca/ers/home/index>** are required to occur as soon as possible and no later than three hours of the incident being discovered.

For all other events (non-immediate) companies are only required to input the information via the OERS.

**SECONDARY CALLS**

Contact as needed AFTER contacting the TSB and CER.

<b>BC Energy Regulator (BCER)</b>	24 Hr	800-663-3456
<b>Alberta Energy Regulator (AER)</b>	24 Hr	800-222-6514

Hazardous occurrences (under Part XVI of the Canada Oil and Gas Occupational Safety and Health Regulations) and incidents requiring medical evacuations are to be reported to the CER immediately.



## CER DEFINITION OF AN EMERGENCY

CAN /CSA Z246.2-14 defines an emergency as “an event or imminent event, outside of the scope of normal operations that requires prompt coordination of resources to protect people, the environment, and property”.

Emergencies can result from numerous causes including pipeline and equipment failure, human error and natural perils such as tornadoes, hurricanes, floods, or earthquakes and terrorism or other criminal activities. Multi-hazard emergencies such as an earthquake causing pipeline breaks, fires and explosions, which result in injury and further property damage, can also occur.

**Companies must consider all probable emergencies and have applicable procedures in place to deal with potential effects and threats to people, property and the environment, as determined through a formal hazard assessment.**

## CER DEFINITION OF AN INCIDENT

Section 52 of the OPR requires companies to notify the Board of all incidents relating to the construction, operation, or abandonment of their pipelines. An “incident” is defined in section 1 of the OPR as an occurrence that results in:

- 1) The death of or serious injury to a person;
- 2) A significant adverse effect on the environment;
- 3) An unintended fire or explosion;
- 4) An unintended or uncontained release of low-vapour pressure (LVP) hydrocarbons in excess of 1.5 m<sup>3</sup>;
- 5) An unintended or uncontrolled release of gas or high-vapour pressure (HVP) hydrocarbons;
- 6) The operation of a pipeline beyond its design limits as determined under CSA Z662 or CSA Z276 or any operating limits imposed by the Board.

Companies are required to report a death or serious injury to a person only where the death or injury is a result of an occurrence that relates to the construction, operation, or abandonment of a “pipeline” whether the person who was killed or injured was working at the time of the incident and/or whether the work was a cause or contributing factor to the incident. It is important to note that, unlike the CLC, the OPR does not differentiate between different types of “persons”. must report all deaths or serious injuries to any person that occur relating to pipeline construction, operation, or abandonment regardless of whether or not that person was directly employed by the company.

The definition of “serious injury” in the OPR is not exhaustive and contains multiple injuries that qualify as serious, including “the fracture of a major bone”. The CER uses the following definition of “major bone”: skull, mandible, spine, scapula, pelvis, femur, humerus, fibula, tibia, radius, and ulna.

## IMMEDIATELY REPORTABLE EVENTS

Where regulations require an event to be reported “immediately”, companies must also consider whether the event meets any of the following definitions:

### **An Incident that Harms People or the Environment:**

- A death;
- A serious injury (as defined in the opr or tsb regulations);
- An unintended or uncontrolled lvp hydrocarbon release in excess of 1.5 m<sup>3</sup> that leaves company property or occurs on or off the right of way;
- An unintended or uncontrolled sweet natural gas or hvp release >30,000 m<sup>3</sup>;
- Any unintended or uncontrolled release of sour natural gas or hydrogen sulfide; and/or
- A significant adverse effect on the environment.

## IMMEDIATELY REPORTABLE EVENTS, continued

### A Rupture:

- an instantaneous release that immediately impacts the operation of a pipeline segment such that the pressure of the segment cannot be maintained.

### A Toxic Plume:

- a band of service fluid or other contaminant (e.g. hydrogen sulfide or smoke) resulting from an incident that causes people, including employees, to take protective measures (e.g. muster, shelter-in-place or evacuation).

Where an event meets any of the above definitions, companies are required to notify the TSB Reporting Hotline at (819) 997-7887. Subsequently, the company is required to input the details required by both the TSB (see TSB regulations) and the CER into the OERS. The phone notification and the input of information into OERS are required to occur as soon as possible and no later than three hours of the incident being discovered. The goal of the initial phone notification is to allow the relevant agencies to mobilize a response to an incident, if required. Note that OERS will automatically determine whether the event meets the definition of an “Incident that Harms People or the Environment”, however the company will be responsible for specifically indicating whether the incident meets the definitions of “Rupture” and “Toxic Plume”.

For all other events that do not meet any of the definitions in this section, companies are not required to phone the TSB Reporting Hotline but must report the event as soon as possible and no later than twenty-four hours after the event was discovered.

## MULTIPLE INCIDENT TYPES

It is possible that a single occurrence may result in multiple incident types. If multiple incident types occur as a result of a single occurrence, companies are expected to report those incident types under a single incident report.

Examples of situations where this might be the case include but are not limited to:

- A pipeline rupture (occurrence) where there is a release of gas (incident type) and an explosion (incident type);
- An industrial accident (occurrence) that causes a death (incident type), a serious injury (incident type) and a fire (incident type);
- An operational malfunction (occurrence) that causes an overpressure (incident type) and a release of product (incident type); or
- An operational malfunction (occurrence) that causes several concurrent or immediately consecutive overpressures (incident types).

In cases where an incident has occurred, and a second incident occurs during the response to the initial incident (e.g. a fire occurs during the clean-up of a spill), the second incident is considered distinct and should be reported separately.

The events that are reportable using the online reporting system are:

- Incidents under the Canada Energy Regulator Onshore Pipeline Regulations (OPR), Canada Energy Regulator Processing Plant Regulations (PPR), and Canada Oil and Gas Drilling and Production Regulations (DPR)/Oil and Gas Drilling Regulations;
- Unauthorized activities under the CER Act and Pipeline Damage Prevention Regulations - Authorizations (DPR-A);
- Pipeline damage and consent suspensions under the Pipeline Damage Prevention Regulations - Obligations of Pipeline Companies (DPR-O);
- Emergency burning or flaring under the PPR;
- Hazard identification under the PPR;
- Suspension of operations under the PPR;



## MULTIPLE INCIDENT TYPES, continued

- Near-misses under the DPR;
- Serious accidents or incidents under the Canada Oil and Gas Geophysical Operations Regulations/Oil and Gas Geophysical Operations Regulations;
- Emergencies or accidents under the Canada Oil and Gas Installation Regulations/Oil and Gas Installation Regulations; and
- Accidents, illnesses, and incidents under the Canada Oil and Gas Diving Regulations/Oil and Gas Diving Regulations.

In the event that OERS is unavailable, companies are directed to report events to the TSB Reporting Hotline at 819-997-7887.

## REPORTING TIMELINES

Section 52 of the OPR requires companies to immediately notify the Board of any incident. Section 52 of the OPR also requires the submission of a Preliminary Incident Report (PIR) and a Detailed Incident Report (DIR) “as soon as is practicable”. Generally, companies’ initial notification of an incident will satisfy the PIR requirements. The information required for a DIR must be submitted within 12 weeks of reporting an incident. For complex incidents, companies may request an extension for submission of a DIR.

The CER and the TSB have adopted a single window reporting approach. However, in some areas, the TSB reporting requirements are somewhat different than the CER requirements. For additional details on the TSB reporting requirements, companies should refer to the TSB website ([www.tsb.gc.ca/eng/incidents-occurrence/index.asp](http://www.tsb.gc.ca/eng/incidents-occurrence/index.asp)).

Transportation Safety Board of Canada  
Place du centre, 4th Floor  
200 Promenade du Portage  
Hull, Quebec K1A 1K8  
Facsimile 819-953-7876

## SUPPORTING INFORMATION

The table below indicates the location of CER supporting documentation in this emergency response plan.

SUPPORTING INFORMATION	FOUND IN
CER Distribution	<b>Section 0. Plan Holder Information</b> (Page 5)
Company 24/7 Emergency Number	<b>Section 12. Site Specific</b> Dawson / Pouce CER Pipelines
Area Map of CER Regulated Facilities	<b>Section 12. Site Specific</b> Dawson / Pouce CER Pipelines
TSB Roles & Responsibilities	<b>Section 3. Government Agency Roles</b> Federal Roles Chart
CER Roles & Responsibilities	<b>Section 3. Government Agency Roles</b> Federal Roles Chart
Safety data sheets (SDS)	Access through <a href="http://arc.msdsbinders.com">http://arc.msdsbinders.com</a> .
Health and Safety Plan	Please refer to the company’s Health & Safety Plan located at the corporate head office.

## ARC RESOURCES' EMERGENCY PREPAREDNESS & RESPONSE POLICY

### 1. EMERGENCY MANAGEMENT EXPECTATIONS

An effective emergency management program includes being prepared for emergencies, responding in the event of an emergency and ensuring that operations are able to continue safely and can recover in a timely, efficient manner.

Emergency management is critical to ensuring that people, the environment, the public, the organization's assets and reputation are protected in the event of an unanticipated hazard event, be it natural, technological or human-induced.

### 2. EMERGENCY MANAGEMENT PREPAREDNESS

Emergency preparedness is a continuous process of all-hazards planning and coordination in order to effectively minimize the adverse effects and consequences inherent in any emergency incident. Through the use of such tools as exercises, proactive resource management and capability analysis, preparedness is one of the key pillars with which to ensure the adaptation of comprehensive approaches for ARC Resources' emergency management strategy. The emergency management process must include the following:

- Hazard Risk and Vulnerability Assessment
- Public Involvement
- Communications Planning
- Situational Awareness
- Crisis Management Plans
- Emergency Response Plans
- Emergency Management Resources
- Competence, Training and Awareness
- Exercises and Drills
- Record Keeping
- Distributions Lists (Internal and External)
- Continuous Improvement

Emergency Response Plans should contain:

- Communication procedures
- Emergency contacts
- Evacuation and Rescue plans
- Equipment locations and supply companies
- Spill response and containment (where required)
- Meet regulatory requirements
- Event classification
- Activation and Stand Down Levels
- Guidelines for medical emergencies
- Defined roles and responsibilities
- Maps and Emergency Planning Zones
- Mutual Aid Understandings (where applicable)

Confidential ERPs will be available at the field Incident Command Post and the Corporate Emergency Response Centre. Field Operators will have Quick Response Guides available for their use.

## Extended Emergencies

In an extended emergency, ARC Resources’ responders will develop an Incident Action Plan utilizing forms found within ERP, which may include:

- ICS Form 201 – Incident Briefing
- ICS Form 202 – Incident Objectives
- Form A1 – Initial Emergency Report
- Form A4 – Incident Action Plan (IAP) Checklist

### 3. EMERGENCY RESPONSE, CONTINUITY AND RECOVERY

In the event of an emergency, each business unit shall determine the level of emergency as per established protocols and respond according to their respective emergency response plans. Response includes the mobilization and ongoing management of resources, people, equipment and assets to manage the effects of an incident; functions inclusive of the Incident Command System (ICS), ARC Resources’ primary response platform.

Each business unit shall establish, implement and maintain procedures for communicating information related to emergency management, including:

- Communication of plans and procedures to employees, operating partners, contractors, the supply chain, regulators and local communities; and
- Emergency and crisis communications to stakeholders, including emergency responders, regulators, the media, family members and the public.

### 4. EMERGENCY MANAGEMENT MONITORING, ASSESSMENT, AND CONTINUOUS IMPROVEMENT

Lessons learned and knowledge generated from monitoring results should be used to develop “improved practices”, which are then shared widely. After emergencies or disasters occur, a systematic approach is used to learn lessons from the experience, increase effectiveness and improve emergency management practices and processes.

### 5. MANUAL UPDATING PROCEDURES AND SCHEDULE

ARC Resources’ Core and Site-Specific ERPs are to be updated annually and submitted to the CER on or before April 1st of each year, or when significant changes (either operational or identified from exercises/incidents and resulting debriefs) occur or are identified. If an update occurs outside of the January 1st to April 1st period, a letter must be submitted to the CER indicating that there have been no changes to operations since the ERP was last submitted. ERP updates are performed by a third-party company (H<sub>2</sub>Safety), whose expertise in the field provides ARC Resources’ personnel with the education, training, and resources to excel in Emergency Response. Approvals for ERP updates will be carried out by ARC Resources’ Corporate contact (ERP Coordinator) for the Core ERP and additionally by Area Managers for all Site-Specific ERPs.

### 6. DEBRIEFING

#### Internal Debriefing

The Incident Commander, in consultation with the Lead Agency and/or other regulatory body, will order “Return to Normal” status.

- All response team members and on-site personnel, including contract personnel and emergency services, will be notified.
- All previous contacts including public, workers, landowners, government and industrial operators must also be notified of the end of the emergency.
- Ensure a media statement is prepared and delivered by Senior Management.

## Internal Debriefing, continued

- Debriefing meeting(s) with ARC Resources’ personnel (including insurance, legal, and human resources as appropriate) must be conducted.
- Debriefing meeting(s) to review effectiveness of the Emergency Response Plan must be conducted. Feedback and comments as a result of the debrief must be incorporated into the ERP revision and procedures. This feedback should be submitted to the ERP provider.
- Debriefing meeting(s) with residents, landowners, Lead Agency and other government agencies and all other impacted parties may be conducted.
- Document all “Return to Normal” activities.
- Complete response debriefing for all response teams. Submit, in writing, response findings and recommendations to the Incident Commander when applicable, which will be submitted to the overall report writer.

## 7. PUBLIC DEBRIEFING

When the public has been impacted, ARC Resources operations should provide the public information as soon after the emergency as possible, to answer any questions or concerns. This should be done by either senior ARC Resources personnel, a trained Media Advisor, or by the Incident Commander.

After an emergency, a number of additional items should be considered:

- Debriefings, as mentioned above.
- Crisis management for company personnel and for other members of the public that may have been significantly affected by the emergency.
- If the emergency is of a level where it has impacted the public, an information center may be established within the community where the emergency occurred to answer any questions posed by the public.
- Establish a means of compensating citizens who may have had out-of-pocket expenses (such as meals and lodging costs) as a result of the emergency.
- Through the media, provide details of the investigation into the incident that are pertinent to the public, as it becomes available.

## 8. HEALTH AND SAFETY PLAN

ARC Resources’ extensive Health and Safety program is to be implemented at all times during and after an incident. Training is provided to all ARC Resources employees and contractors; all information and documentation can be found in ARC Resources Health and Safety Manual.

## 9. SITE SPECIFIC CONTROL POINTS AND RESPONSE

In the event of an incident (reported from an external source and/or confirmed by a drop in pressure), an operator would be sent out to visually confirm the need to shut down operations. ARC Resources operators have the ability to manually trip the ESDs at the risers on the CER line. The operator would then immediately contact his/her supervisor, who would then update the area’s Lead Operator, Area Superintendent, ERP Coordinator, and Manager, Health & Safety and the TSB, and then work with internal support and the outside agencies to determine a plan of action for resolving the source of the release.

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### ARC RESOURCES 24 HOUR # 1-403-292-0434

<p><b>Dawson Creek Field Office</b></p> <p>Courier / Mailing Address: 721 - Hwy 2 Dawson Creek, BC V1G 0B8</p> <p>ARC Resources Head Office</p> <p>Courier / Mailing Address: 1200, 308 - 4th Ave SW Calgary, AB T2P 0H7</p>	<p>Bus: 250-795-2265 Fax: 250-782-7437</p> <p>Bus: 403-503-8600 Fax: 403-509-6427</p>
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### KEY RESPONSE PERSONNEL

<b>DAWSON / POUCE CER PIPELINES</b>	
Manager, Field Operations	Terry Harder Bus: 250-795-2255 Cell: 780-517-9850
Foreman - Dawson 1 & 2 / Pouce	Jordan Oliver Bus: 250-795-2254 Cell: 250-784-5631
Field Health & Safety Advisor	Brett Henschel Bus: 250-795-2252 Cell: 250-784-5746
Lead Operator, 05-35 Gas Plant	Taylor Connelly Bus: 250-795-2469 Cell: 250-784-6659
Lead Operator, 01-34 Compressor Station/Dawson Field	Zane Burton Cell: 250-219-1931
<b>CORPORATE</b>	
Senior Manager, Safety	Cory Beliveau Bus: 403-503-8684 Cell: 403-612-9768
Senior Advisor, Emergency Management & Security	Justin Stoppler Bus: 403-509-7209 Cell: 403-809-7400

\*For a detailed contact list, refer to Section 10.0 Phone List.

### OPERATIONS SUMMARY

The Dawson / Pouce CER Pipelines transport sweet and sour gas within the Peace River Regional District, and Saddle Hills County. Sour gas production flows from 01-34-79-14 W6M to 05-23-80-13 W6M. There is a NorthRiver Midstream Inc. third-party gas plant at 05-23-80-13 W6M.

**EPZ Information**  
The maximum licensed H<sub>2</sub>S concentration for the CER pipelines is 2% with a maximum EPZ of 1900 m.

**On-Site Storage**  
Refer to Dawson 05-35-79-14 W6M Gas Plant yellow tab for storage information.

**Closest Urban Centre & Indigenous Nation**  
The farming community of Rolla is located approximately 1.4 km west of the CER pipelines EPZ and has a population of +/- 95.  
The closest major urban centre is the city of Dawson Creek located approximately 12.4 km southwest of the CER pipelines EPZ and has a population of +/- 12,323.  
Horse Lakes No. 152B First Nation is located approximately 58.4 km south of the CER pipelines EPZ and has a population +/- 469.

**Indigenous Treaty & Metis Region Boundaries**  
Treaty 8  
BC Northeast Metis Region  
Peace River Metis District

**Hydrology**  
Pouce Coupe River, Rolla Creek, Saskatoon Creek, Doe Creek, and numerous unnamed creeks and waterbodies traverse through the CER pipelines EPZ.

**Highways / Rail**  
There are no highways or railways that traverses through the EPZ.

**Site Access**  
Refer to the following pages for access maps and directions.

### SAFETY EQUIPMENT

**Operator / Truck Safety Equipment**  
The Dawson / Pouce field has the following safety equipment on site: 2 first aid kits, 10 eye wash stations, 4 portable H<sub>2</sub>S monitors / LEL monitors, 8 SCBA / air packs, 75 portable fire extinguishers.  
Fire Suppression Trailer staged at the 1-34 and 5-35 sites. Trailer includes water tank, pump with hose, sprayer backpacks, jockey box, pick axes, and shovels.  
Each operator has a truck supplied by ARC Resources which contains the following: cell phone, first aid kit, personal protective clothing, 4-head personal monitor, roadside emergency kit, required tools for shutting in a well or flowline, 20 lb. fire extinguisher, roadblock kit and SCBA. Fleet vehicles are accessible 24/7 to operators for emergency response.

**Communications**  
The primary methods of communication are landlines, cell phones and radio. Cell phone coverage is pretty good through the area but operator trucks have the Motorola Cap Max Radio system installed in them with a private radio channel to communicate on.

### SAFETY EQUIPMENT, Continued

**Notification**  
Wellsite facilities are equipped with high / low pressure shutdown and emergency shutdown valves which are installed at wellheads, facility inlets and various locations throughout the gathering system that will limit the volume of gas released in the event of a leak. The 01-34-79-14 W6M Compressor Station and 05-35-79-14W6 Gas Plant are equipped with multiple monitoring, detection alarm and shut down systems. Systems are connected to a callout system that notifies the operators in the event of a problem. The estimated time for company personnel to arrive at the site of an emergency is approximately 45 minutes, depending on weather conditions. Potential hazards may include blowouts, fires, gas release, oil or chemical spills and / or loss of pressure.

**Roadblock / Ignition Kits\***  
There is 1 roadblock kit located within each operator's vehicle. Each kit contains: reflective vest and flag, flashing light, 3 reflective triangles, quick reference guide kits, flashlight with cone and an amber beacon. Additional roadblock kits can be acquired from local safety contracting companies. See Support Services for more information.  
There is 1 flare kit located at the Dawson 05-35-79-14 W6M Gas Plant, however ignition equipment and trained personnel can be provided by Ignition Service companies. See Support Services for more information.

\*Appropriate roadblock locations will be determined at the time of the incident.  
\*\*If any of the above mentioned safety equipment is insufficient, ARC Resources personnel will contact a local safety company who will be asked to provide additional equipment.

### GOVERNMENT AGENCIES

Note: All numbers, unless otherwise indicated, are 24 hours.

#### FEDERAL AGENCIES

Canada Energy Regulator (CER)	Pipeline Emergency: 819-997-7887
	All Other Emergencies: 403-299-2773
Online Reporting System	<a href="https://apps.cer-rec.gc.ca/ers/home/index">https://apps.cer-rec.gc.ca/ers/home/index</a>
CANUTEC	888-226-8832
Air Traffic Control	
NAV Canada*	866-541-4102
Transport Canada**	877-992-6853
*If flight information or a NOTAM advisory is required, contact NAV Canada.	
**If a NOTAM is required for airspace closure, contact the Transport Canada Aviation Operations Centre.	
Environment & Climate Change Canada (ECCC)	
Meteorological Services	780-951-8907
Department of Fisheries & Oceans Canada (DFO)	
Report Marine Pollution	800-889-8852

#### BRITISH COLUMBIA AGENCIES

BC Emergency Management & Climate Readiness (EMCR) / BC Energy Regulator (BCER)	
Incident Reporting Line	800-663-3456*
*In the event of an emergency, EMCR will notify the BCER, Ministry of Environment & Climate Change Strategy, Ministry of Forests, Ministry of Water, Lands & Resource Stewardship, Northern Health Authority and any affected municipalities.	
Peace River Regional District (PRRD)	800-670-7773
	Admin: 250-784-3200
Northern Health Authority (NHA)	HEMBC On Call: 855-554-3622
Technical Safety BC (TSBC)	866-566-7233
Transportation of Dangerous Goods (TDG)	800-663-3456
BC Ministry of Transportation & Transit (MOTT)	866-707-7862
WORKSAFE BC - Fort St. John	888-621-7233
BC Ministry of Forests	Admin: 250-784-1200
BC Wildfire Reporting Line	800-663-5555
BC Ministry of Environment & Climate Change Strategy	
Peace Region	Admin: 250-787-3411
	800-663-3456

#### ALBERTA AGENCIES

Alberta Energy Regulator (AER)	800-222-6514*
Field Operations - Northwest	
Wildfire Reporting	310-FIRE (3473)
*One call number for regulatory agency, Alberta Environment, Spill Reporting & Sustainable Resource Development (Lands, Fish, Forest, Wildlife) & Environment Canada.	
Saddle Hills County	Admin: 780-864-3760
Bruce Daly, Manager of Protective Services	Cell: 780-876-2930
Alberta Health Services - Z5 North	844-755-1788
Alberta Emergency Management (AEMA) - Northwest Region	866-618-2362
Alberta Boilers Safety Association (ABSA)	780-437-9100
Alberta Safety Services - Electrical Branch	Admin: 866-421-6929
Alberta EDGE	800-272-9600
Alberta Transportation & Economic Corridors - All Regions	780-638-1128
Alberta Occupational Health & Safety (OHS)	866-415-8690
Workers' Compensation Board (WCB)	866-922-9221

### EMERGENCY SERVICES

Note: All numbers, unless otherwise indicated, are 24 hours.

\*\*If there is no 911 service available due to the remote location, please call the number listed\*\*

Ambulance	911
BC Ambulance Service	250-374-5937
Air Ambulance (STARS)	888-888-4567
05-35-79-14 W6M Gas Plant Site Reg. #8781	
01-34-79-14 W6M Compressor Station Site Reg. #2328	
Hospitals	
Dawson Creek & District Hospital	250-782-8501
Fort St. John Hospital & Peace Villa	250-262-5200
Chetwynd General Hospital & Health Centre	250-788-2236
Alberta Poison & Drug Information Service	800-332-1414
BC Drug & Poison Information Centre	800-567-8911
BC Hydro	888-769-3766
FortisBC Electric	866-436-7847
BC One-Call	800-474-6886 <a href="http://www.bc1c.ca">www.bc1c.ca</a>
Utility Safety Partners	800-242-3447 <a href="http://www.utilitiesafety.ca">www.utilitiesafety.ca</a>
Fire Departments*	911
Dawson Creek	Cell: 250-784-8164
Pouce Coupe	Cell: 250-219-9205
Taylor Fire Rescue	250-789-3392
*There is NO fire coverage from any local fire department. Fires must be handled by ARC Resources, mutual aid partners, or contract oilfield fire fighting services. Local fire departments will only respond to motor vehicle accidents and medical emergencies unless specifically dispatched by EMCR or the Local Authority.	
RCMP	911
Spirit River	780-864-3533
Reception Centres	
Super 8	250-782-8899
1440 Alaska Ave, Dawson Creek, BC V1G 1Z5	
Holiday Inn Express	250-782-7700
12217 - 4 St, Dawson Creek, BC V1G 0A4	
Bonanza Community Hall	Admin: 780-353-3771
12407 Twp 801, Bonanza, AB T0H 0K0	
Gordondale Community Hall	
79144 Range Rd 105, Bonanza, AB T0H 1V0	
Carla Day	Cell: 780-864-1801

### AREA USERS / TRANSIENTS

Note: All numbers, unless otherwise indicated, are 24 hours.

<b>Oil &amp; Gas</b>		
Alliance Pipeline Ltd. (c/o Pembina Pipeline Corp.)	800-360-4706	
Canadian Natural Resources Ltd.	888-878-3700	
Gas Alberta Inc.	877-509-7258	
NorthRiver Midstream Inc.	844-667-8477	
Nova Gas Transmission Ltd. (c/o TC Energy)	888-982-7222	
Ovintiv Canada Ulc	403-645-3333	
Pacific Northern Gas Ltd.	800-663-1173	
Pouce Coupe Pipeline Ltd. (c/o Pembina Pipeline Corp.)	800-360-4706	
Storm Development Corp.	877-906-0810	
Vermilion Energy	844-621-2858	
Westcoast Energy Inc. (c/o NorthRiver Midstream Inc.)	844-667-8477	
Westcoast Transmission Company Ltd. (c/o Enbridge Pipelines Inc.)	800-663-9931	
<b>Trappers</b>		
Trapper ID	Name	Number
TR0733T006	Vacant Line	Unavailable
<b>Guides &amp; Outfitters - Wildlife Management Unit (WMU) #359</b>		
<b>Guides &amp; Outfitters - Wildlife Management Unit (WMU) #359</b>		
Company Name	Name	Number
Bear Canyon Outfitters Inc.	Larry Smith	780-685-2159
Dale McKinnon AB Guide & Outfitter	Dale McKinnon	780-623-3040
Jason Frank	Jason R. Frank	780-500-1146
Green Island Outfitters Ltd.	Allen L. Trider	780-835-2443
Mike's Outfitting Ltd.	Mike Ukrainetz	780-864-3770
Red Willow Outfitters Ltd.	Taylor Loewen	780-300-1111
<b>Forestry Management Units</b>		
Go 3 - See Alberta Energy Regulator (AER)		800-222-6514
<b>Rights Holders*</b>		
Forest Tenures		
File ID	Name	Number
M02508	ARC Resources Ltd.	403-292-0434
M02097, M02628	TGS Canada Corp.	Cell: 403-369-8017
*Unassigned, retired, and / or cancelled licenses are not listed.		
<b>Protected Areas</b>		
Rolla Canyon Ecological Reserve*		800-689-9025
*Prefers email contact for emergencies		parkinfo@gov.bc.ca

### SURFACE DEVELOPMENTS

Note: Red font indicates a sensitive resident

There are a total of 7 surface developments within the CER/Pouce pipelines EPZ. This includes 4 occupied residences, 2 vacant residences, and 1 manned petroleum facility. Detailed resident information can be found behind the surface developments tab.

<b>Bus Transportation &amp; Associated Schools</b>	
Peace River South District #59	Admin: 250-782-8571
Jeff Lekstrom, Transportation Manager	Cell: 250-219-1503
Canalta Elementary School	Admin: 250-782-8403
Mountain Christian School	Admin: 250-782-9528

### SUPPORT SERVICES

Note: All numbers, unless otherwise indicated, are 24 hours.

<b>Mobile Air Monitoring*</b>	
Safety Boss Inc. - Fort St. John, BC (Stationary)	800-882-4967
Trojan Safety Services - Grande Prairie, AB	780-567-3440
HSE Integrated - Grande Prairie, AB	780-296-1170
Firemaster Oilfield Services Inc. - Blackfalds, AB	877-342-3473
*Due to response time, dispatch mobile air monitoring at a Level 1 Emergency. Response time is expected to be approximately 2 hours from Fort St. John, BC, 2.5 hours from Grande Prairie, AB, and 8.5 hours from Blackfalds, AB.	
<b>Oilfield Fire Fighting / Safety Contractors</b>	
Safety Boss Inc. - Fort St. John, BC	800-882-4967
Superior Fire Control Ltd. - Clairmont, AB	877-882-0035
HSE Integrated - Grande Prairie, AB	780-296-1170
Trojan Safety Services - Grande Prairie, AB	780-567-3440
<b>Well Control Specialists</b>	
Safety Boss Inc. - Fort St. John, BC	800-882-4967
Firemaster Oilfield Services Inc. - Clairmont, AB	877-342-3473
Capstone Oilfield Services - Red Deer, AB	866-347-3911
Boots & Coots - Texas, USA	281-931-8884
<b>Ignition Services</b>	
Safety Boss Inc. - Fort St. John, BC	800-882-4967
AAA Field Services - Fort St. John, BC	250-263-4607
Superior Fire Control Ltd. - Clairmont, AB	877-882-0035
Firemaster Oilfield Services Inc. - Clairmont, AB	877-342-3473
<b>Emergency Response Management</b>	
H <sub>2</sub> Safety Services Inc. - Calgary, AB	403-212-2332
	Toll Free: 888-216-2332
<b>Bus Transportation</b>	
Diversified Transportation Ltd. - Dawson Creek, BC	Cell: 250-617-7710
Ambitious Hotshot & Piloting Ltd - Fort St. John, BC	250-263-4639
BC Bus North - Fort St. John, BC	Admin: 844-564-7494
First Student - Grande Prairie, AB	780-532-3545
<b>Helicopter Companies (Day Flying Only)</b>	
Bailey Helicopters Ltd. - Fort St. John, BC	877-822-2245
Yellowhead Helicopters Ltd. - Fort St. John, BC	888-566-4401
Heli Source Ltd. - Fort St. John, BC	855-876-5716
Airborne Energy Solutions - Fort St. John BC	780-778-3080
<b>Spill Response</b>	
Ridgeline Canada Inc.*	866-574-7928
Highmark Environmental - Fort St. John, BC	250-261-6994
SWAT Consulting Inc. - Grande Prairie, AB	866-610-7928
GFL Environmental Inc. - Prince George, BC	877-244-9500
*Ridgeline Canada Inc. is the primary spill response provider for ARC.	
<b>Emergency Response Assistance Canada (ERAC)</b>	
ERAP2-0010-175	800-265-0212
<b>WCSS* - Coop 9</b>	
Regional Custodian:	NorthRiver Midstream Kaylin Salanski Cell: 250-919-7282
Coop Custodian:	Troyer Ventures 250-774-5332
<b>WCSS* - Coop 5</b>	
Regional Custodian:	ARC Resources Ltd. Ron Toly Cell: 250-219-8180
	Sandra Miller Cell: 587-202-0637
	ARC Resources Ltd. Sandra Miller Cell: 587-202-0637
	Pembina Pipelines Dwayne Jones Cell: 780-524-3938
	PGI Processing ULC Michael Doerksen Cell: 780-622-6274
	Michael Doerksen Cell: 780-622-7358
Coop Custodian:	Avenge Energy Services Inc. 780-617-0555
Coop Custodian:	Silver Peak Services 780-827-4776
	Martin Danny Cell: 780-827-8739

\*See WCSS's website ([www.wcss.ab.ca](http://www.wcss.ab.ca)) for more information, equipment details, locations and directions.  
\*Spill Contingency Plan - Contingency Manual - <https://wcss.ab.ca/about/contingency-manual/>  
\*Live Equipment Report - <https://wcss.ab.ca/emis/>



# DAWSON/POUCE CER PIPELINES

## NORTHEAST BRITISH COLUMBIA ERP

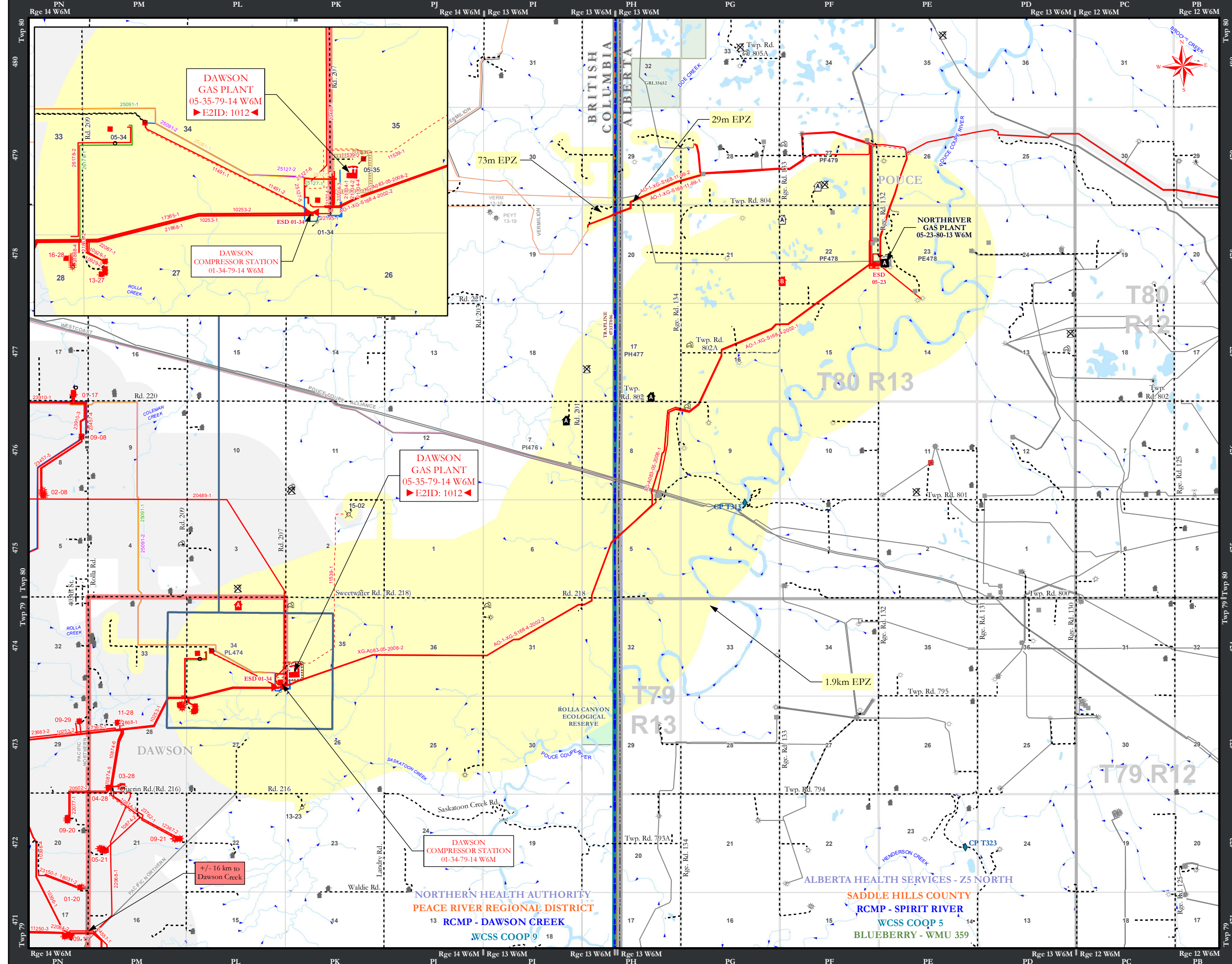
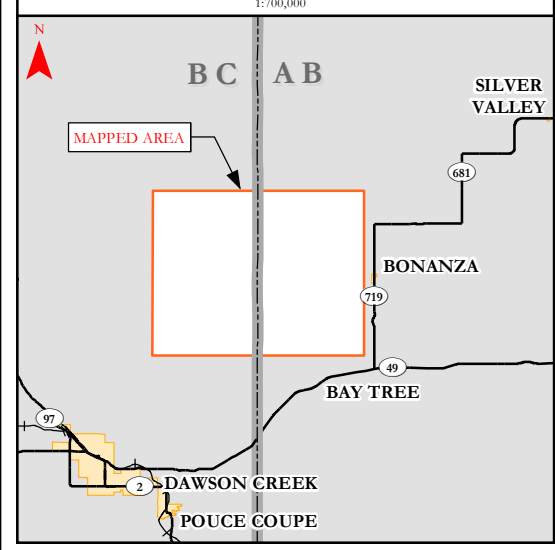


Draft Date: April 3, 2017 LE      Scale: 1:60,000      Map: 5889  
 Revision Date: March 7, 2025 LS      UTM ZONE 11 NAD83



- |  |                            |  |  |
|--|----------------------------|--|--|
|  | Gas Well                   |  | Occupied                               |
|  | Suspended Gas Well         |  | Sensitive                              |
|  | Injection Well             |  | Vacant                                 |
|  | Service Well               |  | Occupied Facility                      |
|  | Suspended Well             |  | Surface Development                    |
|  | Well Location              |  | Abandoned                              |
|  | Third Party Well           |  | Bridge                                 |
|  | Facility                   |  | Communication Tower                    |
|  | Gas Plant                  |  | Farm Use Area                          |
|  | Third Party Facility       |  | Critical WCSS Control Point            |
|  | Third Party Gas Plant      |  | Non-Critical WCSS Control Point        |
|  | Lease Boundary             |  | River Flow Direction                   |
|  | ESD                        |  | Hydrology                              |
|  | Gas Pipeline               |  | Waterbody                              |
|  | Discontinued Gas Pipeline  |  | Urban Area                             |
|  | Oil Pipeline               |  | Grazing                                |
|  | HVP Pipeline               |  | Protected Area                         |
|  | LVP Pipeline               |  | Health Authority                       |
|  | Water Pipeline             |  | Local Authority                        |
|  | Sour Third Party Pipeline  |  | RCMP                                   |
|  | HVP Third Party Pipeline   |  | WCSS COOP                              |
|  | Sweet Third Party Pipeline |  | Wildlife Management Unit               |
|  | Third Party Pipeline AB    |  | Resident Quadrant<br>Number i.e. GU223 |
|  | Other Roads                |  | EPZ/Egress EPZ                         |
|  | Railway                    |  | Other Site Section EPZ                 |
|  | Access Route               |  |  |

### AREA OVERVIEW MAP



NORTHERN HEALTH AUTHORITY  
 PEACE RIVER REGIONAL DISTRICT  
 RCMP - DAWSON CREEK  
 WCSS COOP 9

ALBERTA HEALTH SERVICES - Z5 NORTH  
 SADDLE HILLS COUNTY  
 RCMP - SPIRIT RIVER  
 WCSS COOP 5  
 BLUEBERRY - WMU 359



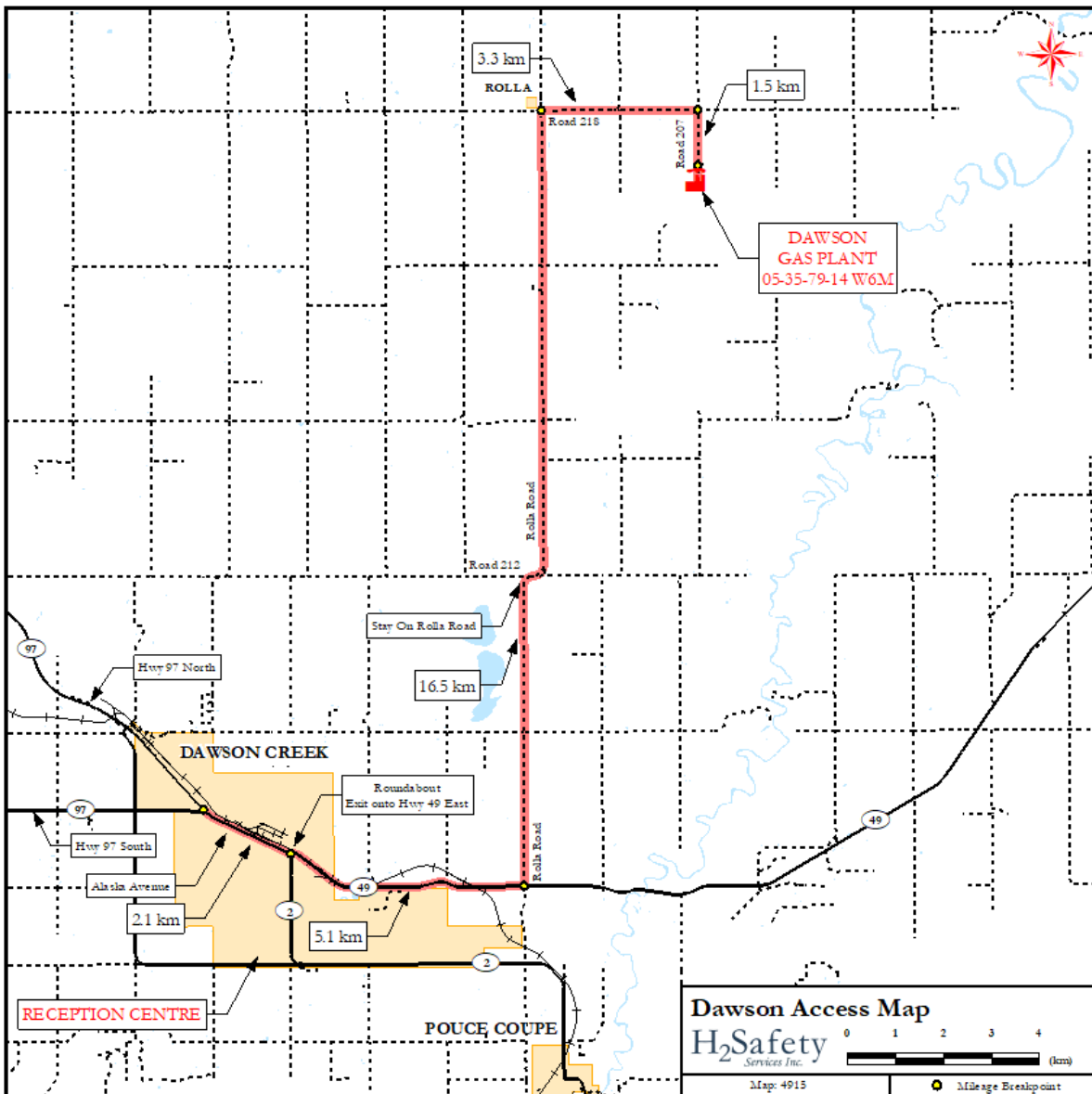
# Dawson / Pouce CER Pipeline Site Access

Note: CER Pipeline begins at the Dawson 05-35 Gas Plant.

## Directions to the Dawson 05-35-79-14 W6M Gas Plant

From Dawson Creek, BC, at the junction of Highway 97 North and Highway 97 South:

- Travel east on Alaska Avenue for 2.1 km to a traffic roundabout
- Exit off of the roundabout onto Highway 49 East and travel for 5.1 km to the intersection of Rolla Road.
- Turn left (north) onto Rolla Road and travel for 16.5 km to the intersection of Road 218.
- Turn right (east) onto Road 218 and travel for 3.3 km to the intersection of Road 207.
- Turn right (south) onto Road 207 and travel 1.5 km. Access to the Dawson 05-35-79-14 W6M Gas Plant will be on the right hand side.







## CER Pipelines

LICENSEE / OPERATOR	WATER CROSS	FROM	TO	START VALVE	END VALVE	LICENSE NO.	LINE NO.	UNIQUE LINE #	INCLUDES UNIQUE LINE #	SUB	OD (mm)	SEGMENT LENGTH (km)	WALL (mm)	LICENSED PRESSURE (kPa)	LICENSED H2S (%)	TEMP (°C)	Z	H2S RELEASE VOLUME (m3)	SOUR HPZ (m)	THERMAL RADIATION HPZ (m)	ASSIGNED EPZ (m)	STATUS		
<b>ARC CER PIPELINES - SOUR</b>																								
ARC RESOURCES LTD.	-	01-34-079-14W6	CS	11-05-080-13W6	PL	ESD	-	XG-A083-05-2008	2	1	1,2	SG	273.0	13.50	7.1	9,930	0.50	5	0.71	515	760	133	836	O
ARC RESOURCES LTD.	-	11-05-080-13W6	PL	05-23-080-13W6	GP	-	ESD	XG-A083-05-2008	1	2	1,2	SG	273.0	13.50	7.1	9,930	0.50	5	0.71	515	760	134	836	O
ARC RESOURCES LTD.	-	01-34-079-14W6	CS	11-05-080-13W6	PL	ESD	-	AO-1-XG-S168-4-2002	2	3	3,4	SG	168.3	6.53	4.8	9,930	2.00	5	0.71	2081	1850	74	1900	U
ARC RESOURCES LTD.	-	11-05-080-13W6	PL	05-23-080-13W6	GP	-	ESD	AO-1-XG-S168-4-2002	1	4	3,4	SG	168.3	6.99	4.8	9,930	2.00	5	0.71	2081	1850	74	1900	U
<b>ARC CER PIPELINES - SWEET</b>																								
ARC RESOURCES LTD.	-	13-20-080-13W6	WE	14-20-080-13W6	PL	-	-	AO-1-XG-S168-11-99	1	5	5	SG	168.3	2.23	0.0	8,700	0.00					66	73	O
ARC RESOURCES LTD.	-	14-20-080-13W6	PL	13-20-080-13W6	PL	-	-	AO-1-XG-S168-11-99	2	6	6	FG	168.3	0.53	0.0	1,103	0.00					26	29	O
ARC RESOURCES LTD.	-	05-28-080-13W6	PL	14-20-080-13W6	PL	-	-	AO-1-XG-S168-11-99	1	7	7	FG	60.3	2.23	0.0	1,103	0.00					10	11	O
ARC RESOURCES LTD.	-	14-20-080-13W6	PL	13-20-080-13W6	PL	-	-	AO-1-XG-S168-11-99	2	8	8	FG	60.3	2.23	0.0	1,103	0.00					10	11	O
ARC RESOURCES LTD.	-	05-23-080-13W6	PL	11-05-080-13W6	PL	-	-	AO-1-XG-S168-4-2002	1	9	9	FG	60.3	13.51	3.2	9,930	0.00					22	25	O
ARC RESOURCES LTD.	-	11-05-080-13W6	PL	01-34-079-14W6	PL	-	-	AO-1-XG-S168-4-2002	2	10	10	FG	60.3	6.53	3.2	9,930	0.00					21	24	O

### LEGEND

Facility: BT=Battery BE=Blind End CS=Compressor Station DH=Dehydrator GP=Gas Plant GS=Gas Gathering System IP=Injection Plant PN=Plant LH=Line Heater

MS=Meter Station PL=Pipeline PS=Pump Station SA=Satellite WE=Well HD=Header JN=Junction UG=Underground cap or tie-in WF=Well Facility

Substance: AG=Acid Gas CO=Crude Oil FW=Fresh Water HV=High Vapour Pressure LV=Low Vapour Pressure NG=Natural Gas OE=Oil Effluent SG=Sour Gas

FG=Fuel Gas ST=Sweet Gas SW=Salt Water SE=Sour Oilwell Effluent SC=Sour Crude MG=Miscellaneous Gases OM=Oil Emulsion WS=Sour Water PW=Produced Water

UN=Unknown ML=Miscellaneous Liquids AA=Air MP=Multiphase

Status: A=Abandoned D=Discontinued N=Not Constructed/Approved O=Operating P=To Be Constructed U=Unknown Q=Active I=Inactive S=Suspended R=Removed

T=New V=Deactivated Z=Approved J=Out of Jurisdiction

Other: WALL=Wall Thickness OD=Outside Diameter EPZ=Emergency Planning Zone ROW = Pipeline Right of Way HPZ=Hazard Planning Zone

