

# NORTHEAST BC EMERGENCY RESPONSE PLAN

# BC Oil & Gas (OGC) / EMBC 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 12, 2022



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Note:

Within the ERP, any information that is blacked out has been deemed sensitive and removed from the published redacted version as per the Canada Energy Regulator (CER) Order MO-006-2016.

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- Dawson 13-07-80-14 W6M Gas Plant
- Dawson SW 07-80-14 W6M Freshwater Storage Reservoir ERP
- Pouce
- Star Pouce Coupe 11-34-74-12 W6M Gas Plant

Parkland / Tower

- Parkland / Tower East
- Parkland 03-09-81-16 W6M Gas Plant
- Parkland / Tower West

Sunrise

- Sunrise
- Sunrise NW 36-78-18 W6M Freshwater Storage Reservoir ERP

Other

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- Fort St. John / Buick Creek / Flat Rock
- Sunset
- Tommy
- Attachie East
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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:



# 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:

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

#### Submit to:





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# ARC RESOURCES NORTHEAST BC ERP DISTRIBUTION LIST

Manual #	Туре	Res Info	Branch	Title/Agency	Name

# ARC RESOURCES NORTHEAST BC ERP DISTRIBUTION LIST

 Manual #	Туре	Res Info	Branch	Title/Agency	Name	



# **REVISION HISTORY**

This Emergency Response Plan is effective March 11, 2022. 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:



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

Date of Update Inserted Into ERP:

Signature:



ERP Revision Due Date: March 11, 2023							
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages			
			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			
	March 11, 2022	, Annual Update	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			
March 11, 2022			6. Incident Specific Guidelines	<ul> <li>6.5 Petroleum Spills – Added specific containment methods</li> <li>6.6 Alberta Petroleum Industry Release Reporting Requirements.</li> <li>6.7 British Columbia Petroleum Industry Release Reporting Requirements.</li> <li>6.18 Transportation Incidents – Section added</li> <li>6.19 Security Incidents – Section added</li> </ul>			
			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			



ERP Revision Due Date: March 11, 2023							
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages			
			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	<ol> <li>1.5 Incident Classification Matrices (AB &amp;BC).</li> <li>1.9 Government Call Down Procedures – AB/BC.</li> </ol>			
			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.			
	March 12, 2021	, Annual ERP Update		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: https://stars.ca/wp-content/uploads/2018/07/LZ-card-AB-and-SK-2018.pdf			
March 12, 2021			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.			



ERP Revision	ERP Revision Due Date: March 11, 2023							
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages				
			12. Site Specific	ALL				
			Foreword	Title Page				
March 13, 2020	March 13, 2020	Annual ERP Update	0. Plan Holder Information	Distribution List Revision History				
	March 6,	optate	1. Activation Notification	Internal Notification Drilling & Completions Flowchart Alberta Notification Matrix British Columbia Notification Matrix				
			3. Government Agency Roles	All				
			5. Forms	ICS 209				
February 28,			6. Incident Specific Guidelines	Alberta Release Reporting Requirements British Columbia Release Reporting Requirements				
2020	2020	Update	9. References	Acronyms				
			10. Phone List	- ARC Corporate Phone List - ARC Field Phone List				
			11. Drilling & Completions	- Drilling & Completions Internal Notification Flowchart				



ERP Revision	ERP Revision Due Date: March 11, 2023						
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages			
			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			
June 10, 2019	June 25, 2019	Regular Update	1. Activation Notification	<ul> <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> <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</li> </ul>			



ERP Revision	ERP Revision Due Date: March 11, 2023						
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages			
				<ul> <li>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>			
	February 28, 2019		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).			
February 28, 2019			4. Incident Classification	<ul> <li>- 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.</li> <li>- 4.5 British Columbia OGC Emergency Criteria – Added Minor Incident Reporting, Escalating and Downgrading Emergencies, etc.</li> </ul>			
			5. Forms	Added short section before Form Descriptions called Documentation During and After an Incident.			



ERP Revision	ERP Revision Due Date: March 11, 2023						
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages			
			6. Incident Specific Guidelines	<ul> <li>- 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.</li> <li>- 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 Local Authority as an entity to report spills too as well 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 Local Authority as an entity to report spills too as well 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 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 Inc</li></ul>			
			7. Public Safety Guidelines	- 7.13 British Columbia Public Protection Measures Flowchart - Includes HPZ and revised H2S/SO2 table.			



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			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				
November 27, 2018		Addition of the Parkland Dawson Interconnect Pipeline	12. Site Specific	ALL, with the exception of the Dawson 05-35-79-14 W6M Gas Plant Site Section & Fort Nelson Site Section				
July 23, 2018		Personnel Change	ALL	ALL				
			12. Site Specific	<ul> <li>NEB Pipelines Site Section</li> <li>Dawson Site Section</li> <li>Dawson Creek</li> <li>05-35-79-14 W6M Gas Plant Site Section</li> <li>Dawson Creek</li> <li>13-07-80-14 W6M Gas Plant Site Section</li> </ul>				



ERP Revision	ERP Revision Due Date: March 11, 2023				
Date of Revision	Naction Attacted Vacca		Affected Pages		
February 27, 2018		Annual ERP Update	12. Site Specific	<ul> <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>Attachie West Site Section</li> </ul>	
October 26, 2017		Personnel Change	Dawson	– Dawson Site Section – Dawson Field Map – Dawson Sweet Tables	
September 25, 2017		Addition of Dawson Creek 3 Gas Plant Plot Plan, Removed Attachie from Fort St. John / Buick / Flat Rock site section, Addition of Attachie East & Attachie West Site Section	ALL	- ALL	



ERP Revision	ERP Revision Due Date: March 11, 2023				
Date of Revision	Date of Issue	Reason for Revision	Section	Affected Pages	
June 22, 2017		Addition of two new sweet pipelines (Line #'s 23907 & 24221)		_	
April 5, 2017		Annual ERP Update			

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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

Evacuate	<ul> <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>
Alarm	<ul> <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>
Assess	<ul> <li>Take head count, locate any casualties. Consider all of the hazards.</li> <li>Fill out information below to complete assessment.</li> </ul>
Protect	Put on breathing apparatus before attempting rescue.
Rescue	Remove victim to a safe area.
First Aid	<ul> <li>Follow the standard first aid protocols at worksite. (CPR, etc.)</li> </ul>
Medical Aid	<ul> <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 EMERGENCY REPORT FORM**

## FIRST ON-SCENE ACTIONS

Evacuate	<ul> <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>
Alarm	<ul> <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>
Assess	<ul> <li>Take head count, locate any casualties. Consider all of the hazards.</li> <li>Fill out information below to complete assessment.</li> </ul>
Protect	Put on breathing apparatus before attempting rescue.
Rescue	Remove victim to a safe area.
First Aid	□ Follow the standard first aid protocols at worksite. (CPR, etc.)
Medical Aid	<ul> <li>Arrange transport of casualties to medical aid.</li> <li>Provide information to Emergency Medical Services (EMS).</li> </ul>

INCIDENT	INCIDENT DETAILS To be completed by the person involved or notified					
Report take	n by			Date / Time		
N (						
Name of per	son calling	5		Caller Telephone		
Incident Loc	ation					
			(LSE	) / NTS)		
Event Summ	ary					
Agencies Notified	□ Yes □ No	Who?				
Event	-	ent contained or o	controlled	□ Intermittent control poss	sible	
Status	Imminent control possible		□ Incident is uncontrolled			
Site Type	🗆 Well	□ Pipeline	□ Tank Farm/Storage	□ Battery/Plant/Facility	□ Other	
	□ Sour (	Gas Release	□ Sweet Gas Release	Pipeline Break	□ Security (theft, threat, terrorism)	
Incident Type	Loss of Containment		□ Fire/Explosion	U Worker Injury/Fatality	□ Vehicle/Transportation	
. / / / /	🗆 Liquid Spill		□ Other			

# NEBC Emergency Response Plan



IMP	ACTS						
	Public Health and Safety	🗆 Could be j	eopardized	d 🛛 🗆 Is jeopardized			
	Public Protection Measures Ta	en 🗆 Notificatio	on 🗆 Evacu	ation [	□ Shelter-in-place	□ Roadblocks	
	Worker Injuries	🗆 First Aid	🗆 Hospi	talized [	□ Fatality	□ Other	
LE	Distance to nearest surface		KM I		earest urban		km
PEOPLE	development Details		се	ntre			
	Release Impact 🛛 On-Lease	□ Off-Lease	Product		Amou	nt	
	Gas Readings H <sub>2</sub> S	SO <sub>2</sub>	LEL	Other			
F	Distance to nearest watercourse		km W	eather Con	ditions	0° 360° N	
NME	Details					315° NW NNW	NNE 45°
ENVIRONMENT					27	70° W W18W 55W 525° 5 180°	ESE 55E 135*
ASSETS	Details						
	Media ☐ Yes ☐ N Involvement?	Regulator Involvement?	□Yes □N		ic Affairs/Communi tions Issues?	i <b>ty</b> 🗆 Yes	□ No
REPUTATION	Details						
NOT	ES / INSTRUCTIONS PROVIDE	<b>)</b> :					

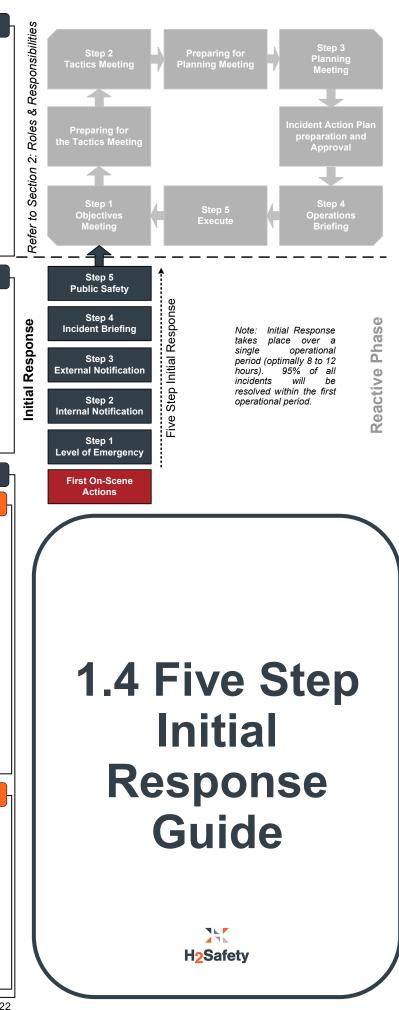
### DISTRIBUTE THIS COMPLETED REPORT TO ALL KEY RESPONSE PERSONNEL

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 OGC 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.	<ul> <li>Step 2 - Internal Notification</li> <li>Follow the Internal Emergency Notification Flowchart to determine who needs to be notified.</li> <li>Relay the information in the completed A1 Initial Emergency Report Form.</li> <li>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.</li> <li>Use the following resources: <ul> <li>Section 1.6 STEP 2: Initial Response (Internal Emergency Notification Flowchart)</li> <li>Section 10.1: Corporate Phone List</li> <li>Section 10.2: Field Phone List</li> <li>Section 5: FORMS (A1)</li> </ul> </li> </ul>
<ul> <li>911 (police, fire, ambul</li> <li>Regulatory agency to c</li> </ul>	Step 3 - External Notification         gency Notification Flowchart to determine which external agencies need to be notified.         ance) <ul> <li>Health Authority / Health Services</li> <li>confirm the Level of Emergency</li> <li>Air Monitoring (at all levels of emergency)</li> <li>Towns, Villages, Counties, M.D.s, R.D.s, R.M.s, Special Areas, Reserves, etc.)</li> </ul>	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).
	es: Il Notification Matrices (AB & BC) ent Call Down Procedures	<ul> <li>Identify required resources and when they'll be available (page 4).</li> <li>Use the following resources:         <ul> <li>Section 5: Forms (ICS 201)</li> </ul> </li> </ul>

Step 5 - Initiate Public Safety
Boyoro

Public Protection Measures	Rovers	Telephoners
<ul> <li>Determine the hazard area; start with Emergency Planning Zone (EPZ) as default.</li> <li>Identify the affected surface developments and area users. (Houses, businesses, guides/outfitters, trappers, schools, other oil and gas operators, etc.)</li> <li>Determine the appropriate public protection measure for the affected surface developments and area users. (Evacuation, shelter-in-place and/or ignition)</li> <li>Coordinate evacuation outside of the EPZ with the local authority, if required.</li> <li>Utilize broadcast media to notify public outside of the EPZ in immediate evacuation situations.</li> <li>Use the following resources:         <ul> <li>Section 7: Public Safety Guidelines</li> <li>Section 12: ERP Map / EPZ calculation tables</li> <li>Section 2.10 On-Site Group Supervisor</li> </ul> </li> </ul>	<ul> <li>Dispatch Rovers to patrol the EPZ.</li> <li>Follow safety procedures and have appropriate PPE.</li> <li>Search the EPZ for transients.</li> <li>Assist residences that require evacuation assistance.</li> <li>Investigate surface developments that are identified as vacant or those who were unable to contact.</li> <li>Post notices on all outside doors of empty surface developments, vehicles, etc.</li> <li>Record all contacts, communications and monitoring readings using the following forms: ICS 214, A5, B3 &amp; B5.</li> <li>Monitor and record air quality readings using the following forms: ICS 214 &amp; A5. (Smoke, plumes, wind, etc.)</li> <li>Provide status updates to the Public Safety Group Supervisor at established intervals.</li> <li>Use the following resources: <ul> <li>Section 12: ERP MAP</li> <li>Section 5: FORMS</li> </ul> </li> </ul>	<ul> <li>Establish a Telephoner Team to notify residents to evacuate or shelter-inplace as required.</li> <li>Notify special needs residents at a Level 1 Emergency and provide the option to evacuate voluntarily.</li> <li>Follow-up phone calls to address resident inquiries.</li> <li>Record all phone calls and communications using the following forms: ICS 214, B3, B6, B7, &amp; B8.</li> <li>Regularly provide status updates to the Public Safety Group Supervisor.</li> <li>Use the following resources: <ul> <li>Section 12: ERP MAP</li> <li>Section 2.19: Telephoners</li> <li>Section 5: FORMS</li> </ul> </li> </ul>
Roadblocks	Air Monitors	Reception Centre Rep
<ul> <li>Follow safety procedures to safely establish roadblocks wherever a road intersects with the EPZ and advise vehicles to reroute.</li> <li>Record all vehicle encounters and air monitoring readings. Complete the following forms: ICS 214, A5, B3 &amp; B4.</li> <li>Gain permission from the Public Safety Group Supervisor for response vehicles to enter the hazard area.</li> <li>Provide status updates to the Public Safety Group Supervisor at established intervals.</li> <li>Use the following resources:         <ul> <li>Section 12: ERP MAP</li> <li>Section 5: FORMS</li> </ul> </li> </ul>	<ul> <li>Dispatch Air Monitoring personnel to the nearest residence / public facility downwind of the incident.</li> <li>Follow safety procedures and have appropriate PPE.</li> <li>Monitor and record air quality readings using the following forms: ICS 214 &amp; A5. (Smoke, plumes, wind, etc.)</li> <li>Provide status updates to the Public Safety Group Supervisor at established intervals.</li> <li>Use the following resources:         <ul> <li>Section 2.15: Air Monitoring</li> <li>Section 5: FORMS</li> </ul> </li> </ul>	<ul> <li>If residents are evacuated, dispatch a Reception Centre Representative to the reception centre location.</li> <li>Meet and register evacuated residents.</li> <li>Record contact information for those who choose to stay elsewhere. Complete the following forms: ICS 214, B1, B2 &amp; C2.</li> <li>Regularly provide status updates to the Public Safety Group Supervisor (those who have arrived and those who have not yet arrived).</li> <li>Use the following resources:         <ul> <li>Section 2.16: Reception Centre Staff</li> <li>Section 5: FORMS</li> </ul> </li> </ul>



# 1.5 STEP 1: LEVEL OF EMERGENCY



## Assessment Matrix for Classifying Incidents

Follow these 3 Steps to determine the Level of Emergency

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

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

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

Under "Description" pick the description that currently fits the likelihood of the incident escalating. For example, if the incident is contained and controlled and there is no chance of additional hazards, the incident would receive a "Rank" of 1.

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:

1) In Alberta the licensee must use the Assessment Matrix for Classifying Incidents to classify an

and anti-incident
 anti

3) After contacting the Alberta Energy Regulator (AER), the licensee in Alberta, must notify the local authority, the RCMP/police and the local health authority if the hazardous release goes off site and has the potential to impact the public or if the licensee has contacted members of the public or the media

4) Once the situation improves, the licensee must make the decision to downgrade or stand down an emergency in consultation with the government regulator.

Step 3 J 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				

# **1.5 STEP 1: LEVEL OF EMERGENCY**

Step 4 J Table 4. Incident Response - Incident Classification									
Responses Alert		Level - 1 Emergen cy		Level - 2 Emergen cy		Level - 3 Emergency			
Со	mmunicatior	าร							
Internal Discretionary, depending on licensee policy.		Notification of off-site management.		Notification of off-site management.		Notification of off-site management.			
	External public		Mandatory for individuals who have requested notification within the EPZ.		Planned and instructive in accordance with the specific ERP.		Planned and instructive in accordance with the specific ERP.		
Reactive, as required.		Reactive, as required.		Proactive media management to local or regional interest.		Proactive-media management to national interest.			
Government Reactive, as required. Notify AER if public or media is contacted.		Notify government regulator. Call local authority and health authority if public or media is contacted.		Notify government regulator, local authority & health authority.		Notify govemment regulator, local authority & health authority.			
Act	tions								
On site, æ licensee. Internal			required by	by On site, as required by Initial response under accordance with the s or corporate-level ERI		Predetermined public safety actions are under way. Corporate management team alerted and may be appropriately engaged to support on-scene responders.		Full implementation of incident management system.	
On site, as req licensee.		required by	On site, as required			ncial	Immediate multi agency (operator, municipal, provincial or federal) response.		
Res	sources								
Immediate a Internal No additiona required.		and local. al personnel	Establish what resources would be required.		Limited supplemental resources or personnel required.		Sign ificant incremental resources required.		
External		None.	Begin to establish may be required.		sources that Possible assistance from government agencies and external support services, a required.		as	Assistance from government agencies and external support services, as required.	
	Ale	Alert Level-1 Emergency		Leve	I-2 Emergency		Level-3 Emergency		
Definition	An incident that handled on site licensee throug operating proc- is deemed to b low risk to men the public.	n site by the licensee's proper trough normal to the public, and to be a very can be handled members of personnel. There		rty, there is no threat d there is minimal npact. The situation entirely by licensee e will be immediate zard. There is little rest. the situation entirely by licensee's must be notifi- hazard is prol moderate thre environment.		property or the right-of- is the potential for the extend beyond the orgyperty. Outside agencies limmed. Imminent control of the prov		safety of the public is in jeopardy na major uncontrolled hazard. re are likely significant and oing environmental impacts. nediate multi agercy municipal and incial government involvement is jired.	
	Alert		Level-1 E	Level-1 Emergency		Level-2 Emergency		Level-3 Emergency	
se s		<ul> <li>Isolate the hazz</li> <li>Activate the ER</li> <li>Conduct public special needs r</li> <li>If special needs to voluntarily ex reception centre</li> <li>Notify appropria personnel and g agencies</li> </ul>	P safety actions for exidents residents decide vacuate, activate a e ate internal government pring conducted at	procedures v established of -Inform gover situation and (governmen health autho -Identify the f operating an action to pro shelter or evv -Prepare igni related) -Respond to public questi -Prepare for 1 situation to 6 -Record activ and municip applicable -Establish roa -Activate the been establish	y activate emergency response cedures with command centres ablished or on standby irm government agencies of lation and incorporate support vernment regulabr, local authority, the hazard and emergency rating areas and take any required on to protect the public through lifer or evacuation. pare ignition team (butane gas ted) spond to media, company and lic questions pare for the potential of the lation to escalate to a Level-3 cord activities and keep government		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		

Note: This section is based on Alberta Regulations; however, the same standards will be followed by the company for operations in other provinces.

# **1.5 STEP 1: LEVEL OF EMERGENCY**



# **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 <u>Online Minor Incident Reporting System</u>.* 

# Table 1. Consequence Ranking

Rank	Consequence (any one of the following)
4	<ul> <li>Major on site equipment or infrastructure loss</li> <li>Major act of violence, sabotage, or terrorism which impacts permit holder assets</li> <li>Reportable liquid spill beyond site, uncontained and affecting environment</li> <li>Gas release beyond site affecting public safety</li> </ul>
3	<ul> <li>Threats of violence, sabotage, or terrorism</li> <li>Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property</li> <li>HAZMAT worker exposure exceeding allowable</li> <li>Major on site equipment failure</li> </ul>
2	<ul> <li>Major on site equipment damage</li> <li>A security breach that has potential to impact people, property or the environment</li> <li>Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property</li> </ul>
1	<ul> <li>Moderate on site equipment damage</li> <li>A security breach that impacts oil and gas assets</li> <li>Reportable liquid spill or gas release on location</li> <li>**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</li> </ul>
0	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	Uncontrolled, with control unlikely in near term							
3	Escalation possible; under or imminent control							
2	Escalation unlikely; controlled or likely imminent control							
1	Escalation highly unlikely; controlled or imminent control							
0	□ 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 Commission online within 24 hours using the <u>Form A: Minor Incident Notification Form (http://www.bcogc.ca/node/11188/download)</u> . In addition to Form A, spills must also be reported to EMBC.
Moderate (3-4)	Level-1 Emergency; immediate notification (call EMBC)
Major (5-6)	Level-2 Emergency; immediate notification (call EMBC)
Serious (7-8)	Level-3 Emergency; immediate notification (call EMBC)

					Probability					
	_		4	3	2	1	0			
OGC Incident Classification Matrix			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			
		□ Major on site equipment or infrastructure								
	4	<ul> <li>loss</li> <li>Major act of violence, sabotage, or terrorism which impacts permit holder assets</li> <li>Reportable liquid spill beyond site, uncontained and affecting environment</li> <li>Gas release beyond site affecting public safety</li> </ul>	Level 3	Level 3	Level 2	Level 2	Level 1			
00	3	<ul> <li>Threats of violence, sabotage, or terrorism</li> <li>Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property</li> <li>HAZMAT worker exposure exceeding allowable</li> <li>Major on site equipment failure</li> </ul>	Level 3	Level 2	Level 2	Level 1	Level 1			
	2	<ul> <li>Major on site equipment damage</li> <li>A security breach that has potential to impact people, property or the environment</li> <li>Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property</li> </ul>	Level 2	Level 2	Level 1	Level 1	Minor Notification Form			
	1	<ul> <li>Moderate on site equipment damage</li> <li>A security breach that impacts oil and gas assets</li> <li>Reportable liquid spill or gas release on location</li> <li>** 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</li> </ul>	Level 2	Level 1	Level 1	Minor Notification Form	Minor Notification Form			
	0	□ No consequential impacts	Level 1	Level 1	Minor Notification Form	Minor Notification Form	No Notification Required			
	<ul> <li>Th to su su Re</li> <li>If EN that</li> </ul>	r Incidents e permit holder must report the minor incident the Commission within 24 hours by electronic bmission through the Online Minor Incident eporting System, opened through KERMIT. the minor incident involves a leak or a spill, /BC must also be called at 1-800-663-3456 so at a Dangerous Goods Incident Report (DGIR) mber may be issued.	the emerge • The permit downgradin Permit Hold The <u>Form D: Pe</u>	ission must be ncy status. t holder must g or the standin ers Post-Inc rmit Holder Post	notified as soon consult with the g-down of an inc <b>ident Report</b> Incident Report	as possible of e Commission ident. <u>Form</u>	any change to for escalating,			
	• If t it r to	<b>1, 2, or 3 Emergency</b> he incident receives a score of Level 1, 2, or 3, nust be <b>reported immediately (within 1 hour)</b>	(https://www.bcogc.ca/node/5771/download) must be submitted by the permit holder to the Commission within 60 days for: 1. Any Level 1, 2 or 3 emergency incident: complete Part A-P; or 2. Any pipeline incident (including minor notification): complete Part A-U; or 3. Upon request by the Commission This report and accompanying documentation can be found on the Commission's website under Emergency Response and Planning and must be emailed electronically to EMP@bcogc.ca							

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

emailed electronically to EMP@bcogc.ca

### **Spill Reporting Criteria**

Where the permit holder holds or maintains rights, the permit holder must report to the BC Oil and Gas Commission, 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; <u>Spill Reporting Regulation</u>, Schedule "Reporting Levels for Certain Substances" for determining reportable spillage amounts of other substances:

### Other Reportable Incidents

The Commission's 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 Commission 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)
  - o associated spill
  - o 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 Commission's 24 hour Incident Reporting line to notify the Commission of needed emergency oil and gas road closures.

### Special Sour Wells

During and 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 Section 6.6 and 6.7 for further spill reporting criteria and the Government Notification Matrix in Section 1.8 for other reportable incidents.



# **1.6 STEP 2: Internal Emergency Notification Flowcharts**

# **Base Operations**

Communications are to be made by cell phone or radio.



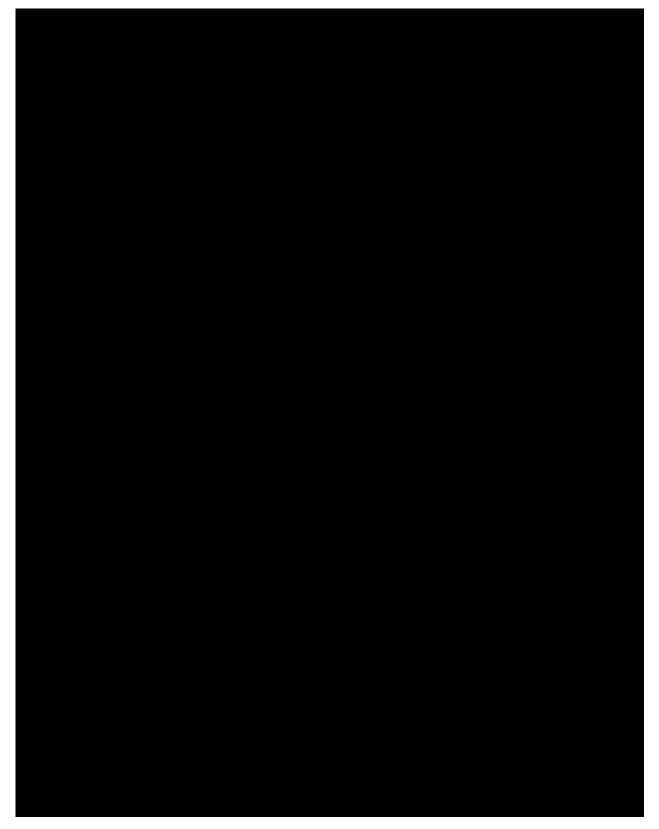
# **Drilling & Completions Internal Notification Flowchart**

INTERNAL DRILLING EMERGENCY NOTIFICATION FLOWCHART



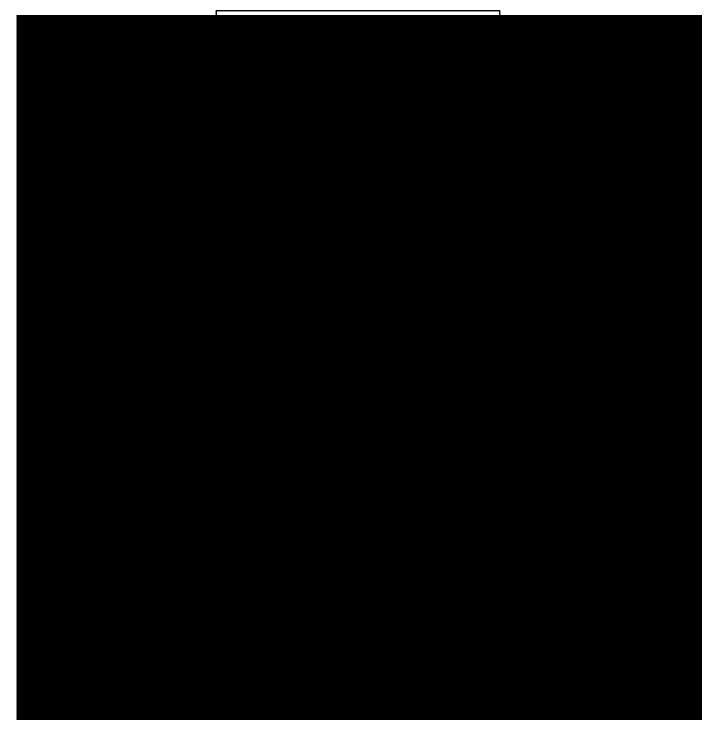


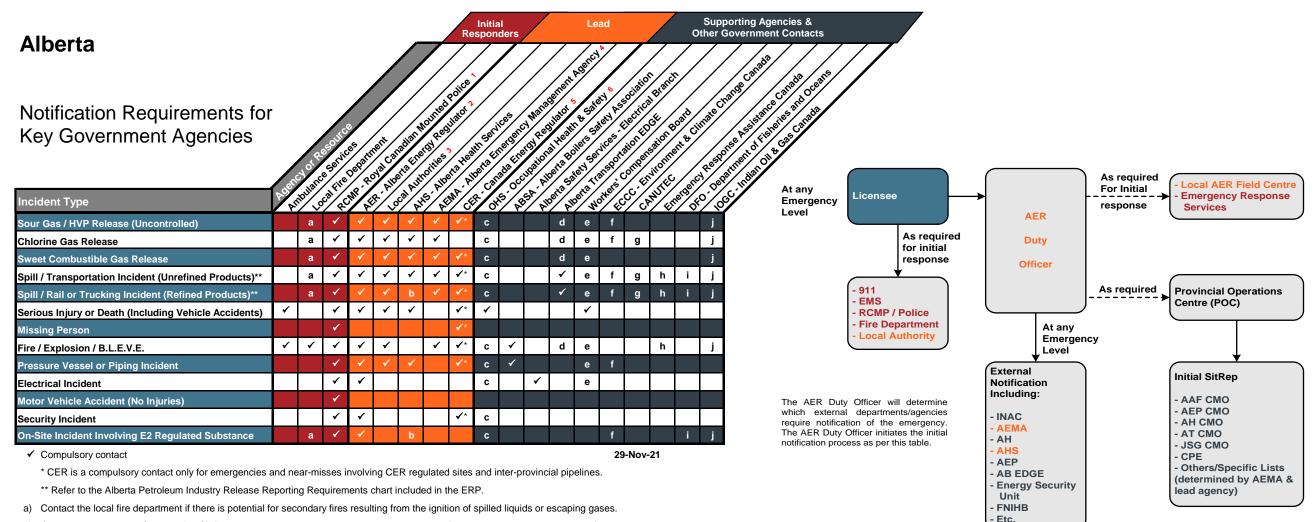
## INTERNAL COMPLETIONS EMERGENCY NOTIFICATION FLOWCHART





# 1.7 STEP 3: External Emergency Notification Flowchart

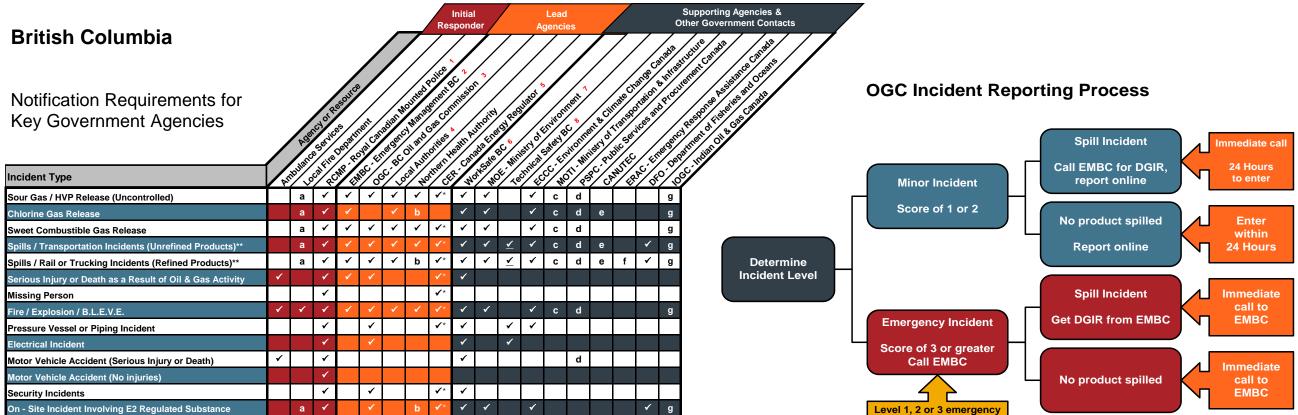




- b) Contact Alberta Health Services (AHS) if the incident has the potential to impact public health (e.g., contaminated drinking water).
- c) Contact Occupational Health & Safety and report when: an injury or accident results in death; an injury results in a worker being admitted to a hospital; a potentially serious incident (PSI) where a reasonable and informed person would determine that under slightly different circumstances, there would be a high likihood 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.
- d) Alberta Transportation EDGE (Environmental and Dangerous Goods Emergencies) is the first call for all transportation related spills/incidents. If spill is contained on-site, Alberta Transportation will contact the AER. If the spill moves off-site or into a waterbody, Alberta Transportation will contact Alberta Environment and Parks (AEP) and/or Environment & Climate Change Canada (ECCC). Contact Alberta Transportation 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 Transportation and RCMP have the authority to shut down highways.
- e) 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.
- f) 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.
- g) 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.
- h) 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.
- i) Contact the Department of Fisheries and Oceans Canada to report an oil spill that occurs in or around fresh and marine waters.
- i) 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 1m<sup>3</sup> 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 infections substances.
- 2 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.
- 3 Local Authorities include: cities, towns, villages, counties, municipal districts, improvement districts, special areas, Métis settlements, and first nations reserves.
- 4 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.
- 5 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.
- 6 Occupational Health and Safety see c) for further details on this agency's role.



# Matrix O ati Ö otific Ž rta Ð Ŏ 4 $\boldsymbol{\omega}$ $\overline{}$



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

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.

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

EMBC to notify the Ministry of Environment for any incident which affects the water, air, or land environment, or any white or green space in the province.

EMBC 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.

EMBC to notify Ministry of Forests, Lands and Natural Resources Operations, 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 Infrastructure (MOTI) 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). MOTI 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.

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- 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 infections substances.
- 2 Notify Emergency Management BC (EMBC) for all spill and non-spill incidents to receive a Dangerous Goods Incident Report (DGIR) number. EMBC will notify the OGC and Ministry of Environment, and will provide a representative to coordinate the provincial response.
- 3 Contact the OGC 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 OGC must also be notified of needed emergency oil and gas road closures. The OGC 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 for the worker, and then notify WorkSafeBC of the incident. 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 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.

# Matrix Notification σ olumbi 0 2 S riti m $\mathbf{0}$ $\overline{}$

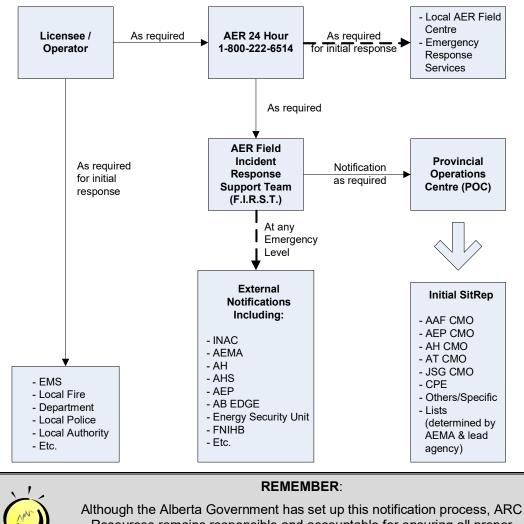


# 1.9 Government Call Down Procedures - AB

# 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 Energy Regulator and coordinate the Government's response, engaging GoA departments / agencies as appropriate.





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.



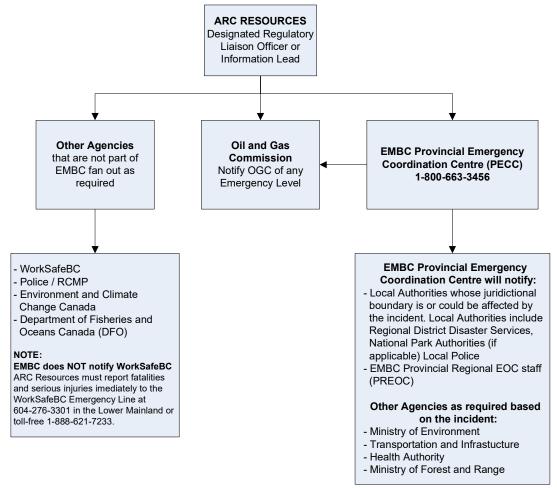
# **British Columbia**

To report an emergency within the province of British Columbia, immediately call the toll-free Emergency Management British Columbia (EMBC) 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 Emergency Management British Columbia (EMBC). The dispatcher will notify the appropriate agencies with the Oil and Gas Commission (OGC) likely taking the lead agency role. Together the OGC and EMBC will engage the expertise, assistance and cooperation of other departments / agencies as determined by the individual incident. Emergency Management British Columbia (EMBC) will assist the Oil and Gas Commission 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 EMBC Incident Notification Process as a backup to ARC Resources notification process.



# 1.10 ICS 201 INCIDENT BRIEFING

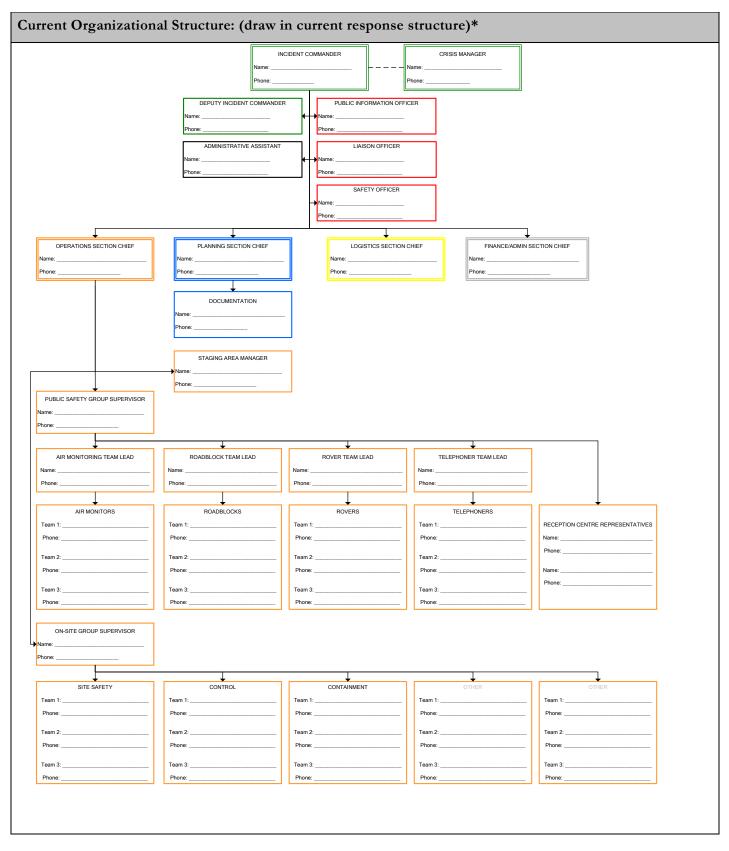
# Incident Name:

Incide	ent	Da	te:																										
Prepare	ed By	/ <b>:</b>												Pr	epa	red I	Date	:				Pr	epar	ed 7	Гim	e:			
Level of	Level of Emergency Alert / Minor Level 1 Level 2 Level 3																												
Map Sł	ketc	h:																											
Note: M	a <u>ps c</u>	an b	e dra	<u>wn </u> a	<u>r at</u> i	t <u>ache</u>	e <u>d he</u>	re.	1	1	1	1	1	1	1	ī	1	1						1	1	1		1	
Initial	Eme	erge	ncy	Sui	nm	ary:	: (W	rite	des	scrij	otio	n oi	att	ach	A1)	)													
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(Recogn people of	uize p	pote	ntial	l inci	den	t He	alth	& s.	afety	v Ha	zaro	ls ac	nd de zard	evela s).	op n	eces	sary	mea	sufe	es (16	mo	ve ha	azar	d, pi	rovic	le P.	<i>PE,</i> 1	wain	!
Fores				<u> </u>										- <b>/</b> ·															



	Summary of Curren	t Actions
Impacts	(P E A R )	
People Workers / Responder Priority		
Priority Public Protection	1	
Environment		
Asset Integrity		
Reputation		
OBJECTIVES	(Non-prioritized)	
Current Actions (Strat	egies & Tactics)	
Planned Actions (Strat	tegies & Tactics)	





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



Resource Summary:	A=Assig	ned (In Servi	ce)	AV=Av	ailable (Staged)	O=Out of Service
Supplier/Company/Agency	Resource Type	Date/Time Ordered	ЕТА	Status (See Legend Above)		Notes nent/Status/Date/Time)
External Notifications: (Gov	rernment)		Γ			
Agency		Time Called			Notes	



Site Type: (Select only 1)							
□ Well (Active)		□ Well (Abandor	ned/Su	□ Rem	note Sump		
UWell (Drilling & Completion	ons): Rig Name:						
□ Battery/Plant/Facility		□ Tank Farm/Ste	orage	□ Pipe	Pipeline		
$\Box$ Other – Specify:							
Incident Type: (Check all t	hat apply)				T		
□ Sour Gas Release		□ Sweet Gas Rele	ease		🗆 Liqu	uid Spills	
□ Natural Disaster/Weather		□ Fire/Explosion	n		Drill	ling Kick	
□ Worker Injury/Fatality		□ Security (theft,	threat	, terrorism)	🗆 Indu	aced Seismicity	
U Well Bore Communication		D Pipeline Boring	g		□ Veh	icle/Transportation	
Equipment/Structural Dar	nage	D Pipeline Break			□ Well	l Control	
□ Other – Specify:							
Activity: (Check all that app	oly)						
Construction (Road, Lease	, Pipe)	Drilling/Explo				te Management	
Processing		U Well Fracturing	0		□ Serv	0	
Repair		☐ Flaring (Emerg				l Testing	
Pressure Testing		□ Transportation	1				
□ Other – Specify: Material Information:							
Is spill off lease?	es □N	Jo		Liquid Hydro	oon (Crud	e, Oil, Diesel, Fuel)	
				□ Non-Toxic G			
□ Acid	Emulsion (C			Dioxide, Inert G		<u> </u>	
□ Methanol	□ Non-Toxic	*		□ Fresh Water		□ Salt Water	
□ Sour Natural Gas	Sour Liquids	s (<1% H <sub>2</sub> S)		Sweet Natura			
Toxic Gas Liquid (>1% D	ifferent Toxins)			□ Other – Spec	ify:		
Area Information:							
Land Type:  Private La		Crown Land		Field Name:			
Area Type:	□ Muskeg	□ Farmland		esidential D Ot			
Access:  Helicopte		□ 4WD	$\Box 2^{v}$	WD 🗆 Un	lknown		
Name of road the asset is loca							
KM where the incident occur							
Distance to nearest residence	· ·						
Nearest City/Town/Open Ca Weather Conditions:	imp:						
Weather Conditions	□ Clear			×1			
Weather Conditions		Cloudy		)ther:		Temp:	
Wind Direction N	NE NW	E SE	S	SW W		oC	
Wind Strength C	alm 🗆 N	Moderate Stro	ong	□ Gusty			
Medical:							
Public Health and Safety:			Wo	rker Injuries:			
Could be jeopardized	🗆 Is jeopard	lized		First Aid 🛛 Fa	atality	□ Hospitalization	

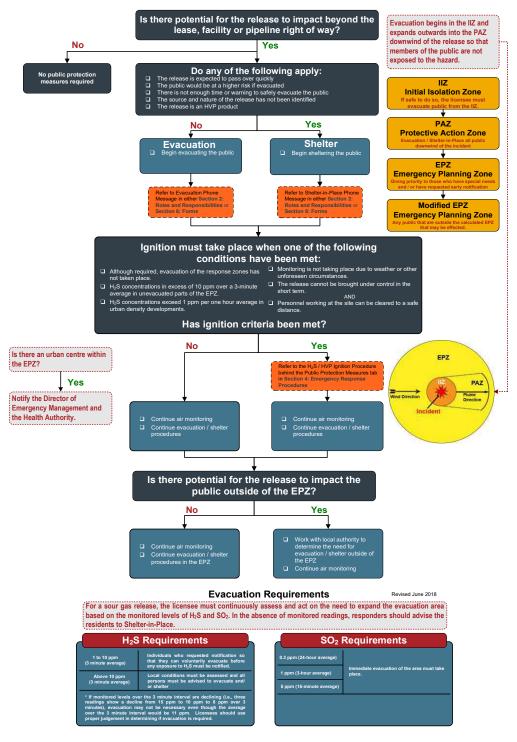


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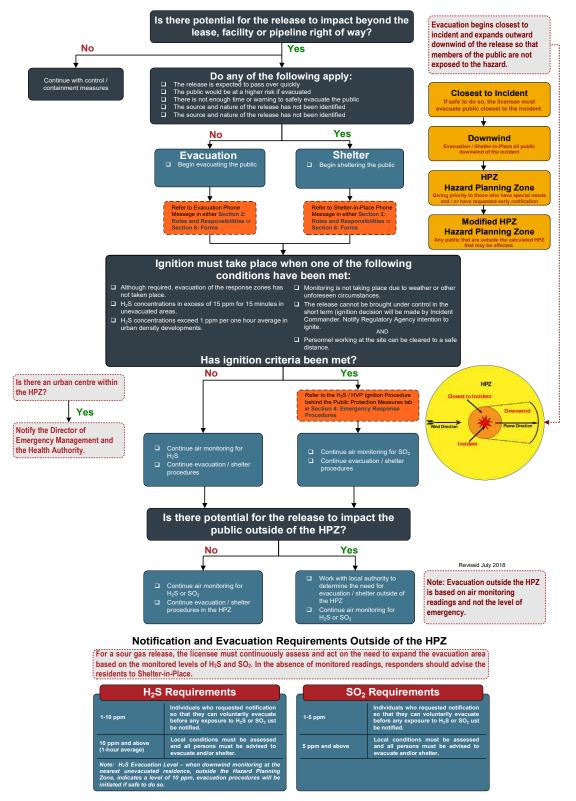
# **1.11** STEP 5: Public Protection Measures Flowchart (AB & BC)

# Alberta





# **British Columbia**



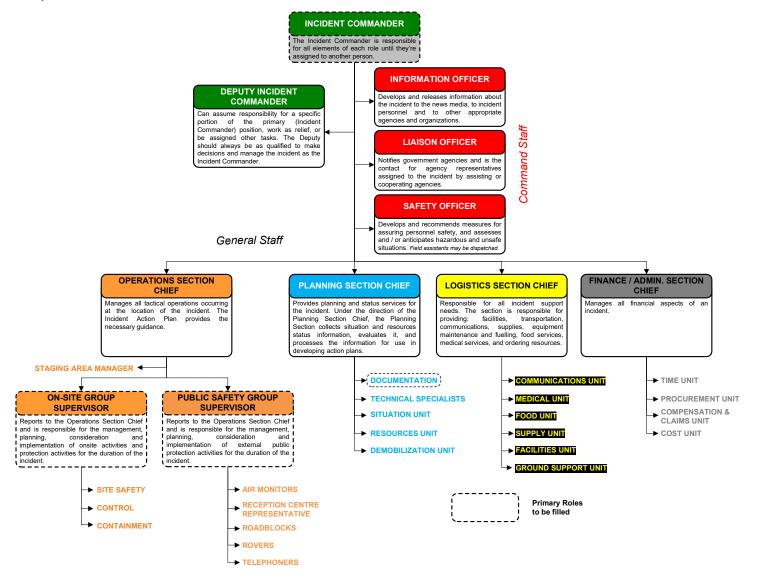
SEC	TION 2. ROLES & RESPONSIBILITIES1
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2.12	Logistics Section Roles Chart
2.13	Finance / Admin Section Roles Chart
2.14	Public Safety Roles Chart
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2.16	Reception Centre Rep Module
2.17	Roadblocks Module
2.18	Rovers Module
2.19	Telephoners Module
2.20	Five Step Ongoing Response Guide
2.21	Objectives Meeting
2.22	Tactics Meeting
2.23	Planning Meeting
2.24	Operations Briefing
2.25	Planning "P"45

# **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:

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

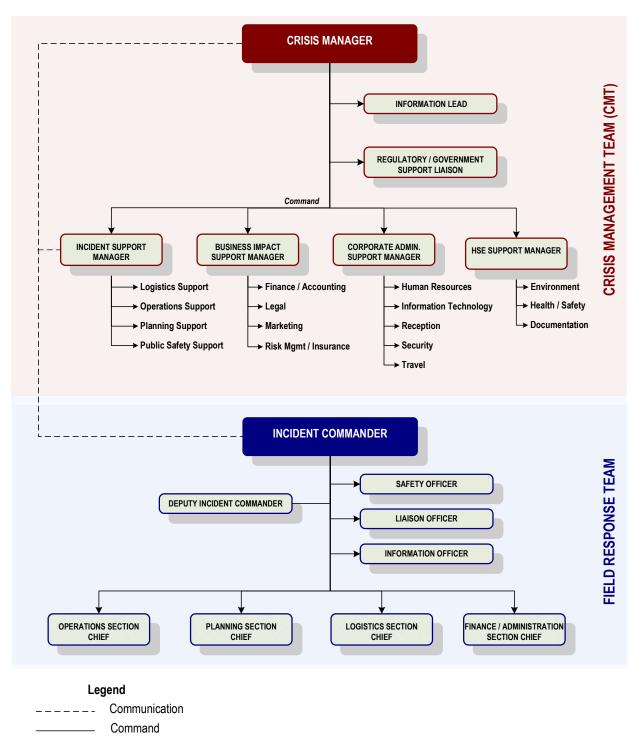
ARC

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.

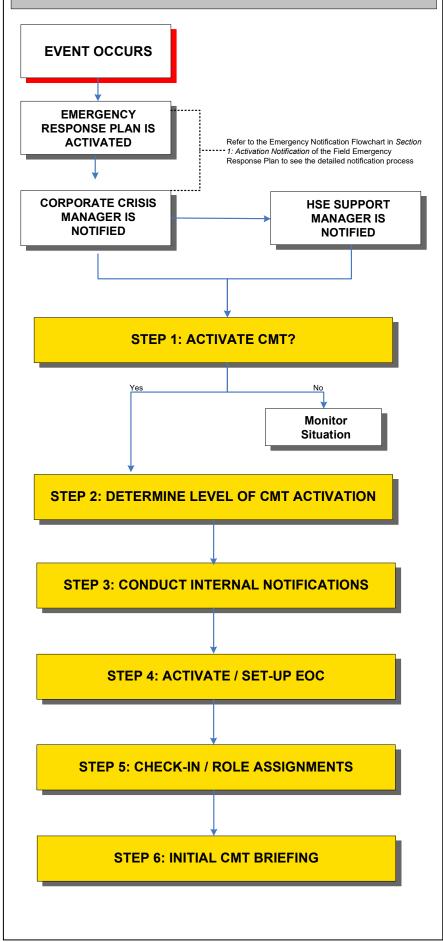
Refer to SECTION 12: SITE SPECIFIC (*Red information pages*) for further details on specific air monitoring equipment, back-up communication methods, ignition and roadblock kit contents as well as their locations, specialty fire-fighting equipment and/or service companies and their contact information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



# 2.4 Response Team Structure



# **CMT ACTIVATION FLOWCHART**



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

If the answer to any of the following guestions 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.

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.

- roles that are being filled.

As people arrive at the EOC:

- - responsibilities.
  - Roles and Responsibilities.

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:

- - · The current situation.

  - Upcoming meeting schedules and formats: (FRT)
- 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).

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

· 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

Ensure copies of the applicable Field Emergency Response Plan (ERP) are available.

# **STEP 5: CHECK-IN / ROLE ASSIGNMENTS**

· 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

• Provide them with copies of the role checklists for their CMT Team from Section 2:

 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**

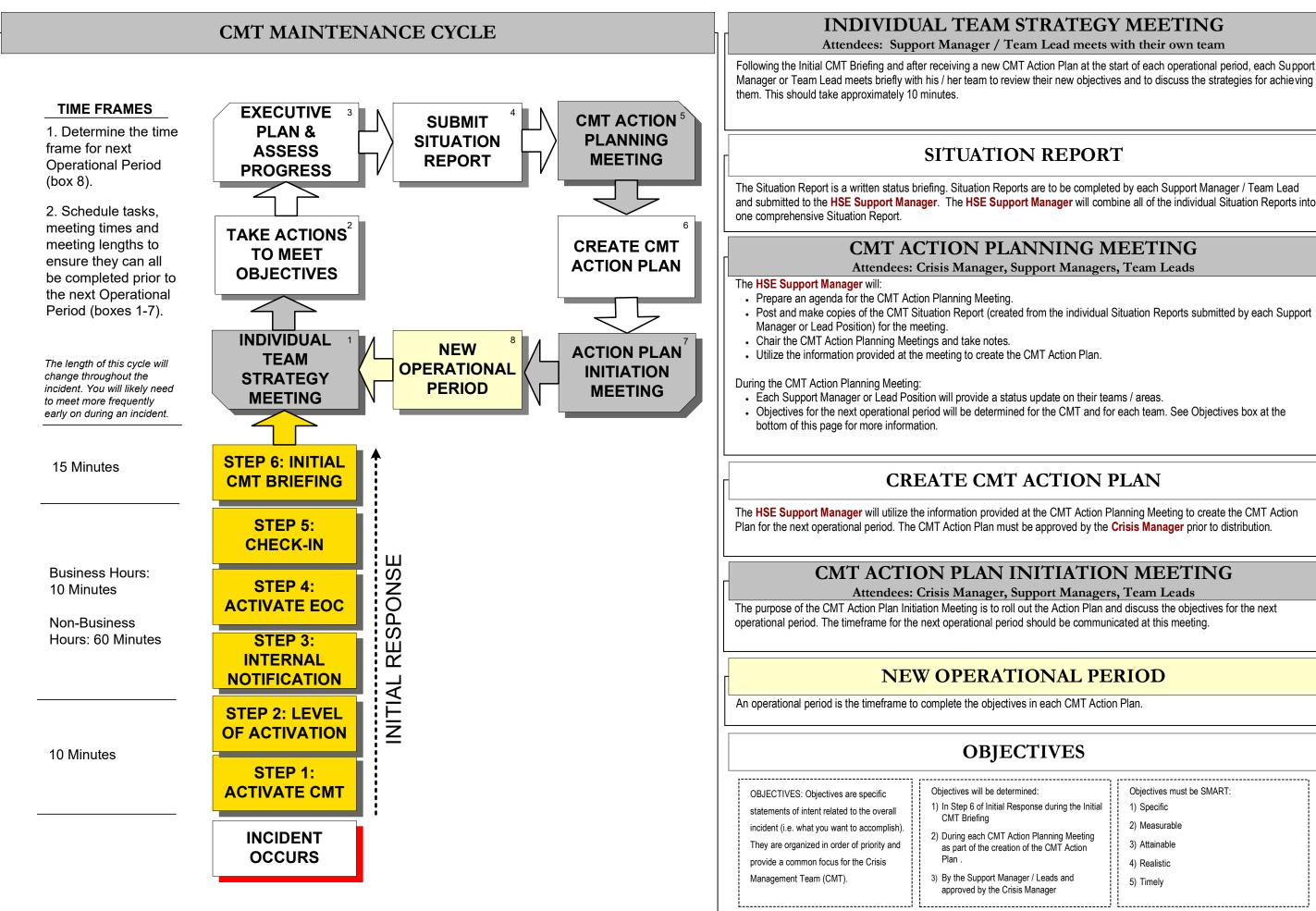
• An orientation on the EOC facility, equipment, processes, security, etc. Company priorities (People, Environment, Assets, Reputation).

Current unmet needs / assistance requirements / of the Field Response Team (FRT).

□ Time / Agenda / Expectations around conferences with the Field Response Team

Time / Agenda / Expectations around CMT Individual Team Meetings (see Ongoing CMT Maintenance on reverse side of this page).

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Objectives must be SMART: 1) Specific

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

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# 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.

Crisis Manager	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.
Information Lead	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.
Regulatory / Government Support Liaison	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.
Incident Support Manager	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).
Business Impact Support Manager	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.
Corporate Admin Support Manager	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.
Health, Safety & Environment Support Manager	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**

### ROLE DESCRIPTION

The Crisis Manager will be notified of the incident via the Incident Commander. The Crisis Manager 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 Crisis Manager determines the level of activation of the Crisis Management Team (CMT) and assigns all positions to meet the required level of activation. The Crisis Manager 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).

### **INITIAL TASKS (ACTIVATION)**

- Obtain a full briefing on the situation from the **Incident Commander**. Determine the severity of the incident, the potential for the incident to escalate, actions taken and next steps.
- Determine the level of support the FRT requires and the corresponding level of activation required of the corporate CMT to provide that support.
- Activate the corporate Emergency Operations Centre (EOC) if required.
- As personnel arrive at the EOC, check them in and assign them to positions on the CMT.
  - You are responsible for all of the duties of the CMT unless you have assembled a team and assigned these positions to other personnel.
  - 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.
  - Information can flow anywhere throughout the organizational structure; however, decisions must flow up the chain • of command.
- Establish initial priorities for the CMT based on current status and information from the FRT.

### **ONGOING TASKS**

- Maintain a position log that chronologically describes all actions taken, decisions made and events that occur ICS 214 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.
- Communicate directly with (or assign someone to **Incident Support Manager** to communicate directly with) the field Incident Commander, or if assigned, Deputy Incident Commander. Schedule regular status update meetings or if possible, conference in (video or phone) to attend each FRT meeting.
- U 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).
- 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.
- Ensure business continuity throughout the duration of the incident.
- Coordinate next-of-kin notifications with Corporate Admin (Human Resources), if required.
- □ Provide guidance, support, expertise and advice to the FRT and CMT.
- Approve the issuance of press releases and other public information materials prepared by the Information Lead as required. Refer to Section 8: Media & Stakeholder Relations.

### **POST INCIDENT**

- Approve Incident Commander's decision to downgrade the level of emergency.
- □ Ensure that members of the public and government agencies are notified when the incident is over.
- Ensure a Demobilization Plan for the EOC is completed, approved by the Crisis Manager and distributed to all Support Teams.
- Ensure all EOC documentation is forwarded to and compiled by the Documentation Unit.
- 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.
- Terminate emergency response and proceed with recovery operations as required.
- Deactivate the EOC when it is no longer required. Ensure the deactivation is communicated.

**ROLE DESCRIPTION** the Incident Command System (ICS) works.

# **INITIAL TASKS (ACTIVATION)**

- (EOC), obtain current situation status and specific job responsibilities expected of you.
- Based on your review of the incident briefing, assemble the Information Team (Community Relations, Joint Information Centre)
  - You are responsible for the duties of Community Relations and Joint Information Centre unless you have assembled a team and assigned these positions to other personnel.
  - 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.
  - Information can flow anywhere throughout the organizational structure: however, decisions must flow up the chain of command.
- Determine current level of media interest / involvement and any messages that have been given to the media.
- Review Section 8: Media & Stakeholder Relations.

### **ONGOING TASKS**

- Maintain a position log that chronologically describes all actions taken, decisions made and events that occur ICS 214 Activity Log in SECTION 5: FORMS.
- arrangements for someone from corporate to travel to the field and fulfill that role.
- U Work with the Crisis Manager to identify a Corporate Media Spokesperson for the incident to deliver messages to the media on behalf of the company.
- releasing information to the media.
- from the media or public and where to direct calls.
- Work with the **Regulatory / Government Support Liaison** to ensure that media releases are coordinated with the regulatory agency and other applicable government agencies.
- Prepare internal information releases to keep company personnel updated on the incident.
- Prepare and present an Information status briefing at each of the CMT Action Planning Meetings. Determine objectives for the Information Team for each operational period.

### POST INCIDENT

- Deactivate your assigned position and close out logs when authorized by the **Crisis Manager**.
- Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS.
- General Follow EOC checkout procedures. Sign out accordingly.
- Be prepared to provide input to the post incident debrief.

FORM

A9

# **INFORMATION LEAD**

Serves as the coordination point for all public information, media relations and internal information sources. The Information Lead is responsible for preparing the Field Response Team (FRT) and the Crisis Management Team (CMT) to deal successfully with internal and external communication. The Information Lead should have formal media training, needs to clearly understand the role of the field Information Officer, the applicable field Emergency Response Plan (ERP) and how

Check in with the Crisis Manager (or HSE Support Manager) upon arrival at the Emergency Operations Centre

during your shift. Ensure each member of your team is maintaining their own log. Review and complete the



Develop media statements, press releases, public alerts, warnings and public information materials, and provide them to the Information Officer for the FRT once they have been approved by the Crisis Manager and Business Impact (Risk Management / Insurance). Coach and direct the Information Officer on proper protocol and policies for

Ensure that the company's office receptionist / answering service are aware of the incident, knows how to deal with calls



ICS 214

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# **2.8 CRISIS MANAGEMENT TEAM ROLES**

**REGULATORY / GOVERNMENT SUPPORT LIAISON** INCIDENT SUPPORT MANAGER ROLE DESCRIPTION **ROLE DESCRIPTION** The role of the **Regulatory / Government Support Liaison** is to provide regulatory guidance and advice to the Crisis The Incident Support Manager is the main link between the Field Response Team (FRT) and the Crisis Management Team Management Team (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. **Commander**, if assigned, or the field **Incident Commander**. The **Incident Support Manager** provides operational, public The Incident Support Manager needs to clearly understand the roles of each Section Chief and the Incident Commander, the applicable field Emergency Response Plan (ERP) and how the Incident Command System (ICS) works. **INITIAL TASKS (ACTIVATION) INITIAL TASKS (ACTIVATION)** Check in with the Crisis Manager (or HSE Support Manager) upon arrival at the Emergency Operations Centre Check in with the Crisis Manager (or HSE Support Manager) upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you. (EOC), obtain current situation status and specific job responsibilities expected of you. Obtain current status of the incident and coordinate with the field Liaison Officer to determine what regulatory / government agency notifications have already been made. (Government agencies should be contacted early in any Safety Support, Logistics Support, Planning Support). emergency and discussions should occur around their response capabilities at the time). Support. **ONGOING TASKS** • A 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 ICS 214 name and phone number, the assistance that each agency can provide, the response time of each agency, a chain of command. callback time for each agency, etc. Review and complete the ICS 214 Activity Log in SECTION 5: FORMS. ONGOING TASKS Review regulatory and government agency notification requirements based on the type of incident and coordinate with Maintain a position log that chronologically describes all actions taken, decisions made and events that occur the field Liaison Officer 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 214 Activity Log in SECTION 5: FORMS. you to complete the rest of the notifications, or they may request that you complete all required notifications on their behalf. □ Work with the **Liaison Officer** to ensure that the company's response is coordinated with local government agency to direct activities.) response (i.e. evacuation / shelter of the public, location and management of reception centres, location and establishment of roadblocks, ignition, media releases, etc.). regarding control / containment methods. □ If requested, prepare to travel to and act as a company liaison at, any government established Emergency Operations Centre(s) (It is encouraged to combine industry and municipal responses into a single REOC if possible). ensure the safety of the public (evacuation, shelter-in-place, ignition, roadblocks, rovers, air monitoring, etc.). Provide regulatory guidance and support to the FRT and the CMT. Coordinate with government agencies to clarify requirements and ensure all are met. Prepare and present a Regulatory / Government status briefing at each of the CMT Action Planning Meetings. Determine objectives for Regulatory / Government for each operational period. POST INCIDENT the objectives be met by the strategies outlined in the IAP? Are the strategies safe? Etc. Deactivate your assigned position and close out logs when authorized by the **Crisis Manager**. FORM Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Α9 objectives for the Incident Support Team for each operational period. Learning Form in SECTION 5: FORMS. □ If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation. POST INCIDENT Clean up your work area before you leave. Return any communications equipment or materials specifically issued for Deactivate your assigned position and close out logs when authorized by the **Crisis Manager**. your use. Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Leave a forwarding phone number you can be reached at. Learning Form in SECTION 5: FORMS. □ Follow EOC checkout procedures. Sign out accordingly. □ If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation. Be prepared to provide input to the post incident debrief. Clean up your work area before you leave. Return any communications equipment or materials specifically issued for your use. Leave a forwarding phone number you can be reached at. Follow EOC checkout procedures. Sign out accordingly. Be prepared to provide input to the post incident debrief.

(CMT) and is the main informant for the CMT. The Incident Support Manager speaks directly with the field Deputy Incident safety, planning and logistics advice and support to assist the FRT with developing an effective field Incident Action Plan (IAP).

Based on your review of the incident briefing, assemble the Incident Support Team (Operations Support, Public

You are responsible for the duties of Operations Support, Public Safety Support, Logistics Support, Planning

Only assign people to fill positions on your team as you become unable to complete all of the duties yourself. Information can flow anywhere throughout the organizational structure; however, decisions must flow up the

during your shift. Ensure each member of your team is maintaining their own log. Review and complete the ICS



Establish communication with the field **Deputy Incident Commander**, if assigned, or **Incident Commander**. If possible. conference in (phone or video) to attend each field Operations Section meeting. (Your role is to listen and support, not

Provide support, expertise and advice to the **Deputy Incident Commander**, if assigned, or **Incident Commander** 

Provide support, expertise and advice to the **Deputy Incident Commander**, if assigned, or **Incident Commander** to

Provide support, expertise and advice to the **Deputy Incident Commander**, if assigned, or **Incident Commander** 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

Prepare and present an Incident Support status briefing at each of the CMT Action Planning Meetings. Determine

FORM Α9

March 2022



# 2.8 CRISIS MANAGEMENT TEAM ROLES PORT MANAGER HEALTH, SAFETY & ENVIRONMENT SUPPORT MANAGER

BUSINESS IMPACT SUPPORT MANAGER	CORPORATE ADMIN SUPPORT MANAGER	HEALTH, SA
<b>ROLE DESCRIPTION</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 <b>Business Impact Support Manager</b> provides support to the company in the areas of finance / accounting, legal, marketing, risk management and insurance.	<b>ROLE DESCRIPTION</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.	ROLE DESCRIPT The Health, Safet Health, Safety & E Safety within the
<ul> <li>INITIAL TASKS (ACTIVATION)</li> <li>Check in with the Crisis Manager (or HSE Support Manager) upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> <li>ONGOING TASKS</li> <li>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>Consult with the Crisis Manager as required to determine spending limits.</li> <li>With direction from the Crisis Manager 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>Identify and provide the Crisis Manager and determine the expected purchases to ensure finance / accounting are prepared and do not cause a bottleneck.</li> <li>Continually monitor the operational impacts to the marketing divisions sales of oil and gas assets.</li> <li>Advise the Crisis Manager of any conditions and actions that might result in liability (e.g. oversights, improper response actions, etc.).</li> <li>Advise on actions to reduce loss and auffering and, where appropriate, proactively support response and recover objectives.</li> <li>Prepare and present a Business Impact status briefing, including cost estimates, at each of the CMT Action Planning Meetings.</li> <li>POST INCIDENT</li> <li>Deactivate your assigned position and close out logs when authorized by the Crisis Manager.</li> <li>Complete all required forms, reports, and other documentation. Review and complete the A9 Post Incident Learning Form in SECTION 5: FORMS.</li> <li>If another person is relieving you, ensure they are thoroughly briefed before you leave your workstation.</li> <li>Clean up your work area before you leave. Return any c</li></ul>	<ul> <li>INITIAL TASKS (ACTIVATION)         <ul> <li>Check in with the Crisis Manager (or HSE Support Manager) upon arrival at the Emergency Operations Centre (EOC), obtain current situation status and specific job responsibilities expected of you.</li> </ul> </li> <li>ONEGOING TASKS         <ul> <li>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>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 Security to have them implemented / communicated. Communicate this to Reception.</li> <li>Work with HSE Support (Health / Safety) and Human Resources to ensure that all labour regulations, employee contracts and corporate human resource policies are strictly followed throughout the emergency response.</li> <li>Work with Human Resources to arrange for next-of-kin notifications for injured / deceased employees.</li> <li>Work with the Information Lead 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 Reception.</li> <li>Create effective travel plans for CMT personnel to and from the incident site. Coordinate travel for CMT members within Calgary. Work with Travel to have the plans implemented.</li> <li>Establish communication methods and protocols for communication between the various command posts. Work with Information Technology to ensure the CMT has adequate information technology and telecommunications equipment and prosesses.<td>INITIAL TASKS ( Check in a Operation responsib Identify an be address ONGOING TASK Maintain a decisions each men complete Ensure th contain cu of the CM Ensure al times (AB the Field regarding Determine and at the Health / S Assist the Plan (IAP Ensure th develops training, e Provide a environme POST INCIDEN POST INCIDEN POST Complete Review an SECTION If another you leave Clean up equipmen Leave a fe Follow EC Be prepar</td></li></ul></li></ul>	INITIAL TASKS ( Check in a Operation responsib Identify an be address ONGOING TASK Maintain a decisions each men complete Ensure th contain cu of the CM Ensure al times (AB the Field regarding Determine and at the Health / S Assist the Plan (IAP Ensure th develops training, e Provide a environme POST INCIDEN POST INCIDEN POST Complete Review an SECTION If another you leave Clean up equipmen Leave a fe Follow EC Be prepar

# PTION

**fety & Environment Support Manager** is responsible for providing & Environmental support to the roles of the **Safety Officer** and **Site** is Field Response Team.

# (ACTIVATION)

- in with the **Crisis Manager** upon arrival at the Emergency ons Centre (EOC), obtain current situation status and specific job sibilities expected of you.
- any immediate health / safety / environmental concerns that need to ressed.

# sks

- a position log that chronologically describes all actions taken,
- ns made and events that occur during your shift. Ensure ember of your team is maintaining their own log. Review and te the ICS 214 Activity Log in SECTION 5: FORMS.
- that all maps, status boards and other displays are maintained and current and accurate information. Update roles charts as members CMT check-in or check-out of their roles at the EOC.
- all occupational health & safety regulations are being followed at all AB OH&S, WorkSafeBC, WCB, etc.). Provide advice and support to d Response Team (FRT) and the Crisis Management Team (CMT) ng the regulations.
- ine what facility / safety orientations are required at the field level he corporate level and work with the field **Safety Officer** and / **Safety** to ensure they are being completed.
- he field **Safety Officer** with the review of the field Incident Action AP) to identify and address any potential health / safety concerns. the **Safety Officer** puts an immediate stop to any unsafe activities, os safer alternatives, identifies required PPE, identifies required , etc.
- advice, support and recommendations regarding any mental issues resulting from the incident.

# NT

- ate your assigned position and close out logs when authorized by sis Manager.
- te all required forms, reports, and other documentation.
- and complete the A9 Post Incident Learning Form in ON 5: FORMS.
- er person is relieving you, ensure they are thoroughly briefed before ve your workstation.
- up your work area before you leave. Return any communications ent or materials specifically issued for your use.
- forwarding phone number you can be reached at.
- EOC checkout procedures. Sign out accordingly.
- pared to provide input to the post incident debrief.







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 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 status of an emergency by the Information Officer or Public Safety Group Supervisor.

# **2.9 COMMAND STAFF ROLES**

	LIAISON OFFICER	SAFETY OFFICER				
notify the c assig	Liaison Officer is responsible for ving government agencies and is ontact for agency representatives ned to the incident by assisting or erating agencies.	The <b>Safety Officer</b> develops and recommends measures for assuring personnel safety, and assesses and / or anticipates hazardous and unsafe situations.				
	Complete Regulatory First Call	Ensure the site is evacuated if unsafe.				
וו ד נ נ נ נ נ נ נ	<ul> <li>Refer to SECTION 4:</li> <li>NCIDENT CLASSIFICATION for he Government Notification Matrix. Notify as soon as possible and provide status updates at agreed upon intervals to:</li> <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>	<ul> <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> </ul>				
c t	Keep track of all government correspondence using he Government Agency	Conduct a general inspection of the facilities, food services and sanitation services soon after they become operational and follow up on a periodic basis				
a t c e p e	Obtain cooperating and assisting agency information hat includes: contact nformation, radio frequencies, cooperative agreements, equipment type, number of personnel, condition of equipment and personnel, agency constraints, etc.	<ul> <li>In a periodic basis</li> <li>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> </ul>				
b	Conduct appropriate periodic priefings to keep agencies nformed of planning actions.	Investigate accidents that have occurred within the incident area.				
g r I	Coordinate with any povernment agency epresentatives attending the CP or REOC.	<ul> <li>Identify "Hot Zone" and declare when responders may enter it.</li> <li>Ensure that responders inside the "Hot Zone" are accounted</li> </ul>				
	Coordinate with mutual aid groups.	for and initiate search if required. □ Prepare a site-specific health and safety plan.				
POST INCIDENT GUIDELINES         Notify all responders of the stand down.         Establish an incident investigation team.         Conduct an incident response debriefing with key responders.         Complete Post Incident Learning Form (see Section 5: Forms).         Collect/consolidate all incident documentation from responders.         Collect/process any public expense claims.						

March 2022



# 2.10 GENERAL STAFF ROLES – OPERATIONS SECTION

OPERATIONS SECTION CHIEF	ON-SITE GROUP SUPERVISOR	STAGING AREA MANAGER	SITE SAFETY	CONTROL	CONTAINMENT
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.	coordinating all activities of <b>Control</b> , <b>Containment</b> and <b>Site Safety</b> at the scene of the emergency / incident.	The <b>Staging Area Manager</b> is responsible for managing all activities within a Staging Area.	Site Safety is responsible for responder safety and safety advice at all times at the scene of the emergency / incident.	<b>Control</b> is responsible for implementing measures designed to bring the incident under control or stop the incident.	<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.
<ul> <li>Identify and confirm communication links.</li> <li>Ensure the On-Site Command Post (OSCP) is established.</li> <li>Manage the following positions, as required: On-Site Group Supervisor, Public Safety Group Supervisor.</li> <li>In conjunction with the Incident Commander, the Planning Section Chief, and the Public Safety Group Supervisor, develop and implement an Incident Action Plan (IAP)</li> <li>Ensure responder safety at all times.</li> <li>Oversee control / containment procedures; ensure the hazard is isolated.</li> <li>Determine the current and potential environmental impact of product released, response activities, or waste disposal.</li> <li>Ensure that all environmental laws and regulations are complied with during emergency response operations.</li> <li>Provide technical advice to Incident Commander and with the Public Safety Group Supervisor determine public protection measures.</li> <li>Assess the requirements for on-site safety supervision, personnel, equipment, and other contract services. Coordinate with Logistics to obtain equipment and resources.</li> <li>Assist the On-Site Group Supervisor in determining whether ignition is appropriate. If at all possible, input is to be obtained from the Incident Commander, the Crisis Manager and the applicable government regulator.</li> <li>Maintain continuous communications with the Incident Commander.</li> </ul>	<ul> <li>Ensure all personnel are accounted for. Release nonessential personnel from the site</li> <li>Oversee and maintain control of all on-site personnel.</li> <li>Establish On-Site Command Post (OSCP).</li> <li>Obtain incident briefing and environmental impact information.</li> <li>Coordinate activities of Staging Area Manager, Site Safety, Control and Containment.</li> <li>Report air monitoring to Incident Commander (third party and regulatory).</li> <li>Call police, fire and ambulance as needed.</li> <li>Coordinate with ambulance / fire / RCMP / regulatory agencies / spill co-ops.</li> <li>Conduct meetings with on-site personnel to review action plans, communication and safety.</li> <li>Request additional resources needed to implement on-site response actions.</li> <li>Supervise the execution of the on-site response actions.</li> <li>The On-Site Group Supervisor has the authority to ignite the release if ignition criteria are met. If at all possible, the On-Site Group Supervisor must consult with higher authority individuals within the company (ideally the Operations Section Chief, Incident Commander, Crisis Manager, 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> <li>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> <li>Adequate sized site that is stable and level with suitable access roads</li> <li>No entry problems such as narrow approach ways, gates, power lines, buried pipelines, etc.</li> <li>Approval has been received from landowner</li> <li>Reception of communication equipment is adequate</li> </ul> </li> <li>Erect staging area information and directional signs to the staging area, if required.</li> <li>Flag the perimeter of the staging area.</li> <li>Obtain an office trailer and emergency lighting, if required.</li> <li>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>Respond to <b>Operations Section Chief</b> or <b>Incident Commander</b> requests for resources.</li> <li>Confirm all workers have required training before they are dispatched to the incident.</li> <li>Maintain and provide status to the <b>Planning Section</b> of all resources in Staging Area.</li> <li>Demobilize or move Staging Area as required.</li> </ul>	access/egress.	<ul> <li>Prior to beginning any activities, each person in</li> <li>Obtain a completed ICS 201 Incident Briefindicent Commander.</li> <li>Throughout the duration of the incident, each</li> <li>Chronologically document all actions, decise Copies can be found in SECTION 5: FORM</li> <li>After the incident is over, each person in a role</li> <li>Assist with post-incident activities.</li> </ul> ALL FORMS REFERENCE	In and ICS 207 Incident Organization Chart from the person in a role must: ions, contacts and requests on an ICS 214 Activity Log. IS. must: ED CAN BE FOUND IN SECTION 5: FORMS DENT GUIDELINES as and notify the stand down to all operations section lents returning to their homes. and required support to responders. ng.
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	Located at the On-Site Command Post (OSCP)	March 2022 Located at the On-Site Command Post (OSCP)
			(OSCP)		

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, 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.

Command Post (OSCP)	March 2022 Located at the On-Site Command Post (OSCP)
command i bst (bbor)	Localed at the on-one command Post (CooP)



### **2.11 GENERAL STAFF ROLES – PLANNING SECTION**

PLANNING SECTION CHIEF	DOCUMENTATION UNIT	TECHNICAL SPECIALISTS UNIT	SITUATION UNIT	RESOURCES UNIT	DEMOBILIZATION UNIT
for providing planning and status services for the incident. Under the direction of the		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.	The collection, processing, and organization of all incident information. The <b>Situation</b> <b>Unit</b> may prepare future projections of incident growth, maps, and intelligence information.	The <b>Resources Unit</b> is responsible for maintaining the status of all assigned resources at an incident.	The <b>Demobilization Unit</b> is responsible for developing the Incident Demobilization Plan.
<ul> <li>Identify and confirm communication links.</li> <li>Assign personnel to assume the following positions, as required: Documentation, Technical, Situation, Resources, and Demobilization.</li> <li>Assist with setup of the Incident Command Post.</li> <li>Review the details of the incident and support the Incident Commander with the development of a preliminary response strategy.</li> <li>Identify the need for technical specialists.</li> <li>Collect and analyze information on the current situation, prepare situation displays and situation summaries, and develop maps and projections.</li> <li>Establish special information collection activities as necessary, e.g., weather, environmental, toxics, etc.</li> <li>Provide technical support to the Incident Commander to develop the Incident Action Plan (IAP).</li> <li>Review any changes to the Incident Action Plan (IAP) to ensure consistency.</li> <li>Assemble information on alternative strategies.</li> <li>Coordinate with Logistics to determine current available resources and resource availability for future plans of action.</li> <li>Establish reporting schedules.</li> <li>Conduct long-range and / or contingency planning.</li> <li>Develop plans for demobilization.</li> <li>Maintain continuous communications with the Incident Commander.</li> </ul>	<ul> <li>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.</li> <li>Be prepared to document the Incident Commander's status update meetings using whiteboards, PC or Action Logs.</li> <li>Ensure consistent documentation.</li> <li>Ensure timely dissemination of all documentation.</li> <li>Participate in planning meetings, capturing key information, decisions made, commitments and status.</li> <li>Collect documentation from response team members and maintain a consistent system for organizing the data.</li> <li>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> <li>Establish duplication services.</li> <li>Incident files will be stored for legal, analytical, and historical purposes.</li> <li>Post and maintain all Emergency Status Boards and other laminated charts in the Incident Command Post.</li> </ul>	<ul> <li>Determine what technical support is available now and in the future.</li> <li>Work with Logistics to determine the key locations for the required technical support and appropriate time to acquire.</li> <li>Gather data (weather, etc.) and forecast changes considering incident potential and develop new or modified response strategies.</li> <li>As required, obtain plume dispersion modelling.</li> </ul>		<ul> <li>Monitor the status and location of all incident resources / personnel responding to the incident.</li> <li>Oversee the check-in of all resources.</li> <li>Maintenance of a master list of all resources, e.g., key supervisory personnel, primary and support resources, etc.</li> <li>May assist in preparing the written Incident Action Plan.</li> <li>Maintain and post the current status and location of all resources.</li> </ul> <b>IMPORTA Prior</b> to beginning any activities, each person in a role of a Completed ICS 201 Incident Briefing and It Incident Commander. <b>Incodent Commander</b> . <b>Troughout</b> the duration of the incident, each person in a Copies can be found in SECTION 5: FORMS. <b>ALL FORMS REFERENCED CAN POST INCIDENT ( Collect/submit all incident documentation to the Incident in the incident response debriefing.</b>	<ul> <li>dismiss resources being demobilized.</li> <li>Coordinate demobilization with agency representatives.</li> <li>Develop incident check-out function for all units.</li> <li>Ensure the demobilization process is organized, safe and cost effective.</li> </ul> ANT must: CS 207 Incident Organization Chart from the n a role must: ntacts and requests on an ICS 214 Activity Log. BE FOUND IN SECTION 5: FORMS GUIDELINES
			COMMAND BOST (ICP) uploss otherwise		March 2022

All team members are located at the INCIDENT COMMAND POST (ICP), unless otherwise noted.

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March 2022



# 2.12 GENERAL STAFF ROLES – LOGISTICS SECTION

LOGISTICS SECTION CHIEF	COMMUNICATIONS UNIT	MEDICAL UNIT	FOOD UNIT	SUPPLY UNIT	FACILITIES UNIT	GROUND SUPPORT UNIT
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 Logistics Section Chief 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 Logistics Section Chief.		The Medical Unit is responsible for all medical services for incident assigned personnel. The unit will develop procedures for managing major medical emergencies; and provide medical aid. Medical assistance to the public or victims of the emergency is an operational function.	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 Food Unit interacts with the Facilities Unit for location of fixed-feeding site; the Supply Unit for food ordering; and the Ground Support Unit for transporting food.	The <b>Supply Unit</b> is responsible for ordering, receiving, processing, and storing all incident-related resources.	The Facilities Unit is responsible for set-up, maintenance, and demobilization of all incident support facilities except staging areas. The Facilities Unit will also provide security services to the incident as needed.	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.
<ul> <li>Identify and confirm communication links.</li> <li>Assign personnel as required.</li> <li>List and obtain all immediate resources requested by the Incident Commander or Operations Section Chief.</li> <li>Identify anticipated and known incident service and support requirements.</li> <li>Maintain continuous communications with the Incident Commander.</li> <li>Develop plans to move required resources to site.</li> <li>Confirm spending authorities with the Finance / Admin Section.</li> <li>Move required resources to site.</li> <li>Coordinate spending with the Finance / Admin Section Chief.</li> </ul>	<ul> <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> <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> <li>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.</li> </ul>	<ul> <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 - Resources Unit to anticipate the numbers of personnel to be fed and develop plans for supplying food to all incident areas.</li> <li>Interacts with the Facilities Unit for location of fixed-feeding site; the Supply Unit for food ordering; and the Ground and Air Support Units for transporting food.</li> <li>Obtain necessary equipment and supplies and establish cooking facilities.</li> <li>Order sufficient food and potable water from the Supply Unit.</li> <li>Maintain inventory of food and water.</li> </ul>	<ul> <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> <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,</li> </ul>	<ul> <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 Resources Unit with the status (location and capability) of transportation vehicles.</li> <li>Develop the Incident Traffic Plan as required.</li> </ul>
<ul> <li>Prior to beginning any activities, each person in</li> <li>Obtain a completed ICS 201 Incident Briefin Incident Commander.</li> <li>Throughout the duration of the incident, each p</li> <li>Chronologically document all actions, decis Copies can be found in SECTION 5: FORM</li> <li>After the incident is over, each person in a role</li> <li>Assist with post-incident activities.</li> </ul>	ng and ICS 207 Incident Organization Chart fro person in a role must: ions, contacts and requests on an ICS 214 Ac IS.	tivity Log.	<ul> <li>Maintain food services areas, ensuring that all appropriate health and safety measures and being followed.</li> <li>Supervise caterers, cooks, and other Food Unit personnel as appropriate.</li> </ul>	Assemble response relat	<ul> <li>lighting, etc.</li> <li>Demobilize base and camp facilities.</li> </ul> <b>POST INCIDENT GUIDELINES</b> acted of the stand down status.	er.

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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
The <b>Finance / Administration Section Chief</b> is responsible for managing all financial aspects of an incident. The <b>Finance / Administration Section</b> <b>Chief</b> will determine the need to activate or deactivate a unit.		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.	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;</b> <b>Claims Unit</b> is also responsible for investigating all claims involving property associated with or involved in the incident.	f 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.
<ul> <li>Identify and confirm communication links.</li> <li>Assign personnel to assume the following positions, as required: Time Unit, Procurement Unit, Compensation &amp; Claims Unit, and Cost Unit.</li> <li>Review legal issues with the Incident Commander and Crisis Manager.</li> <li>Maintain continuous communications with the Incident Commander.</li> <li>Brief agency administrative personnel on all incident-related financial issues needing attention or follow-up.</li> <li>Manage all financial aspects of an incident.</li> </ul>	<ul> <li>manage commissary operations if established at the incident.</li> <li>Submit cost estimate data forms to Cost Unit as required.</li> <li>Ensure that all records are current and complete prior to demobilization.</li> </ul>	<ul> <li>Manage finances relating to vendor contracts, leases and fiscal agreements.</li> <li>Maintain equipment time records.</li> <li>Establish local sources for equipment and supplies. Coordinate with local jurisdiction on plans and supply sources.</li> <li>Manage all equipment rental agreements. Establish contracts and agreement with supply vendors.</li> <li>Processes all rental and supply fiscal document billing invoices.</li> <li>Prepare and authorize contracts and land use agreements, as needed.</li> </ul>	<ul> <li>injury or property damage due to the incident.</li> <li>Oversees the completion of all forms required by workers' compensation and local agencies.</li> <li>Maintain a file with all the injuries and illnesses associated with the incident.</li> <li>Obtain witness statements in writing.</li> <li>Investigate all claims involving property associated with or involved in the incident.</li> <li>Ensure the completion of a Resident Compensation Log for any out-of-pocket expenses incurred by evacuees.</li> <li>All claims must be submitted to the Finance and Legal departments for processing and disbursement of funds.</li> <li>If applicable, Finance and Legal will deal with insurers as well as any other extraneous circumstances (affected parties want more, etc.).</li> <li>Prior to beginning any activities, each p</li> <li>Obtain a completed ICS 201 Incident Incident Commander.</li> <li>Throughout the duration of the incident Copies can be found in SECTION 5</li> <li>After the incident is over, each person i</li> <li>Assist with post-incident activities.</li> </ul>	IMPORTANT erson in a role must: at Briefing and ICS 207 Incident Organization Chart from the , each person in a role must: s, decisions, contacts and requests on an ICS 214 Activity Log. : FORMS. n a role must: ERENCED CAN BE FOUND IN SECTION 5: FORMS ERENCED CAN BE FOUND IN SECTION 5: FORMS

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# 2.14 OPERATIONS SECTION - PUBLIC SAFETY ROLES

PUBLIC SAFETY GROUP SUPERVISOR	AIR MONITORS	<b>RECEPTION CENTRE REP</b>	ROADBLOCKS	ROVERS	TELEPHONERS
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.	Air Monitoring personnel are responsible for acquiring and providing air quality readings to the Public Safety Group Supervisor.	<b>Reception Centre Reps</b> are responsible for establishing reception centres, managing evacuee accommodation, communication and documentation for compensation purposes.	<b>Roadblock</b> personnel are responsible for maintaining assigned roadblock positions, air monitor readings and communication with transients.	<b>Rovers</b> travel to assigned locations to locate the public and personally provide public safety instructions and assistance as required.	<b>Telephoners</b> are responsible for the notification of impacted residences and businesses to provide public safety instructions.
<ul> <li>Confirm communication links with the Incident Commander and Operations Section Chief.</li> <li>In conjunction with the Incident Commander: determine the size of the EPZ; identify the resident humineses induction and (astronomicate in the</li> </ul>	<ul> <li>Provide air monitoring readings to assist with decision making (evacuation / shelter / ignition).</li> </ul>	<ul> <li>Confirm reception centre is available for use.</li> <li>Establish reception centre. Refer to</li> </ul>	In conjunction with the Public Safety Group Supervisor determine the need for and location of roadblocks.	<ul> <li>Confirm resident contact lists are available.</li> <li>Confirm communication links.</li> </ul>	<ul> <li>Confirm resident contact lists are available.</li> <li>Confirm communication links.</li> </ul>
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 Air Monitors, Reception Centre Representative, Roadblocks, Rovers, and Telephoners can be found in SECTION 2: ROLES & RESPONSIBILITIES.	<ul> <li>Obtain and check equipment and information (maps, forms, communications, reports, monitors, safety, and breathing equipment).</li> <li>Confirm communication links.</li> </ul>	SECTION 2: ROLES & RESPONSIBILITIES. Confirm communication links. Receive evacuees and maintain a Reception Centre Registration Log.	<ul> <li>Pickup and check roadblock kits.</li> <li>Proceed to roadblock locations.</li> <li>Confirm communication links.</li> <li>Establish roadblocks to secure the EPZ.</li> </ul>	<ul> <li>Know safe routes in and out of the EPZ.</li> <li>Search for residents and transients in the Emergency Response and Planning Zones.</li> <li>Check all buildings including barns.</li> </ul>	<ul> <li>In conjunction with the Public Safety Group Supervisor, determine who needs to be notified (residents, businesses, area users, etc.).</li> <li>Review with the Public Safety Group</li> </ul>
<ul> <li>In conjunction with the Incident Commander, Planning Section Chief, and Operations Section Chief, develop and implement an Incident Action Plan (IAP).</li> <li>Review resident lists, area user lists, reception centres, and telephone numbers within the ERP.</li> <li>Assign personnel to assume the following positions as required: Air Monitors, Reception Centre Representative, Roadblocks, Rovers, and Telephoners.</li> </ul>	<ul> <li>Monitor closest downwind public location or residence.</li> <li>Monitor environment for adverse effects.</li> </ul>	<ul> <li>Arrange for food and accommodations for the evacuees.</li> <li>Provide evacuees with a place to request counselling services, if required.</li> </ul>	<ul> <li>Follow the scripts and procedures in the ERP. Refer to either SECTION 2: ROLES &amp; RESPONSIBILITIES or SECTION 5: FORMS.</li> </ul>	shops, sheds, etc. Assist, as required, with the notification, evacuation or sheltering of persons within the EPZ. Record B3	Supervisor     which telephoner     row b       scripts to use:     Early Notification     B6       / Voluntary     Evacuation     B7       Phone     Message, Evacuation     B7       Phone     Message, Evacuation     B8
<ul> <li>The Telephoners 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> <li>Dispatch Air Monitors at a Level 1 emergency (hand-held and mobile).</li> <li>Dispatch trained personnel with the appropriate hand-held gas monitors to record</li> </ul>	<ul> <li>Record all readings on the Air Monitoring Log.</li> <li>Report all readings at established intervals to the Public Safety Group Supervisor.</li> </ul>	<ul> <li>Record and follow up on all evacuees who choose to make their own accommodation arrangements.</li> <li>Arrange for temporary care of livestock (if possible) and the security of evacuated</li> </ul>	<ul> <li>Monitor area for H<sub>2</sub>S and / or LEL with personal monitors and document readings on the Air Monitoring Log.</li> <li>Report all H<sub>2</sub>S and / or LEL reading</li> </ul>	<ul> <li>all contact with residents using the Resident Contact Log.</li> <li>Post Evacuation Notices for residents that are not at their residence.</li> </ul>	<ul> <li>Contact special needs residents at a Level 1 Emergency and provide them with the option to evacuate.</li> </ul>
<ul> <li>concentrations at the nearest unevacuated residences downwind of the incident site.</li> <li>Mobilize third party mobile air monitoring units.</li> <li>Maintain communication with the applicable government regulator and environment agency regarding air monitoring needs and activities.</li> </ul>	For your own safety, ensure Public Safety Group Supervisor is notified immediately if readings are approaching 10% LEL and / or 10 ppm H <sub>2</sub> S.	<ul> <li>property.</li> <li>Establish and oversee compensation administration activities at the reception centre.</li> </ul>	<ul> <li>Changes / increases to the Public Safety Group Supervisor.</li> <li>For your own safety, ensure the Public Safety Group Supervisor is notified immediately if readings are</li> </ul>	<ul> <li>Follow the scripts and procedures in the ERP. Refer to SECTION 2: ROLES &amp; RESPONSIBILITIES or SECTION 5: FORMS.</li> <li>Monitor area for H<sub>2</sub>S and /or</li> </ul>	<ul> <li>Contact the other residents and area users in the EPZ and advise them to evacuate or shelter.</li> <li>Contact the schools / school buses to make arrangements for school age</li> </ul>
<ul> <li>Consult with the Operations Section Chief to determine the need for evacuation / sheltering. This is based on air monitoring readings at the nearest downwind residence.</li> <li>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 Telephoners and Rovers).</li> <li>Determine who needs to be notified and what script will be used: Early Notification / Voluntary Evacuation Message, Shelter-in-Place Phone Message, Evacuation Phone</li> </ul>	<ul> <li>Prepare Mobile Monitoring Plan.</li> <li>Collect/submit all incident documentation to the direct report/supervisor.</li> <li>Participate in the incident response</li> </ul>	<ul> <li>Reimburse evacuees for their immediate out-of-pocket expenses and log details on a Resident Compensation Log.</li> <li>Where possible, provide evacuees with information regarding their property,</li> </ul>	<ul> <li>approaching 10% LEL and / or 10 ppm H<sub>2</sub>S.</li> <li>Record all incoming and outgoing traffic, personnel, and equipment on the Roadblock</li> </ul>	<ul> <li>LEL with personal monitors and document readings on the Air Monitoring Log.</li> <li>Report all H<sub>2</sub>S and / or LEL reading changes / increases to the Public</li> </ul>	<ul> <li>children (if applicable).</li> <li>Advise that buses in the affected area leave immediately and that buses should not enter the area.</li> <li>Request a school administrator</li> </ul>
<ul> <li>Message.</li> <li>At a Level 1 Emergency it is required to notify any special needs residents and give them the option to evacuate.</li> <li>If residences are evacuated, a reception centre must be established.</li> <li>Determine and notify landowner / occupant(s) as soon as possible.</li> <li>Ensure the schools / school buses are contacted to make arrangements for school age</li> </ul>	debriefing; if requested.	<ul> <li>livestock, and the incident.</li> <li>Forward all media and incident inquiries to the Public Safety Group Supervisor.</li> <li>Report all names of evacuees who have registered at the reception centre to the Public Safety Group Supervisor.</li> </ul>	<ul> <li>Log.</li> <li>Forward information given to you by people passing through your location to the Public Safety Group Supervisor.</li> <li>Maintain communication with the Public Safety Croup Supervisor.</li> </ul>	<ul> <li>Safety Group Supervisor.</li> <li>For your own safety, ensure the Public Safety Group Supervisor is notified immediately if readings are approaching 10% LEL or 10 ppm H<sub>2</sub>S.</li> <li>Report any suspicious behaviour to the Public Sofety Crown Supervisor who</li> </ul>	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
<ul> <li>children (if applicable).</li> <li>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> <li>Send Rovers (if required) to identify human activity in the area which is not already identified within the ERP (drilling, pipeline construction, logging, hunting, farming,</li> </ul>		<ul> <li>Address resident concerns and forward them to the Public Safety Group Supervisor.</li> <li>WHEN DIRECTED: Complete all assigned post incident notifications and contents.</li> </ul>	<ul> <li>Public Safety Group Supervisor.</li> <li>Maintain roadblock locations. Do not leave until requested to do so by the Public Safety Group Supervisor or until relieved by other Roadblock personnel.</li> </ul>	<ul> <li>Public Safety Group Supervisor who will notify the police as required.</li> <li>Maintain communication with the Public Safety Group Supervisor.</li> <li>Provide assistance to residents returning to their homes. Upon request</li> </ul>	to the Public Safety Group Supervisor. Immediately advise the Public Safety Group Supervisor about unsuccessful contacts and any residents requiring assistance.
<ul> <li>Camping, fishing, etc.).</li> <li>Prepare Evacuation Notices and provide copies to Rovers.</li> <li>Rovers can be used to assist with notifications, assist with evacuating special needs residents, assist with air monitoring, etc.</li> <li>Determine the need for helicopters to identify human activity in the area.</li> </ul>		<ul> <li>updates.</li> <li>Collect/submit all incident documentation to the direct report/supervisor.</li> <li>Participate in the incident response debriefing; if requested.</li> </ul>	<ul> <li>WHEN DIRECTED: Safely demobilize roadblock location and equipment.</li> <li>Collect/submit all incident documentation to the direct report/supervisor.</li> </ul>	from residents, coordinate the testing of indoor air quality with local Fire Department or other air monitoring professional prior to resident entering home.	<ul> <li>WHEN DIRECTED: Complete all assigned post incident notifications and updates.</li> <li>Collect/submit all incident documentation to the direct report/supervisor.</li> <li>Participate in the incident response</li> </ul>
<ul> <li>Determine the need for and location of Roadblocks to isolate and secure the area.</li> <li>Ensure all Roadblock personnel are properly trained and have appropriate roadblock kits.</li> <li>Ensure all Roadblock personnel have the legal authority to restrict access to the area.</li> </ul>	Prior to beginning any activities, each pe	<b>PORTANT</b> rson in a role must: Briefing and ICS 207 Incident Organization	<ul> <li>Participate in the incident response debriefing; if requested.</li> </ul>	<ul> <li>Collect/submit all incident documentation to the direct report/supervisor.</li> <li>Participate in the incident response</li> </ul>	debriefing; if requested.
<ul> <li>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>Regularly update the Operations Section Chief.</li> <li>Confirm communication links with: Air Monitors, Reception Centre, Roadblocks, Rovers, and Telephoners. Personnel should check in at scheduled intervals.</li> </ul>	Chart from the <b>Incident Commander</b> <b>Throughout</b> the duration of the incident,	r. each person in a role must: decisions, contacts and requests on an ICS d in SECTION 5: FORMS.	See SECTION 2: ROLES &	debriefing; if requested.	
<ul> <li>Review and confirm evacuation of residents, area industrial users, transients, etc. from the area.</li> <li>Request that a Notice to Airmen (NOTAM) is issued to restrict the airspace above the EPZ.</li> </ul>	Assist with post-incident activities.	CAN BE FOUND IN SECTION 5: FORMS	Mote: RESPONSIBILITIES for a media script for Roadblock and Rover	Mote: See SECTION 2: ROLES & RESPONSIBILITIES for a media script for Roadblock and Rover personnel.	March 2022
Located at the INCIDENT COMMAND POST (ICP) or the REGIONAL EMERGENCY OPERATIONS CENTRE (REOC).	Location will be ASSIGNED.	Location will be the RECEPTION CENTRE.	Location will be ASSIGNED.	Location will be ASSIGNED.	Location will be INCIDENT COMMAND POST (ICP) or REGIONAL EMERGENCY OPERATIONS CENTRE (REOC).

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#### **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**

Dobtain 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.
- 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  $H_2S$ .

- □ Prepare Mobile Monitoring Plan.
- Document activities using the ICS 214 Activity Log.
- Assist with post-incident activities.

 $\Box$  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.

ICS 214

#### 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

#### **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 areater.
- · 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.

Form A5

2.

AIR MONITORING LOG - EXAMPLE
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10	TIME	LOCATION OF SAMPLES	H <sub>2</sub> S	LEL	0,	SO,	OTHER	TEMP(°C)	WIND CONDITIONS *           FROM         SPEED (km/hr)		COMMENTS
			(ppm)	(%)	(%)	(ppm)		(ppm)			
	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.
ľ	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.

#### **REGULATORY REQUIREMENTS**

#### **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  $H_2S$ .
- 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

results.

- 1.Usi dov unpres
- 2.Cor Sup ass

CHOOSING A POSITION	REPORTING AND CONTACTS		
1.Using your map and the current wind conditions, travel downwind, with priority being directed to the nearest	Air Monitors report to the Public Safety Group Supervisor.		
un-evacuated residence or area where people may be present.	Name:		
2. Confirm the location with the <b>Public Safety Group</b> <b>Supervisor</b> and make sure you have a safe route to the	Phone Number:		
assigned location that does not cross the hazardous area.	Reception Centre		
RECORD INFORMATION	Location:		
	Phone Number:		
Record information on the following forms located within this Section: Air Monitoring Log ICS 214 Activity Log	Wind Direction:		

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

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# **Core Emergency Response Plan**

# A5 AIR MONITORING LOG

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		LAITC	ILIS							
		COMMENTS	COMIN							
		* SNOITION	FROM SPEED (km/hr)							
		WIND CO	FROM							
		TEAMOOR	I EMIN C)							
		OTHER	OTHER							
Responder Name:	Responder Position:	so <sub>2</sub>	(mqq)							
Respoi	Respo	02	(%)							
		LEL	(%)							
		H <sub>2</sub> S	(mqq)							
	of	I OCATION OF CAMPLES	LUCATION OF SAMPLES							
Date:	Page	TIAAE	IIME							

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

ICS 214 A	CTIVITY LOG	
Incident Na	me:	
Date / Time	Initiated:	
Prepared b		
Personnel /		
	Name	ICS P
Activity Log	5	
Time		
	-	
	+	

Core Emergency Respons	e Plan
------------------------	--------

Position / Title:	
ion	Location
Actions	

#### **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.

- Arrange for food and accommodations for the evacuees.
- Derivide 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 FORM reception centre R2
- Reimburse evacuees for their immediate out-of-pocket expenses and log details on a Resident Compensation Log.
- U Where possible, provide evacuees with information regarding their FORM T C2 property, livestock, and the incident.
- Generation Officer.

□ Report all names of evacuees who have registered at the Reception ICS

- Centre to the Public Safety Group Supervisor.
- 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



2.

#### 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.

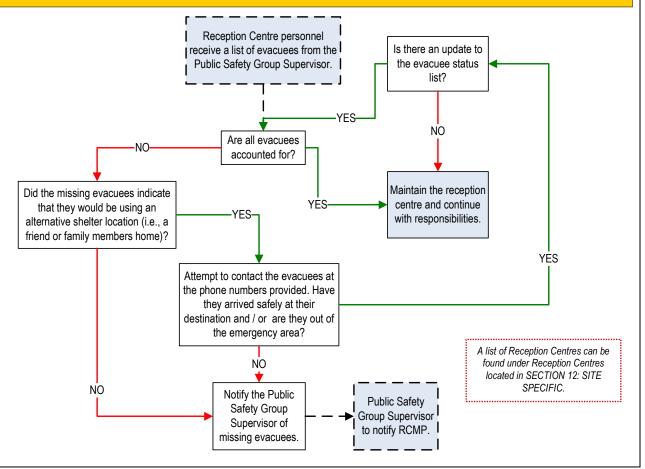
Allow pets.

B1

214

#### 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.
- D Monitor whether residents that have been contacted by the Telephoners, Rovers, and Roadblock personnel have checked in at the Reception Centre.



_		RECEPTION CENTRE REGISTRATION LOG - EXAMPLE								
RESIDENT	NAME (LIST ALL N	# OF OCCUPANTS	NUMBER	ARRIVAL	DEPART TIME	DESTINATION PHONE # (Where they can be	COMMENTS	Record information on the fo		
ID G124-A	FIRST	LAST Doe	2	2	19:06	19:21	reached)	John and his wife arrived safely and then left to stay at a friend's house in Red Deer.	Resident Compensation L	
Н131-В	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.	REF	
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.	The Reception Centre Rep Name: Phone Number: Reception Centre:	
									Location: Phone Number:	
									Wind Direction:	
									Refer all media inquiries to a statement, please use th "ARC is dealing with the the environment. The ca	
									Our Information Lead is ed at Could I please have your	

#### **RECEPTION CENTRE FEEDBACK LOOP**

#### **RECORD INFORMATION**

rmation on the following forms located in SECTION 5: FORMS:

- n Centre Registration Log
- ICS 214 Activity Log

Compensation Log								
ICS 214	1	FORM D		<sup>FORM</sup> ⊾ B2	FORM C2			

Media Contact Log

#### **REPORTING AND CONTACTS**

tion Centre Representative reports to the Public Safety Group Supervisor.

#### MEDIA STATEMENT

edia inquiries to the Media Representative in Calgary. However, if they insist on nt. please use the following:

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

and is locat-

ease have your name, contact number and organization and I will pass this information on to our Information Lead.'





Core Emergency Response Plan



#### **B1 RECEPTION CENTRE REGISTRATION LOG**

Page	of		Responder	Position:			Responders Ph	one No.:
an a	NAME (LIST ALL N	(AMES IN PARTY)	# OF	NUMBER ARRIVED	ARRIVAL TIME	DEPART TIME	DESTINATION PHONE #	14 M. 10 M. 10 M.
RESIDENT ID	FIRST	LAST	OCCUPANTS				(Where they can be reached)	COMMENTS
6		¢			2	8 - F		
(e		ŝ		() () () () () () () () () () () () () (	ç	6		
68				8	j.	i		
	8			10 E		0	2	
	5	<u>,</u>					2	
			3	÷ .	č			

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Core Emergency Response Plan

#### **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
				**		Î			
		-		-			-		1) 1)
		E.		1		1			
				с.					
				1.					
				5- 					
				7.C.					
				12					
	TOTAL REP	ORTED EXPENSES							

		All and a second s	core Emergen	cy Response Plan
ICS 214 A	CTIVITY LOG			
Incident Nar	ne:			
Date / Time	Initiated:			
Prepared by	:	1	Position / Title:	
Personnel A	ssigned			
	Name	ICS Posi	tion	Location
Activity Log				
Time			Actions	
	C			

#### **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
- C 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.
- 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. Record all incoming and outgoing traffic, personnel, and equipment on the B4 Roadblock Log.
- Generation Forward information given to you by people passing through your location to the Public Safety Group Supervisor.
- Document activities using the ICS 214 Activity Log.
- 214 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.
- A 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

Ask for identification prior to granting access.

Report any resident that is left behind in the EPZ.

- □ 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

#### **CHOOSING A ROADBLOCK**

- Roadblocks should be established:
- Approximately where the EPZ intersects any highways / roads.
- Outside of the hazard area.

1.

2.

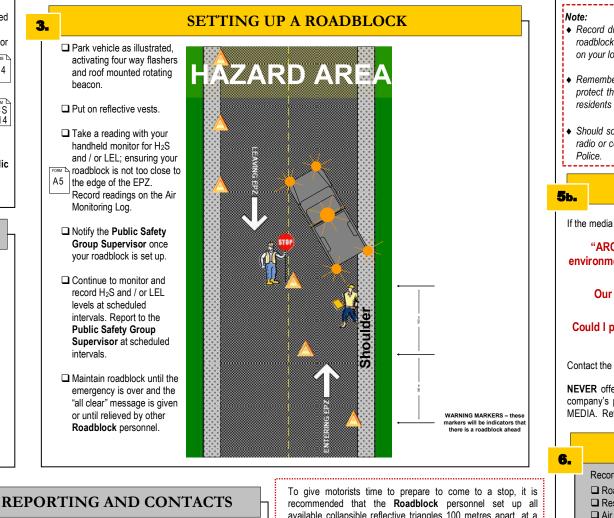
3.

FORM D

- 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.).
- U Where possible at natural roadblock locations (e.g., gates, bridges, junctions, etc).

#### **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.



Roadblock personnel report to the Public Safety Group Supervisor.

Name Phone Number:

**Reception Centre** 

Location

B3

Phone Number:

Wind Direction:

and have an escape route in case of an emergency. DO NOT leave your position until you are directed to do so.

distance for traffic to come to a safe and complete stop.

TIPS

U When talking to motorists at the roadblock, ONLY provide them with

the information as directed by the Public Safety Group Supervisor.

□ You do not have the legal authority to restrict access to the area

Check with the motorists and ensure all members of their residence are

The roadblock should be setup to allow optimal visibility and sufficient

CROAdblock personnel should be highly visible on the side of the road

accounted for and documented on the Resident Contact

chooses to proceed, without permission, through the roadblock.

without an order from the relevant authority. Report any person who

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 Remember to: roadblock consider: Uvisibility Distance

Bends in the road

Remain calm Be courteous Record names □ Notify the Public Safety Level of the ground **Group Supervisor** 

- 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.

4.

5a.

- approaching vehicles
- and that you protect yourself from injury by:
- □ Standing in a safe position on the shoulder of the road. U 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**

- on your log sheet.
- residents who have evacuated the area

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

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 on the following forms located in SECTION 5: FORMS: Roadblock Log Resident Contact Log Air Monitoring Log

FORM	F
ICS	L
214	Ľ
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#### 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.

#### **HOW TO STOP TRAFFIC**

1. Hold the reflective stop / slow paddle erect and away from your body. Never wave the sign.

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

Because visibility is reduced at night, it is important that you use utmost care when stopping traffic through a roadblock area,

"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." 

• 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)

♦ 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

• 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

#### MEDIA STATEMENT

and is located at

#### CORD INFORMATION

□ ICS 214 Activity Log



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Core Emergency Response Plan



#### **B3 RESIDENT CONTACT LOG**

of

Date: \_\_\_\_ Page Responder Name:

Responder Position:

\_\_\_\_\_ Responders Phone No.:

		-		110000000000000000000000000000000000000			
TIME	RESIDENT NAME	Ref. No. on Map	SHELTER /	NUMBER OF PEOPLE		ASSISTANCE OR TRANSPORTATION	COMMENTS
TIVIL	RESIDENT NAME	FOR RESIDENCE	EVACUATE	INSIDE	OUTSIDE	REQUIRED?	COMMENTS
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE	-		O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	

Core Emergency Response Plan

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#### **B4 ROADBLOCK LOG**

of

Date: \_

Responder Name

\_\_\_ Responders Phone No.: \_\_\_\_

Mote: Only emergency responders should be allowed to enter the Emergency Planning Zone (EPZ).

Responder Position:

VEHICLE TYPE	LICENSE PLATE NUMBER AND PROVINCE / STATE	NAME OF DRIVER (IF AVAILABLE)	NUMBER OF PEOPLE IN VEHICLE	TIME ENTERING ZONE	TIME EXITING ZONE	COMMENTS (RECORD ALL VEHICLES TURNED AWAY)
				2 <sup>1</sup>		
			3			
	-			1		
			_			
					-	
				- <u>-</u>		
				.»		

#### **ICS 214 ACTIVITY LOG**

Incident Na	me:	
Date / Time	Initiated:	
Prepared b	/:	
Personnel /	Assigned	
	Name	IC
Activity Log	,	
Time		
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	-	
	1	

Core	Emergency	Response	Plan
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	Position / Title	:	
ICS Pos	ition		Location
		1	
	Actions		

#### **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 B3 residents using the Resident Contact Log.
- □ Post Evacuation Notices for residents that are not at their residence.
- □ Follow the scripts and procedures in the ERP.
- □ Monitor area for H<sub>2</sub>S and / or LEL with personal monitors and document FORM A5 readings on the Air Monitoring Log.
- Report all reading changes / increases to the Public Safety Group Supervisor.
- 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 FORM L ICS 214 Supervisor who will notify the police as required.
- Document all activities using the ICS 214 Activity Log.
- A 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.

-	- 1	-	-
- 1 I		•	

- 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**

Phone Number

Phone Number:

Rovers report to the Public Safety Group Supervisor.

Name:

**Reception Centre** 

Location:

Wind Direction

B5

**EVACUATION NOTICE ~ EXAMPLE** 

# **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

Protect yourself
Ensure you are equipped with all necessary
SCBA
Gas monitors
Mobile communications or other for
Forms
Vehicle (4x4) with full tank of fuel
🖵 Map
Confirm that your handheld monitor for H <sub>2</sub> S
Confirm that you have enough conies of the

1.

2a.

2b.

3.

B5

DATE:

TIME:

assigned location that does not cross the hazardous area.

#### **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.

Ask if they will require evacuation assistance
Make sure they are all accounted for.
Ensure they gather any supplies they will nee
□ If they are able to transport themselves to th
from the hazard.
Ask them if they have any questions.
Provide them with your name and contact info

	with your	name and	contact init
Report to the	Public S	afety Grou	p Supervis

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.

Try not to scare them. They are aware you m
Make sure they are all accounted for.
Ensure they gather any supplies they will nee
Ask them if they have any questions.
Once you are satisfied that all personnel from
On the way to the Reception Centre, notify th
of arrival at the Reception Centre.
Ensure that the residents check in at the Re

leave for your next assignment.

	D

Record information on the following forms located in SECTION 5: FORMS: Resident Contact Log □ Air Mo

Air Monitoring Log	
ICS 214 Activity Log	

Evacuation Notice



#### **BEFORE DEPARTURE**

y equipment:

rm of communication

and / or LEL is functioning properly.

the Evacuation Notice. Confirm your assignments with the Public Safety Group Supervisor and make sure you have a safe route to the

"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."

and arrange additional transportation assistance if necessary.

ed for the next 24 hours (medicines, baby food, diapers, etc.). he Reception Centre provide them with directions that will keep them away

formation in case they need assistance later sor

#### **REQUESTED EVACUATION ASSISTANCE**

"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."

ight be coming but don't know what to expect.

ed for the next 24 hours (medicines, baby food, diapers, etc.)

m the residence are accounted for, deliver them to the Reception Centre. he Public Safety Group Supervisor of your progress and estimated time

eception Centre with the Reception Centre Representative before you

#### **RECORD INFORMATION**

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# **Core Emergency Response Plan**

# **B3 RESIDENT CONTACT LOG**

Date:		Responder Name:	e:				122
Page	of	Responder Position:	cion:			Responders Phone No.:	
		Ref. No. on Map	SHELTER /	NUMBER (	NUMBER OF PEOPLE	ASSISTANCE OR	and the state of t
TIME	RESIDENT NAME	FOR RESIDENCE	EVACUATE	INSIDE	OUTSIDE	TRANSPORTATION REQUIRED?	COMIMENTS
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	

(ARC RESOURCES LTD. **ICS 214 ACTIVITY LOG** Incident Name: Date / Time Initiated: Prepared by: Personnel Assigned Name ICS Po Activity Log Time

#### Core Emergency Response Plan

Position / Tit	e:
sition	Location
	1
Actions	

OT		71 118
U)	/EK	VIEW

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.)
- Review with the Public Protection Supervisor the telephoner scripts to be used: Early Notification / Voluntary Evacuation Message, Shelter-in-Place B7 Phone Message, Evacuation Phone Message.
- Contact special needs residents at a Level 1 Emergency and provide them with R the option to evacuate
- 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 (i 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 B3 Public Protection Supervisor about unsuccessful contacts and any residents FORM D ICS 214 requiring assistance.
- Document all activities using the ICS 214 Individual Activity Log.
- Assist with post-incident activities.

1.

#### 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.
- Generation 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 B7 Telephoner Text form located in SECTION 5: FORMS.

#### 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.)

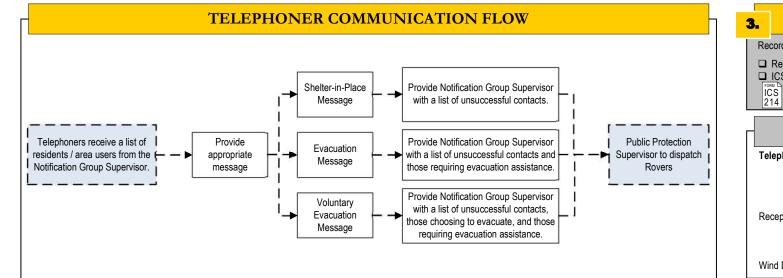
#### TIPS

- 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.

<b>2a.</b>	SHELTER-IN-PL	ACE PHONE	E MESSAGE	٦	<b>2</b> b.		EVACUATI
Hello, this is	(your name)	of	(company nar	ne)	Hello, thi	s is	(your name)
Is this the	(name)	residence at	(telephone number)	?	Is this the	e	(name) residence
(company name)	is responding to a (pote	ential) emergency at	(location)	in your area.	(com	pany name)	is responding to a (potential) en
For your safety, it is extre you are advised to evacu	emely important that you, and those value.	with you, stay indoors un	til the potential hazard no	longer exists, or			remely important that you and you vest direction to our reception cent
To help us understand yo	our immediate needs, we need to know	SW:			To help u	us understand	your immediate needs, we need to
How many people are a	t your location now?				How ma	ny people are	at your location now?
Adults						Adults	
			-				
Is there anyone in your he out of the area?	ousehold that you cannot contact to	inform them of the situati	ion and advise them to ge	t in doors or stay	Is there a from the	anyone in your	household that you cannot contac
🗖 Yes 🛛	🗖 No					🛛 Yes	
IF YES Whom?					IF YES		
Location of	f the person(s)					Location	of the person(s)
We will sen	d someone to find them as soon as I	possible.					end someone to find them as soon
Do you have children in	school at this time?				Do you l	have children	in school at this time?
🗇 Yes 🛛	🗖 No					🛛 Yes	
IF YES What scho	ol?				IF YES	What sch	ool?
Children's	names						s names
immediately	tact the school to ensure the safety of r. If school is in session, your childre the school day is over.					immediate	ntact the school to ensure the safe ely. If school is in session, your chil en the school day is over.
	er-in-Place" instructions previous	ly provided to you by	(company name)	?	Do you i	require evacu	ation / transportation assistance
			(oompany name)			🛛 Yes	🗇 No
	w the Shelter-in-Place instructions lo	ocated inside the residen	t pamphlet.		IF YES		ending someone to assist you. Plea e arrive to evacuate you.
					IF NO		he resident with:
IF NO Verbally wa	alk the resident through the Shelte	er-in-Place instructions	on the next page.				ections to safely travel to the rec
							st of items to bring with them to
Do you understand what	at I have told you?						idea of how long they may be ex option to bring their house pets
					Disesse		
1. (1							<u>mpany name)</u> if you are unable t we can contact you if necessary.
is there an alternate hul	mber we can contact you at?			_			mber we can contact you at?
If you have any urgent of	questions, please contact (c	ompany name) af	(telephone number)				ive at the reception centre will add tions. Do you understand everythir
Thank you for your coo						,	t questions, please contact

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



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

<b>2</b> b.	EVA	CUATION	PHONE	MESSAGE	
	is <u>(your nam</u>				
Is this the	(name)	residence at		(telephone number)	?
	any name) is responding to a				
For your s	afety, it is extremely important that st / south / west direction to our re	you and your family	/ leave your resid		-
To help us	understand your immediate need	s, we need to know:			
How man	y people are at your location no	w?			
	Adults				
	Children				
Is there an from the a	yone in your household that you c rea?	annot contact to info	orm them of the si	ituation and advise them to	o evacuate away
	🖾 Yes 🖾 No				
IF YES	Whom?				
	Location of the person(s)				
	We will send someone to find the	nem as soon as pos	sible.		
Do you ha	ave children in school at this tim	e?			
IF YES	Yes  No What school?				
	Children's names				
	We will contact the school to er immediately. If school is in sess driver when the school day is o	sion, your children w			
Do you re	quire evacuation / transportation	n assistance?			
	🖬 Yes 🖾 No				
IF YES	We are sending someone to as		y indoors and clos	se all doors and windows u	until a Rover or the
	local police arrive to evacuate y Provide the resident with:	/ou.			
IF NO	Directions to safely trav	el to the reception	centre		
	A list of items to bring v	,		nedications. cell phone.	etc.)
	An idea of how long the				
	The option to bring their				
	ntact <u>(company name)</u> if you free so that we can contact you if		e it to the receptio	n centre for any reason. P	'lease keep your
	alternate number we can contact				
	y representative at the reception c accommodations. Do you underst				rangements for yo
	e any urgent questions, please		npany name)	at(telephone nu	umber)
-	u for your cooperation.				
-	all information regarding this call to	the Public Protection	on Supervisor imn	nediately)	
			·		
		3.	RECO	RD INFORMA	TION
		Record inf	ormation on the fo	ollowing forms located in S	SECTION 5: FORM
			nt Contact Log	U Voluntary E	
			4 Individual Activi	ity Log 🛛 🖬 Shelter-in-F	Place Message
r <mark>- I</mark>		ICS 214		B Evacuation	Message
1					

#### **REPORTING AND CONTACTS**

Telephoners report to the Public Protection Supervisor

Name: Phone Number:

**Reception Centre** Location

Phone Number:

Wind Direction:





Core Emergency Response Plan



#### **B3 RESIDENT CONTACT LOG**

Date:

#### Responder Name:

Responder Position: \_

\_ Responders Phone No.: \_

ge	of	Responder Posit	ion:			_ Responders Phone No.:	-
TIME		Ref. No. on Map	SHELTER /	NUMBER OF PEOPLE		ASSISTANCE OR	
TIME	RESIDENT NAME	FOR RESIDENCE	EVACUATE	INSIDE	OUTSIDE	TRANSPORTATION REQUIRED?	COMMENTS
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	
			O SHELTER O EVACUATE			O YES O NO	

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Core Emergency Response Plan

#### **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, th	s is	(your name)	calling from	(company nam	e) .
Is this th	e (nam	e of residence / bus	siness) at	(telephone numb	er)
(Con	pany name)	is responding to	a (potential) emergeno	cy at(location)	in your area
		this time. All effort provide you with ar		solve the problem and th	is phone call is
To help u	is understand a	and your immediate	needs we need to kno	ow:	
How ma	ny people are	at your location no	w?		
	Adults				
	Children				
Do you v IF YES	10	our residence at thi I in a <i>north / east /</i>		to our reception centre	located at:
IF NO		0.000		your telephone for outgo prmation or when the pro	
lf vou ha	ve urgent que	stions, please conta	ect (company na	ime] <b>at</b> (telephor	e number)
100-0100000100					

ICS 214 ACTIVITY LOG								
Incident Nam	ie:							
Date / Time I	nitiated:							
Prepared by:			Position / Title:					
Personnel As	signed							
	Name	ICS Pos	ition	Location				
Activity Log			794 552					
Time			Actions					
	c							
	-							
	с.							
	- 							

Core Emergency Respo	nse	Plan
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#### **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.

#### **STEP 2 - TACTICS MEETING**

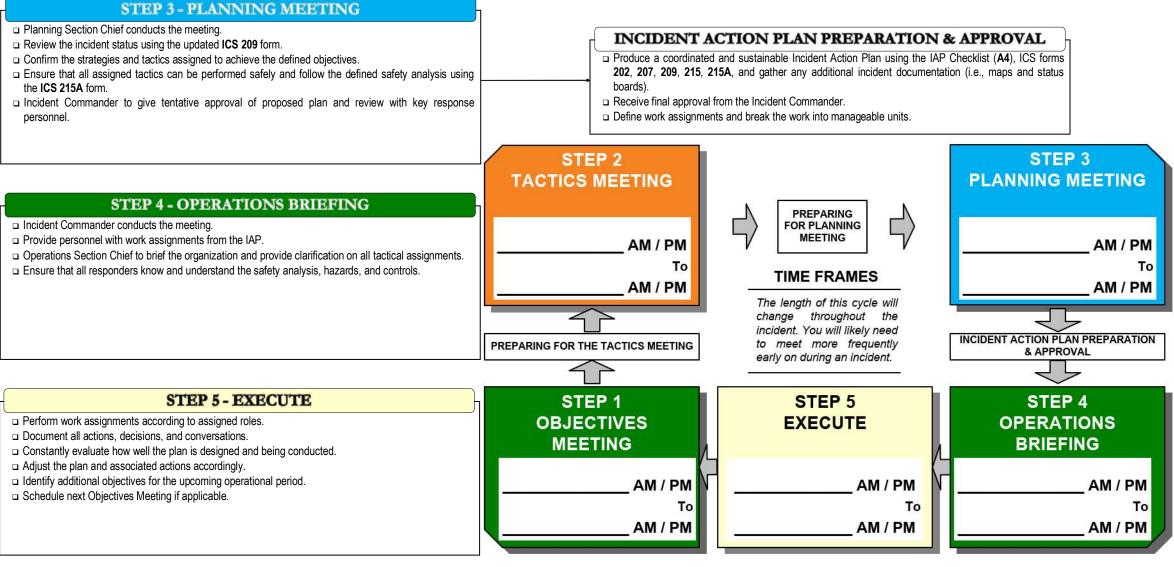
- Operations Section Chief conducts the meeting.
- Review the incident status using the ICS 209 form that was completed during the Objectives Meeting.
- Operations Section Chief proposes strategies and tactics.
- Evaluate and assign resources and personnel.
- Ensure that all strategies have associated 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 TACTICS MEETING

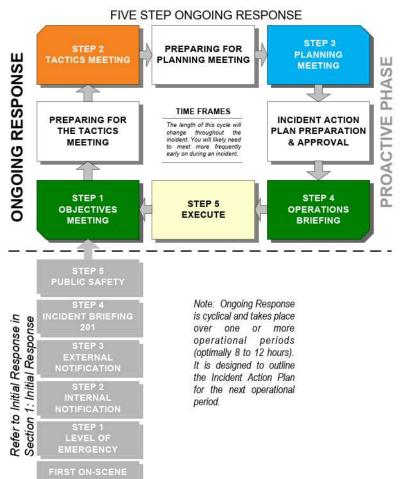
- Develop draft strategies and tactics for each defined objective.
- Dutline work assignments and develop an operations organization chart using the ICS 207 form.
- Identify future tactical plans to optimize the Tactics Meeting.
- □ Begin to prepare a safety analysis once all hazards have been identified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

#### 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).



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.



# 2.20**FIVE STEP ONGOING** RESPONSE GUIDE



#### 2.21 Objectives Meeting

Owner: Incident Commander Date	e: Time:		
**Polos bolow will at	tond only if designated and available**		
Attendees:	tend only if designated and available**		
Incident Commander:	□ Planning Section Chief:		
Deputy Incident Commander:	Logistics Section Chief:		
Operations Section Chief:	☐ Finance/Admin. Section Chief:		
□ Planning Section Chief:	□ Safety Officer:		
Liaison Officer:	□ Other:		
□ Information Officer:	Other:		
Summary:			
The objectives of this meeting are to:			
,	l upon by all attendees (Command and General Staff).		
• Establish objectives and priorities for th			
• Begin an ICS 209 Incident Status Summ			
• Begin identifying all required roles on the			
Begin addressing the Incident Action P			
• Schedule and prepare for the Tactics M			
Resources: ICS 202, 207, 209 for	ms, and the IAP Checklist (A4)		
Agenda Items:			
Status Update and review the ICS 201 Incident Briefing form.			
Determine incident priorities (PEAR). Reference PEAR worksheet on page 2 of the <b>ICS 201</b> Incident			
Briefing form.			
Establish an incident organization that is capable of meeting initial and long-term challenges required to mitigate the incident.			
Determine the incident response objectives and complete and <b>ICS 202</b> Incident Objectives form. They			
must be <b>SMART</b> (Specific, Measurable, Attainable, Realistic, & Time Sensitive).			
□ Identify initial staffing requirements and begin filling out the <b>ICS 207</b> Incident Organizational Chart.			
<ul> <li>Identify and select incident support facilities.</li> <li>Review the incident objectives for the next operational period so your management team can begin work</li> </ul>			
on the IAP.			
Document the incident status to relay to all responding personnel.			
Key Points:			
• Ensure that the meeting is documented / recorded. (Utilize the back side of this page.)			
Define the hours of work and operational period.			
• Utilize Incident Action Plan Checklist (A4).			
Identify constraints and limitations.			
Clarify any staff roles and responsibilities.			
• Discuss and agree on process issues such as resource ordering, cost accounting, operations security, and			
sensitive information.			
Continue to develop tasks for Command and General Staff.			
• Agree on division of command workload, such as press and agency briefings.			

<b>NEBC</b>	Emergency	Response	Plan
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Notes:

#### 2.22 Tactics Meeting

<b>Owner: Operations Section Chief</b>	Date:		Time:		
**Roles below wil	ll attend only if design		ated and available**		
Attendees:					
□ Incident Commander:		Planning	g Section Chief:		
Deputy Incident Commander:			s Section Chief:		
Operations Section Chief:		□ Finance/Admin. Section Chief:			
Planning Section Chief:		□ Safety Officer:			
Liaison Officer:		Other:			
□ Information Officer:		□ Other:			
Summary:					
The objectives of this meeting are to:					
• Define tactics, work assignments, a	nd resources to a	meet actions is	dentified during the Objectives Meeting.		
• Have completed ICS 215 and 215A	forms agreed up	oon by all atte	ndees (Command and General Staff).		
• Update the ICS 207 Incident Organ	nization Chart.				
Refer to Incident Action Plan Chec		ontinue to add	to items accomplished.		
• Schedule and prepare for the Plann			1		
Resources:       ICS 209, 215, 215A, and IAP Checklist (A4)					
Agenda Items:					
C Review ICS 209 Incident Status Su	mmary.				
□ Review incident objectives.					
Define tactics to complete objective	es set out during	the Objective	es Meeting.		
Provide an operational update and	dentify tactics to	deal with inc	ident.		
□ Identify roles and responsibilities th	□ Identify roles and responsibilities that have to be performed to implement tactics.				
Build on already established ICS 207 Incident Organization Chart, check span-of-control, and match up			t, check span-of-control, and match up		
with ICS 215 assignments.					
Complete the Operational Planning Worksheet, ICS 215 (Utilize one form for every established objective).					
□ Identify work assignments					
☐ Identify resources requirements to achieve each work assignment					
□ Identify overhead staffing needs to support each work assignment					
□ Identify specialized equipment and supply needs for each work assignment					
Specify reporting times and location for personnel					
1	Complete the Incident Action Plan Safety Analysis, ICS 215A.				
□ Identify potential hazard types					
Identify mitigations for associated hazard types					
Identify support facilities and locations.					
Key Points:					
• Ensure that the meeting is docu		<b>`</b>	the back side of this page.)		
Review planned actions against inci					
• Utilize a map or chart to depict the operational areas, support facilities, and any key information.			ilities, and any key information.		
Discuss any applicable open action items.					

• Consider contingencies and secondary options.

#### NEBC Emergency Response Plan



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#### 2.23 Planning Meeting

Owner: Planning Section Chief	Date:		Time:	
**Polos bolow w	low will attend only if designated and available**		l and available**	
Attendees:	<u>n allend onny</u>			
□ Incident Commander;		Planning Sect	tion Chieft	
Deputy Incident Commander:		Logistics Sect		
□ Operations Section Chief:			nin. Section Chief:	
Planning Section Chief:		Safety Officer		
Liaison Officer:		Other:		
□ Information Officer:		Other:		
Summary:				
The objectives of this meeting are to:				
• Finalize an Incident Action Plan w	with the necessary	y forms based on t	he objectives, tactics, and strategies	
outlined from the previous comma	nd meetings.			
• Schedule and prepare for the Operatio				
Resources: IAP Checklist (A	4) and all assoc	iated ICS forms		
Agenda Items:	Agenda Items:			
□ Review Incident Action Plan forms	□ Review Incident Action Plan forms (ICS 202, 207, 209, 215, and 215A).			
Review Command's incident objectives, priorities, decisions, and direction.				
Provide briefing on current situation, resources at risk, weather forecast, and incident projections.				
Operations Section Chief provides briefing on:				
Current operations.				
An overview on the proposed plan including strategy, tactics or work assignments, resource			k assignments, resource	
commitment, contingencies, organization structure, and needed support facilities.				
□ Review the proposed plan to ensure that Command direction, priorities, and operational objectives are				
met.				
Delegate assignments and deadlines to appropriate staff members to assure timely and effective IAP				
development.				
Key Points:				
• Ensure that the meeting is documented / recorded. (Utilize the back side of this page.)				
• Review IAP Checklist (A4) to ensure that all critical materials have been accounted for in the IAP.				
• Planning Section Chief brings meeting to order, cover ground rules, and review agenda.				
• Planning Section Chief requests tacit C	Planning Section Chief requests tacit Command approval of the plan as presented.			
Planning Section Chief reviews and validates responsibility for any open actions and management				
objectives.				
Planning Section Chief conducts round table of Command and General Staff to solicit their final input				
and commitment to the proposed plan.				

#### NEBC Emergency Response Plan



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#### 2.24 Operations Briefing

Owner: Incident Commander Date:	Time:	
**Roles below will atter	nd only if designated and available**	
Attendees:		
□ Incident Commander:	□ On-Site Group Supervisor	
Deputy Incident Commander:	Public Safety Group Supervisor	
Operations Section Chief:	Air Monitor Team Lead	
Planning Section Chief:	Roadblock Team Lead	
Liaison Officer:	Rover Team Lead	
Information Officer:	Telephoner Team Lead	
Planning Section Chief:	Reception Centre Representatives	
<ul> <li>Logistics Section Chief:</li> <li>Finance/Admin. Section Chief:</li> </ul>	□ Other: □ Other:	
Safety Officer:	Other:	
□ Staging Area Manager:	Other:	
Summary:		
The objectives of this meeting are to:		
• Review a summary of the incident status wi	ith all responders.	
• Relay objectives, tactics, and strategies.	1	
• Reinforce/relay the safety message.		
<ul> <li>Assign roles &amp; responsibilities and tasks for</li> </ul>	r all responders to accomplish	
<ul> <li>Execute the response.</li> </ul>		
1	ng and identify potential problems/issues to address in the next	
operational period.	ing and identity potential problems/ issues to address in the next	
Resources: IAP Checklist (A4) and a	all associated ICS forms	
Agenda Items:		
8	h the LAP components and makes changes as peeded	
	the IAP components and makes changes as needed.	
	of the Operation Section Supervisors and provides a briefing	
on emergency response.	v personnel on their assignments along with clarification on any	
of their issues and concerns.	personner on men assignments along with claimcauon on any	
□ Safety Officer covers major safety issues.		
	port of operations (communications, supply, transportation,	
medical, etc).	port of operations (communications, supply, transportation,	
□ Finance / Admin. Section Chief covers time & cost tracking, procurement, and compensation process.		
$\Box$ General Staff to cover issues applicable to G	Operations Section personnel.	
Key Points:		
-	<b>/ recorded.</b> (Utilize the back side of this page.)	
	ers ground rules, agenda, and conducts roll call of Command	
<ul> <li>Establish a briefing and message for all responders.</li> </ul>		
Review pre-determined public and media st		
Planning Section Chief solicits final comme	ents and adjourns briefing.	

#### NEBC Emergency Response Plan



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#### 2.25 Planning "P"

#### **Initial Response:**

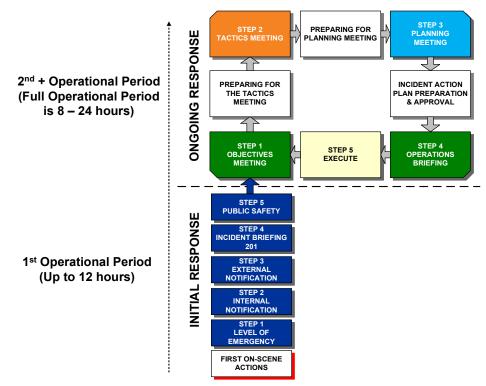
All incidents begin with the initial response (reactive phase) during the first operational period. At the onset of an emergency response an Initial Emergency Report (A1) Form is completed to determine the severity of the emergency and extent of the response. 95% of emergency responses begin and end 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 Government Consultation Summary Emergency Management Agency Roles
  - Ministry of Transportation Roles
  - Health Authority Roles
  - Local Authority Roles
  - Federal Agency Roles

#### SECTION 3. GOVERNMENT AGENCY ROLES



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	Before the Incident	During the Incident	1 [-
	All departments/agencies should participate in training and exercises for this plan and the Energy Resources Industry Emergency Support Plan (ERIESP).	□ The AER may activate the ERIESP based on the following criteria: □ Level 2 or 3 emergencies (as defined by the AER)	Complete a finvolvement ar
non S	<ul> <li>This plan will be reviewed as required.</li> <li>A join multi-department/agency exercise will be held as required.</li> </ul>	<ul> <li>Investigation of a significant of the second second</li></ul>	<ul> <li>Integrate PIA in</li> <li>All department</li> <li>Participation fr</li> </ul>
Common Tasks		<ul> <li>Elevations of the POC will be escalated by AEMA. Once the elevations level of the POC has been escalated, provincial-relevel 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> </ul>	the emergency Reports requir to the appropri
		GoA emergency management assistance will be provided to the local authority as requested and as long as is required by the local authority.	
*Alberta Energy Regulator (AER)	<ul> <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 resources.</li> <li>Act as Subject Matter Expert (SME).</li> </ul>	<ul> <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 clation 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 department/agencies activated by this plan.</li> <li>Notify all participants when th</li></ul>	☐ Conduct the P ☐ As part of the coordination of ☐ Establish proc ☐ Review and up ☐ Communicate
*AEMA	<ul> <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> <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>□ Cordinate 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>	Participate in a Complete doct and the emerg
Local Authority	<ul> <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 plan.</li> </ul>	<ul> <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 AEM and the 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:</li> <li>Determine where road blocks should be or are established.</li> <li>Determine if there are any injuries.</li> <li>If ind out what response and public protection actions have been taken.</li> <li>Identify the locatian of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs).</li> <li>Activate the MEP, when required.</li> <li>Manage the Local Authority's emergency response.</li> <li>Activate the MURDCL, as required.</li> <li>In dentify the location of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs).</li> <li>Activate the MIEP, when required.</li> <li>Manage the Local Authority is emergency response.</li> <li>Activate the MURDCL, as required.</li> <li>Init ate 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 required establishent and maintenance with the industrial operator.</li> <li>If the hazard area extends beyond the Emergency Planning Zone (EPZ), the county will coordinate evacuation of the public as well as received needed if required the industrial operator.</li> <li>If necessary, declare a local State of Emergency Planning Zone (EPZ), the county will coordinate evacuation of the emergency and of any protective actions to be</li></ul>	Complete a "le provide any fea Participate in n
Alberta Health Services (AHS)	<ul> <li>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.</li> <li>Environmental Public Health will endeavor to:</li> <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 responses 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> <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> </ul>	☐ Record and re following and in ☐ Participate in s

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

#### After the Incident

Post Incident Assessment (PIA) based on the scope of their nd the outcome. into internal response processes. ts/agencies will participate in a joint PIA to be coordinated by AER. rom each department/agency will be determined by the response to

y. ed by other regulatory authorities must be completed and delivered iate regulatory body within the time lines they prescribe.

PIA related to the response, as described by the ERIESP. e PIA, recommend any mitigation actions that may improve the of the GoA response, as described by the ERIESP. esses to receive and address community concerns. pdate the ERIESP, in consultation with AEMA. any changes to the ERIESP to applicable stakeholders.

all PIAs related the ERIESP. umentation or reporting in relation to the activation of the ERIESP jency for all GoA-wide PIAs.

essons learned" process based on the scope of involvement and edback to the industrial operator. nulti-agency debriefings.

espond to health complaints or concerns from the public during and incident. stakeholder debriefings as necessary.





#### 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
- Service: 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
- ergency rescue, and medical rescue Emergency Medical Services, or EMS, operates under the authority of the Alberta
- Ш 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
- ш 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
  - D Participate in industrial operators' exercises where possible
  - ☐ Maintain 24 hour emergency contact numbers

#### **During the Incident**

- RCMP
- CMP 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.
  - A Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.

#### Fire

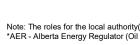
- □ Respond to and assess emergency incident to the scope of their abilities.
- Establish a unified OSCP / ICP (On-site Command Post / Incident Command Post).
- Communicate to MEOC and provide site reps as required.
- C Assist with fire protection where trained personnel are available.
- □ Provide emergency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

#### FMS

- □ 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.

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#### 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.

Revised March 2022



	Poforo the Incident	During the Incident	After the Incident	
Common Tasks	Before the Incident	During the Incident         The AER may activate the ERIESP based on the following criteria:         Level 2 or 3 emergencies (as defined by the AER)         Any level of emergency:         requires coordination of multi-agency response;         requires coordination of information and communication between departments/agencies and/or has significant provincial/national media interest.         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.         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 Government Emergency Management Regulation (AR 248/2007).         GoA emergency management assistance will be provided to the local authority as requested and as long as is required by the local authority.	Arter the incident  Complete a Post Incident Assessment (PIA) based on the scope of their involvement and the outcome. Integrate PIA into internal response processes. 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. Reports required by other regulatory authorities must be completed and delivered to the appropriate regulatory body within the time lines they prescribe.	
SHO*	<ul> <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> </ul>	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.)	<ul> <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 health and safety committee or health and safety representative as defined by OHS legislation has been involved in internal investigations.</li> </ul>	oles
*AAF	<ul> <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>	Agriculture         □ Act as SME relating to agriculture and livestock impacts.         □ Act as the liaison between farming/ranching community and GoA during energy resources industry emergencies.         □ Provide information relating to agricultural and livestock impacts to the GoA during energy resources industry emergencies.         Forestry         □ Notify forestry staff in the area of the emergency.         □ 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 operations when industry has appropriately shut-in the operation and notified Alberta wildfire to ensure the safety of first responders.	Agriculture         □ Provide a summary of agriculture and livestock impacts during the PIA process. (if applicable)         □ Conduct agriculture and livestock impact assessments.         □ Implement response activities as required.         Forestry         □ Conduct forest impact assessment. (if applicable)	Jency Ro
*АТ	<ul> <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> <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>	Provide a summary of transportation impacts during the PIA process. (if applicable)	ng Ag
*CPE	<ul> <li>Maintain a team of trained Communications and Public Engagement personnel.</li> <li>Activate crisis communications plan and crisis communications response.</li> </ul>	Confirm distribution of AER messaging. Provide support as required.	<ul> <li>Participate in all PIAs related to the ERIESP.</li> <li>Coordinate key messaging with the AER.</li> </ul>	orti
*JSG	<ul> <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> <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> <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>	ddng
*ABSA	<ul> <li>Review, accept and register pressure equipment designs and construction procedures that relate to pressure equipment.</li> <li>Issue certificate of inspection permits for pressure equipment before the equipment is placed into service.</li> <li>Ensure that regular inspections of in-service pressure equipment are conducted.</li> <li>Keep records for pressure equipment that has been registered for use, or manufactured, in Alberta.</li> <li>Examine, certify and register Pressure Welders and Welding Examiners, Power Engineers, and Pressure Equipment Inspectors.</li> <li>Authorize and monitor, through quality management systems, organizations that have been permitted to conduct some of the activities subject to the regulations.</li> <li>Conduct safety education and training.</li> </ul>	<ul> <li>Receive notification of an incident.</li> <li>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> <li>Investigate accidents or unsafe conditions that involve pressure equipment. May:</li> <li>Close all or part of the accident site for 48 hours (or longer if authorized by a Justice)</li> <li>prohibit any person from entering the site for safety reasons or to preserve evidence</li> <li>be accompanied by any person for assistance</li> <li>inspect and photograph any thing</li> <li>require any person to make full disclosure</li> <li>require to be performed any tests or evaluations</li> <li>require production of documents</li> </ul>	<b>3.2 S</b>
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*AEP	Before the Incident         Maintain 24 hour emergency contact numbers and duty officer where resources can be accessed for a response related to this plan.         Maintain emergency response resources.         Maintain a specialty air monitoring team and equipment used to oversee and verify air monitoring during incident response.         Act as SME.         Prepare to act as lead agency when appropriate.	<ul> <li>During the Incident</li> <li>Ensure that non-energy industry resources environmental impacts are mitigated.</li> <li>Provide expertise to mitigate the impacts of non-energy resources industry liquid releases on land and into watercourses.</li> <li>Provide technical assistance related to emergency drinking water supply engineering.</li> <li>Notify Fish and Wildlife staff in the area of the emergency.</li> </ul>	
*WCB	<ul> <li>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.</li> <li>WCB has the overall responsibility for the administration of the workers' compensation system in Alberta.</li> <li>Be a neutral and autonomous administrator of the worker's compensation system.</li> <li>Strive to balance the interests of workers and employers.</li> <li>Delivery of workers' compensation services to the workers and employers of Alberta.</li> <li>Make decisions based on evidence, law and policy and fair, impartial and transparent processes.</li> <li>Encourage safer workplaces and promote disability management.</li> </ul>	<ul> <li>Employer must report to WCB within 72 hours of being notified of an injury/illness that results in or will likely result in:</li> <li>Lost time or the need to temporarily or permanently modify work beyond the date of accident</li> <li>Death or permanent disability (amputation, hearing loss, etc.)</li> <li>A disabling or potentially disabling condition caused by occupational exposure or activity (poisoning, infection, respiratory disease, dermatitis, etc.)</li> <li>The need for medical treatment beyond first aid (assessment by a physician or chiropractor, physiotherapy, etc.)</li> <li>Medical aid expenses (dental treatment, eyeglass repair/replacement, prescription medications, etc.)</li> <li>Note: Immediately report fatalities and serious injuries to the OHS Contact Centre 1-866-415-8690.</li> <li>Determines whether the injury or illness is caused by work.</li> <li>Responds to all client inquiries forwarded by the Minister and all other elected officials.</li> </ul>	

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#### After the Incident

Compile and maintain environment/emergency related records Monitor environmental recovery, when required.

Compensates injured workers for lost income, health care and other costs related to a work-related injury. I Safely restores injured workers through return-to-work services to a level of competitive employability. Take reasonable measures to maintain a reasonable quality of life for severely injured workers through the provision of services allowed by legislation and policy.



	Before the Incident	During the Incident	
290*	The Emergency Response and Safety Department is the lead department responsible for emergency management within the Commission. The Department oversees the administration of the EMR. This includes: Reviewing industry emergency management programs and plans Participating in permit holder emergency response exercises Providing 24 hour Emergency Officer services Leading emergency and incident follow-up and investigation Administering incident and complaint response services The Commission uses a combination of reviews, assessments, and field inspections. 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. Participate in selected licensee ERP exercises. Maintain a 24 hour telephone contact where petroleum industry incidents can be reported.	During emergencies the Oil and Gas Commission (OGC) acts as a liaison between industry operators and the provincial emergency management structure to provide situation updates related to threatened oil and gas assets.         Oversee operator's response to an incident.         Notified by EMBC of incidents within OGC's jurisdiction (on lease).         Establish communication with operator.         Confirm incident level with operator.         Image: Confirm downgrade of incident level.         Image: Issue road closure order upon request from operator.         Request NOTAM order upon request from the operator.         Image: May send an OGC representative to operator's On-Site Command Post and / or Evacuation Centre.         Image: May send an OGC operator if time permits.         Image: Confirm induction with operator if time permits.         Image: Confirm induction with operator if the operator.	Close EOC if estable Participate in even Receive and reviev May audit licensee
*EMBC	<ul> <li>Assist the OGC with planning initiatives regarding petroleum industry emergency response as requested by the OGC.</li> <li>EMBC Northeast Region receives Industry Facility Emergency Response Plans.</li> <li>Participate in selected licensee ERP exercises when requested as time permits.</li> <li>Maintain a 24 "800" telephone contact where petroleum industry spill incidents can be reported.</li> <li>Maintain 24 hour emergency contact numbers for local governments and provincial emergency responders.</li> </ul>	<ul> <li>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 (SOPs) in ECC will determine who is notified.</li> <li>Provide representatives to help coordinate provincial response as required.</li> </ul>	As requested by O
Local Authority / Regional Districts	<ul> <li>disasters.</li> <li>I Identify procedures for obtaining emergency resources.</li> <li>Establish priorities for restoring essential services.</li> <li>Work with volunteer groups to plan for the provision of food, clothing and shelter to victims.</li> <li>Participate in industrial operators' preparatory training and exercises where possible.</li> <li>Maintain 24 hour emergency contact numbers.</li> </ul>	Provides the local government response for rural and crown areas. Assesses the situation. Provides support to the first responders, including resources. Provides public information, including media briefings. Coordinates the provision of food, clothing, shelter and transportation. Liaises with volunteer groups. Provides situation reports to the PREOC. Tracks finances. Coordinates recovery of essential services. Coordinates and disasters the local authority's primary link to the provincial emergency management structure is the PREOC. 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. Establish contact with the industrial operator in order to: Obtain additional hazard information. Determine the direction of approach to the incident. Determine there are any injuries. Find out what response and public protection actions have been taken. I detuify the location of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs). Activate the MERP, when required. Manage the Local Authority's emergency response. Activate the Merp outpile VEOC. Manage the Local Authority's energency response. Activate the Merp outpile Weor is a later to provide to life threatening hazards, as required. May dispatch a representative to the Government EOC (GEOC), when it is established, to coordinate the response, if requested. If no cover with all other response to establish a single Regional EOC (REOC). Inform EMBC and the public when the emergency is over.	Complete a "lesso any feedback to the Participate in multi-
*BC Emergency Services	<ul> <li>managing crowds or evacuation zones.</li> <li>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>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>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 compared and and the provision of pre-hospital</li> </ul>	RCMP         Maintain law and order and assist the operator with security.         Assist with mobilization of additional resources as directed by EMBC.         Assist with traffic control, evacuation, and residence security.         Assist with setting up and maintaining roadblocks or closures 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).         Coordinate news releases with the licensee, if 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 BC Ambulance Service provides and coordinates ambulance service s within British Columbia, including triage, treatment, transportation and care of casualities.	Complete a "lesson any feedback to the Participate in multi-

established. event debriefings. eview Post-Incident reports. nsee records.

by OGC

essons learned" process based on the scope of involvement and provide to the industrial operator. multi-agency debriefings.

essons learned" process based on the scope of involvement and provide to the industrial operator. multi-agency debriefings.







	Before the Incident	During the Incident
Northern Health Authority	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:	<ul> <li>Activate internal emergency response management plans related to ongoing provision of its services</li> <li>Provide acute care and emergency services at existing Northern Health hospitals/health centres.</li> <li>Work with BC Emergency Health Services (Ambulance) and the BC Patient Transfer Network to transport patients to the appropriate levels of care.</li> <li>Apply and enforce the Public Health Act, and associated regulations.</li> <li>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.).</li> <li>Provide advice/information on the best methods for monitoring health effects from an incident.</li> <li>Assist in development of (joint) messaging for public information on emergency incidents.</li> <li>Provide guidance to stakeholders and local authorities on public health considerations in operating reception and evacuation centres, and group lodging facilities.</li> </ul>
Ministry of Justice	<ul> <li>The Police and Community Safety Branch of the Ministry of Justice will work with EMBC to:</li> <li>Prepare, promulgate and implement orders relating to law enforcement and internal security.</li> <li>Provide through the jurisdictional police force: <ul> <li>Advice to local authorities respecting the maintenance of law and order</li> <li>Reinforcement of local police services</li> <li>Security control of emergency areas; and</li> <li>Traffic and crowd control</li> </ul> </li> <li>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.</li> </ul>	<ul> <li>Jurisdictional police forces to task search and rescue services for missing persons on land and in inland waters.</li> <li>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.</li> <li>The Minister of Justice has overall responsibility for emergency management in the province. In the event of a disaster, the Minister may:         <ul> <li>Declare a provincial state of emergency</li> <li>Make a formal written request for federal assistance or aid from the Government of Canada</li> <li>Direct the establishment of M-DEC</li> <li>Inform his/her colleagues of the situation, and</li> <li>Be available for media interviews</li> </ul> </li> </ul>





	Before the Incident	During the Incident	F
Ministry of Environment	Can liaise with MFLNRO to provide:	<ul> <li>Before, during and after an emergency the Ministry of Environment could be called upon to provide expertise, technical advice and/or policy direction regarding:</li> <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 monitoring</li> <li>Parks, wilderness and protected areas.</li> <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 OGC Emergency</li> <li>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>	
*MFLNRO	<ul> <li>Five key agencies are housed within the Ministry of Forests, Lands and Natural Resource Operations: 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, Lands and Natural Resource Operations 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 and Range is the designated key agency for wildfires.</li> </ul>	Before, during and after an emergency the Ministry of Forests, Lands and Natural Resource Operations could be called upon to provide expertise, technical advice and/or policy direction regarding: Forest stewardship policy Land use planning Water use planning and authorizations Drought management Dam and dike safety and regulation Flood plain management GeoBC and information management Pests, disease, invasive plants and species Wildfire management	<ul> <li>Participate in ev</li> <li>Complete a "less and the outcome</li> </ul>
Ministry of Transportation and Infrastructure	<ul> <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 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.</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>	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         □ Muthorize the closure of provincial transportation routes, including highways and inland ferries, where the safety of the public is at risk.         □ Authorize the closure of provincial transportation routes, including highways and inland ferries, where the safety of the public is at risk.         □ Coordinate and arrange for transportation, engineering and construction resources.         □ Rebuild and restore provincial highways that are impacted by an emergency.         □ Major agencies, boards and commissions within MoTI that have identified responsibilities within the Emergency Program Management Regulation are BC Rail, BC Transit and BC Ferries.         □ During an emergency, BC Rail will:         □ Provide priority movement of emergency personnel, equipment and supplies.         □ In cooperation with Transport Canada, assist in railway crashes and derailments in the conduct of rescue operations, removal of debris and the cleanup of hazardous material.         □ Provide railcars for emergency facilities.         □ Provide specialized equipment.         □ During an emergency, BC Transit will coordinate requirements for public transportation, including school and privately owned buses.         □ During an emergency, BC Ferries is re	☐ Work with appro roadways and u
*PSPC	<ul> <li>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.</li> <li>In conjunction with the BC Ministry of Transportation &amp; Infrastructure (MOTI) and the provincial maintenance contractor, PSPC may:</li> <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>	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 MOTIs 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.	<ul> <li>Work with approvide approvide any feed</li> <li>Provide a summ process.</li> <li>Participate in model</li> </ul>

n event debriefings. 'lessons-learned" process based on the scope of their involvement ome.

ppropriate local and federal entities to facilitate the restoration of nd utilities.

ppropriate local and federal entities to facilitate the restoration and of the Alaska Highway. "lessons learned" process based on the scope of involvement and feedback to the industrial operator. Immary of transportation impacts during the post incident review

multi-agency debriefings.

Roles Agency Supporting 4  $\boldsymbol{\mathcal{O}}$ 





Г	Before the Incident	During the Incident	ן ר
	Provide public health measures, including epidemic control and	Before, during and after an emergency the Ministry of Health could be called upon to provide expertise, technical advice and/or	
	immunization programs. □ Provide and coordinate ambulance services and triage, treatment,	policy direction regarding:	
	transportation and care of casualties.	Public health planning and response	
Health	Provide the continuity of care for patients evacuated from hospitals or other health institutions and for medically dependent patients from other care	Community and home support services Mental health	
ea	facilities.	Communicable disease prevention	
Ĩ	Provide standard medical units consisting of emergency hospitals, advanced treatment centres, casualty collection units and blood donor	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	
of	packs.	emergency psychosocial services.	
N	<ul> <li>Monitor potable water supplies.</li> <li>Inspect and regulate food quality with the assistance of the Minister of</li> </ul>	Ensure appropriate Health entities have been notified of the incident. Ensure appropriate Executive and Public Health personnel have been notified of the incident.	
ist	Agriculture.	Carry out evacuation of medically dependent and vulnerable populations, as needed.	
Ministry	<ul> <li>Provide critical incident stress debriefing and counselling services.</li> <li>Provide support services for physically challenged or medically disabled</li> </ul>	□ Transport incident casualties as required. □ Triage and provide medical care to incident casualties as required.	
Σ	people affected by an emergency.	Decontaminate incident casualties that present to health care facilities, as needed.	
	□ Maintain a 24 hour emergency contact number where resources can be accessed for a response related to Emergency Response Plans.	<ul> <li>Relay health hazard information to the public.</li> <li>Monitor water and air quality, as it relates to public health.</li> </ul>	
	□ Provide input on public health issues related to a petroleum incident.	Coordinate the public health response to the incident.	
		Address the psychosocial aspects of the aftermath of an event. Arrange with Health Canada and the Public Health Agency of Canada for federal support, if needed.	
Ī	WorkSafeBC is a provincial body set up to maintain a safe, healthful working	Employer must immediately report the following types of incidents to WorkSafeBC's emergency and accident reporting phone	
	environment at job sites throughout the province. In addition to providing employers and workers with guidance and assistance when they are setting	line whether there is an injury or not: ☐ Any incident that kills, causes risk of death, or seriously injures a worker	
	up health and safety programs, WorkSafeBC, has specific workplace	Any blasting accident that results in injury, or unusual event involving explosives	
	responsibilities. Under the Workers Compensation Act, WorkSafeBC is responsible for:	A diving incident that causes death, injury, or decompression sickness requiring treatment A major leak or release of a dangerous substance	
U	Inspecting places of employment.	A major leak of release of a dangerous substance A major structural failure or collapse of a structure, equipment, construction support system, or excavation	
ğ	<ul> <li>Investigating accidents and the causes of industrial diseases.</li> <li>Issuing orders and directions specifying means of preventing</li> </ul>	Any serious mishap Employer must also report incidents that require the employee to seek medical attention or cause time-loss from work.	
afe	injuries and industrial disease.		
KS.	Assisting and advising employers and workers in developing health and safety programs.		
WorksafeB	Educating workers about health and safety.		
Š	Providing living allowances, rehabilitation, and retraining for workers injured on the job.		
	Collecting contributions to an accident fund from employers and		
	distributing money from the fund to injured workers.		
	Maintain a 24 hour emergency contact number where petroleum industry incidents can be reported.		
	□ Receive Emergency Response Plans. □ Attend critical sour well meetings.		
	Examples of emergency management activities carried out by the Ministry of	Before, during and after an emergency the Ministry of Agriculture may be called upon to provide expertise, technical advice and/	-
	Agriculture are:	or policy direction regarding:	
	Providing advice to farmers, aqua-culturalists and fishers on the protection of crops, livestock and provincially managed fish and	☐ Agriculture ☐ Aquaculture and food industry development	
of	marine plant stocks.	□ Animal health	
ਣਜ਼ੋ	Through EMBC, provide support to impacted agricultural industries and coordinate support and/or managing agricultural animal	□ Crop/plant protection □ Food safety and quality	
ist cu	relocation.	Crop insurance	
Ministry of Agriculture	Assisting the Ministry of Health with inspection and monitoring of food sofety and quality.		
₽₹	food safety and quality. ☐ Coordinate with Canadian Food Inspection Agency the response to		
	animal disease and plant health. □ Administering provision of crop insurance to cover damage from		
	disasters or emergencies.		
	□ Technical Safety BC (formerly BC Safety Authority) is an independent, self-	Technical Safety BC implements a business continuity plan in the event of a natural disaster. This plan ensures that Technical	
3C al	funded organization mandated to oversee the safe installation and operation	Safety BC resumes safety services as soon as possible.	
y E	of technical systems and equipment across the province.	Though Technical Safety BC is not a first responder, they will provide technical support including inspection services to the	
et ch	In addition to issuing permits, licenses and certificates, we work with industry to reduce safety risks through assessment, education and outreach,	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.	
Technical Safety BC	enforcement, and research.	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.	
-			$\downarrow \vdash$
	Health Emergency Management BC (HEMBC) is a program under the Provincial Health Services Authority (PHSA). HEMBC provides the expertise,	For emergency events that require immediate connection with Northern Health, please call HEMBC on call (24/7) - 855-554- 3622. HEMBC will notify / activate the appropriate Northern Health programs (ie. Public Health, Acute Care etc.) based on	
	education, tools, and support specifically for the BC Health Sector to effectively	the nature of the event / emergency. Please include this number in industry ERPs for the use of permit holders in contacting	
۾ ٿو ڪ	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	Northern Health on an emergency basis. ☐ Notify/activate the appropriate Northern Health programs (i.e. Public Health, Acute Care, etc.) based on the nature of the	
<u> </u>	each BC health authority. HEMBC-North deals specifically with Northern	incident/emergency event.	
Ψź	Health. Maintain a 24-hour emergency/on call contact number for notification and		
	activation of the health system in Northern BC.		
			1 1

BRITISH COLUMBIA

Source of information: "The All-Hazard Plan" Emergency Management British Columbia 2012, Northern Health Emergency Response Roles and Responsibilities 2016, Emergency Management BC Emergency Response Roles & Responsibilities 2016, OGC Roles & Responsibilities OGC website 2012, WorkSafeBC Roles and Responsibilities 2017 Revised March 2022 \*HEMBC - Health Emergency Management BC North

#### After the Incident

- Participate in event debriefings.
- Complete a "lessons-learned" process based on the scope of their involvement and the outcome.
- Continue with public health and environmental health monitoring as required. Continue to address the psychosocial aspects of recovery.

□ Prompt investigation of incidents should be conducted so that other employees will not get injured in the same way. Everyone in the business has a role to play, and you must report accidents and incidents to your supervisor.

- □ According to the Regulation, an employer must immediately undertake an investigation into the cause of any accident or other incident that:
  - Is required to be reported under the Act?
     Results in injury to a worker requiring medical treatment?
  - Does not involve injury to a worker, or involves only minor injury not requiring medical treatment, but has a potential for causing serious injury to a worker?

  - Is an incident required by regulation to be investigated?
     Submit an employer's incident investigation report to WorkSafe BC.

Technical Safety BC tracks and investigates incidents and hazards that are reported to inform awareness and prevention initiatives □ Technical Safety BC does not investigate all reported incidents and may not

follow-up with a notification unless there is an intention to investigate. 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.



	Before the Incident	During 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 <u>science-based expert advice</u> and <u>regulations</u> . The key Acts and Regulations that govern ECCC's role in environmental emergencies that allow it to deliver its mandate are:	<ul> <li>During an environmental emergency, <i>The National Environmental Emergencies Centre (NEEC)</i> is the focal point for ECCC.</li> <li>ECCC's services during an environmental emergency: <ul> <li>Collaborate with federal, provincial, territorial and international environmental protection agencies to enable rapid sharing of informatio</li> <li>Convene and chair a Science Table of experts and stakeholders to develop consensus based advice to the Lead Agency.</li> <li>Identify environmentally sensitive areas and priorities (sensitivity and resource at risk mapping).</li> <li>Advise on mitigation and cleanup measures.</li> <li>Provide support and guidance in the assessment of oiled shorelines to prioritize their protection and cleanup (Shoreline Cleanup A (SCAT)).</li> <li>Advice on the fate and behavior of the spilled product.</li> <li>Advice on sampling and laboratory analysis.</li> <li>Provide weather forecasting and spill dispersion modelling to identify where these substances are likely to move in the environment.</li> <li>Provide expertise on the migratory bird resources and species at risk, including on-site assessment and determination of wildlife impale Can conduct post-emergency assessments.</li> </ul> </li> </ul>	ssessment Technique
*DFO	<ul> <li>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.</li> <li>Establishes appropriate and nationally consistent level of preparedness and response services in Canadian waters.</li> <li>Design and develop related regulations, policies, strategies and tools.</li> <li>Review, assess and monitor activities associated with fish habitat to ensure their compliance with the Fisheries Act and Species at Risk Act.</li> <li>Conduct environmental assessments under the Canadian Environmental Assessment Act.</li> <li>Design, develop and implement communication and education strategies.</li> </ul>	<ul> <li>Any amount of hydrocarbons entering a waterway frequented by fish or occupied by waterfowl is deemed to be in contravention of the and must be reported to the Department of Fisheries and Oceans.</li> <li>Work together with provincial environment protection agencies and may be initially notified by ECCC.</li> <li>May send personnel to the site if there has been or could potentially be an impact to fish or fish habitat.</li> <li>Monitors and investigates all reports of marine pollution in Canada in conjunction with other federal departments.</li> <li>Maintains communications with the program's partners, including Transport Canada and ECCC, to ensure a consistent coordinate pollution incident response.</li> <li>Aids in search and rescue operations.</li> </ul>	agencies.
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:	<ul> <li>As requested by the oil and gas company, the Flight Information Centre will issue a NOTAM (Notice to Airmen).</li> <li>To close air space beyond an airport (e.g. above a sour gas release), Refer to Transport Canada on back side of this page.</li> </ul>	C Rescind the NC
Health Canada	<ul> <li>Sets national standards to keep the environment healthy, keep water and air pollution low and Canadians safe.</li> <li>Maintains a nationwide network of radiation monitoring stations and can act if levels spike.</li> <li>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</li> <li>Sets strict rules on how chemicals are used in order to limit human exposure.</li> <li>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.</li> </ul>	During a health emergency or disaster, Health Canada and the Public Health Agency of Canada are responsible for supporting emerg services in the provinces and territories.	ency health and social Work collabora health care syst
Public Health Agency of Canada	<ul> <li>The Centre for Emergency Preparedness and Response (CEPR) is responsible for:</li> <li>Developing and maintaining national emergency response plans for the Public Health Agency of Canada and Health Canada.</li> <li>Assessing public health risks during emergencies.</li> <li>Contribution to keeping Canada's health and emergency policies in line by collaborating with other federal and international health and security agencies.</li> <li>The health authority in the Government of Canada on bioterrorism, emergency health envices and emergency response.</li> <li>Strengthen intergovernmental collaboration on public health and facilitate national approaches to public health policy and planning.</li> <li>Manages emergency preparedness and emergency workers.</li> <li>Develops and runs exercises to train emergency workers.</li> <li>Develops and delivers training courses that teach health workers how to respond to emergencies.</li> </ul>	<ul> <li>In an emergency situation, the Office of Emergency Response Services (OERS) is responsible for supporting emergency health and provinces, territories or abroad. It manages the National Emergency Stockpile System (NESS), which includes medical, pharm emergency supplies. The Office is responsible for the federal response to emergencies that have health repercussions; this include health emergency response teams (HERT).</li> <li>If a public health emergency grows beyond one province and/or territory, the Public Health Agency of Canada usually gets involved.</li> </ul>	aceutical and related improved and e
	*Indigenous Services Canada, Regi	onal Operations and First Nations and Inuit Health Branch	
		us peoples in Canada, measures were initiated to effect a shift in the way the Government delivers services to Indigenous peoples. This two newly created departments, Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC) and Indigenous Services Canada overnment and self-determination of Indigenous peoples.	IOGC is an organization committed to mana special operating agency within Indigenous S
	As part of the departmental transition, both the former Regional Operations (RO) part of Indigenous the newly created Indigenous Services Canada (ISC). RO and FNIHB work closely and collaborate	s and Northern Affairs Canada (INAC) and all of First Nations and Inuit Health Branch (FNIHB) of Health Canada have been absorbed into towards the provision of emergency preparedness and response activities to First Nations communities in Canada.	IOGC is responsible for oil and gas on First of the 60th parallel. Therefore, practically all Canada Sedimentary Basin.
	emergency management service delivery. ISC-RO supports First Nations in the four pillars of emergency management service delivery. ISC-RO supports First Nations in the four pillars of emergency FNIHB carries out the public health preparedness and response activities related to natural ar	operate, coordinate and collaborate with First Nations and public, private, and non-government sector partners in support of on reserve gency management through service agreements with partners such as provincial emergency management agencies and the Red Cross. Ind man-made disasters. This includes Communicable Disease Control and Environmental Public Health Services. In addition, FNIHB ge for medical transportation, pharma-care, medical devices and mental health supports. During an emergency, FNIHB works with First	IOGC's general responsibilities are to: identify and evaluate oil and gas resource encourage companies to explore for, drill ensure equitable production, fair prices ar
	Nations leadership and health service providers to ensure health needs of First Nations communitie Provincial specific FNIHB roles & responsibilities will be found in this section of the ERP, if applicable	as are met.	secure compliance with and administer the IOGC operates pursuant to the <i>Indian Oil ar</i> well as other relevant legislation and guide August 1, 2019. Oil and gas activity on Fir councils, oil and gas companies, and Indian
			Additional information is available at: <u>http://w</u> Acts and Regulations: <u>https://www.pgic-iogc</u>

duct post-emergency assessments. lized advice in shoreline clean-up assessment techniques (SCAT). on mitigation and cleanup measures..

with ECCC, The Canadian Coast Guard and other provincial environmental

DTAM.

atively with the provinces and territories to test ways in which the Canadian stem can be improved and ensure its sustainability for the future.

alth Canada to test ways in which the Canadian health care system can be ensure its sustainability for the future.

#### idian Oil & Gas Canada

aging and regulating oil and gas resources on First Nation reserve lands. It is a Services Canada.

Nation reserve lands across Canada, but only a handful of reserves exist north Il of IOGCs work is south of the 60th parallel, with most of that in the Western

e potential on Indian reserve lands; and produce these resources through leasing activity; nd proper collection of royalties on behalf of First Nations; and he regulatory framework in a fair manner.

nd Gas Act, 2009, and its associated Indian Oil and Gas Regulations, 2019, as elines (see Acts and Regulations) which came into force and became law on inst Nation reserve lands depends on agreements involving First Nation band Oil and Gas Canada.

www.pgic-iogc.gc.ca/eng/1100110010458/1100110010464 ..gc.ca/eng/1100110010437/1100110010438





Before the Incident	During the Incident
<ul> <li>Maintain a 24 hour emergency telephone service.</li> <li>*CANUTEC</li> <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 infections substances.</li> <li>Maintains records of over 3 million Safety Data Sheets (SDS).</li> <li>Aviation Operations Centre (AVOPS)</li> <li>Federal regulations require that AVOPS be contacted if there is imminent and immediate threat to aviation and public safety.</li> </ul>	<ul> <li>*CANUTEC</li> <li>Assist emergency response personnel in handling dangerous good emergencies including advice on</li> <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> <li>CANUTEC staff does not go to the site of an incident, however, should on-site assistance be required, CANUTEC can assist activation or industry emergency response plans.</li> <li>Provide communication links with the appropriate industry, government or medical specialists.</li> <li>Aviation Operations Centre (AVOPS)</li> <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 company.</li> </ul>
<ul> <li>Emergency Response Assistance Canada (ERAC) is a not for profit cooperative organization built by industry for industry providing safe, timely effective, sustainable, cost effective flammable liquids and gases emergency preparedness and response assistance to all Plan Participants and Stakeholders of ERAC.</li> <li>ERAC will act on behalf of the Plan Participant to develop, submit, update, and respond to the requirements of the Plan Participant ERAP submitted to and approved by Transport Canada.</li> <li>ERAC provides a network of experienced, trained Technical Advisors (TAs), Remedial Measures Advisors (RMAs) and Response Teams who respond to rail, road and stationary tank incidents involving flammable gases, Class 2.1 Liquefied Petroleum Gas (LPG) emergencies and Flammable Liquids Class 3 rail transport and road cargo tank transport emergencies. The emergency responders are constantly available through a 24 hour activation telephone number.</li> <li>Once a year, there is Regional Training that is held in each region for the Remedial Measures Advisors, Technical Advisors, Response Team Leaders, Alternate Team Leaders as well as all Responses Team Members to test their skills and update them on any new developments. Also, once every two years, National Training Session is held for all the Remedial Measures Advisors, Technical Measures Advisors, Technical Advisors, Technical Advisors, Response Team Leaders across Canada.</li> </ul>	company.         Provides emergency response to plan participants who transport the following products by road or rail, or those who store these products are gases at standard temperatures and pressure, and include: Previous are gases at standard temperatures and pressure, and include: Previous and pressure (UN1011), Propylene (UN1077), Butylene (UN1012), Isobutene (UN1969), Isobutylene (UN1055), and (UN1075). It is recognized that these products may contain a concentration of condensate and/or quantities of other elements includy/orgen sulphide.         □ Response is also provided to emergencies involving Butadiene – 1,3 (stabilized) (UN1010).       In addition we respond to the following Flammable Liquids transported by rail only:         UN1170 Ethanol       UN1987 Alcohols, N.O.S.         UN1202 Diesel Fuel       UN1938 Flammable Liquid, N.O.S.         UN1203 Gasoline       UN3295 Hydrocarbons, Liquid, N.O.S.         UN1268 Petroleum Crude Oil       UN3295 Hydrocarbons, Liquid, N.O.S.         UN1268 Petroleum Distillates N.O.S.       UN3494 Petroleum Sour Crude Oil, Flammable, Toxic         UN1863 Fuel Aviation, Turbine Engine       If LPG/Flammable Liquid Incident, Emergency Call Centre Operator receives an activation (notification) phone call.         □ Emergency Call Centre Operator sends group email to Home Based Coordinator.       Home Based Coordinator / Technical Advisor provides technical advice.         □ Caller requires technical advice.       □ Caller requires technical Advisor activate plan.         □ Mobilization phase ERAC-002.       □ Inititial incident size-up.         <
<ul> <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>	Public Safety Canada houses the Government Operations Centre at the hub of the national emergency management system. I advanced centre for monitoring and coordinating the federal response to an emergency.
· · · · · · · · · · · · · · · · · · ·	/ Regulator Roles & Responsibilities
<ul> <li>The CER's top priority in any emergency is to make sure that people are safe and sect attend the site to oversee a company's immediate response. The CER will require that a the regulated company conducts adequate and appropriate clean-up and remediation of a As lead regulatory agency, the CER:</li> <li>Monitors, observes and assesses the overall effectiveness of the company's emerge</li> <li>Emergency Management</li> <li>Safety</li> <li>Security</li> <li>Environment</li> <li>Integrity of operations and facilities; and</li> <li>Energy Supply.</li> </ul>	□ col tra
<ul> <li>Investigates the event, either in cooperation with the Transportation Safety Board of Act (whichever is applicable)</li> <li>Inspects the pipeline or facility</li> <li>Examines the integrity of the pipeline or facility</li> <li>Requires appropriate repair methods are being used</li> <li>Appropriate environmental remediation of contaminated areas is conducted</li> <li>Coordinate stakeholder and Aboriginal community feedback regarding environmental</li> <li>Confirms that a company is following its Emergency Procedures Manual (s), commitriates enforcement actions as required</li> <li>Approves the restart of the pipeline.</li> </ul>	Canada, under the Canada Labour Code, or as per the Canada Energy Regulator Act or Canada Oil & Gas Operations that an i accident independ Parliame to be full safety re

#### \*CANUTEC

Maintain voice communication and written information records for two years for the protection of all parties.

Aviation Operations Centre (AVOPS) Rescind the NOTAM and re-open air space that was closed due to emergency.

Terminate and de-mobilize.
 Post-incident assessment and communication program.

□ 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.

#### \*Transportation Safety Board Mandate

ansportation Accident Investigation and Safety Board Act provides the legal framework activities. Our mandate is to advance transportation safety in the marine, pipeline, rail transportation by:

independent investigations, including public inquiries when necessary, into selected on occurrences in order to make findings as to their causes and contributing factors; afety deficiencies, as evidenced by transportation occurrences;

mmendations designed to eliminate or reduce any such safety deficiencies; and blicly on our investigations and on the findings in relation thereto.

poing investigations, the TSB also reviews developments in transportation safety, and sks that they believe the government and the transportation industry should address to

ce in the public regarding the transportation accident investigation process, it is essential ting agency be independent and free from any conflicts of interest when investigating ying safety deficiencies, and making safety recommendations. As such, the TSB is an incy, separate from other government agencies and departments, that reports to gh the President of the Queen's Privy Council for Canada. Our independence enables us ve in making findings as to causes and contributing factors, and in making transportation dations.

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

<u>a/eng/qui-about/index.html</u>



## **3.6 GOVERNMENT CONSULTATION SUMMARY**



Type of Agency	Agency Name	Provided Specific Roles	Agreed to Generic Roles	Unable to Contact	Notes
GOVT - BC	Emergency Management BC - Prince George Office Heather MacRae, Regional Manager	x			Heather MacRae approved specfic roles until September 2022.
GOVT - BC	BC Ministry of Transportation and Infrastructure Hali Davenport	x			Hali Davenport approved specific roles until February 2023.
HEALTH AUTHORITY	Alberta Health Services - Z5 North Zone Shane Hussey, Health Advisor, North Zone	x			Annerley Boyo approved specific roles until January 2023.
HEALTH AUTHORITY	Northern Health Authority	x			Barbara Oke advised that Northern Health does not wish to be consulted with. Roles found on the Northern Health website are current: https://www.northernhealth.ca/sites/northern_health/ files/services/office-health-resource- development/documents/emergency-response- roles-responsibilities-contacts.pdf
HEALTH AUTHORITY	First Nations Health Authority Paul Broda, Northern Regional Manager			х	Unable to contact. Enclosed generic roles and responsiblities.
LOCAL AUTHORITY	Saddle Hills County Brice Daly, Manager of Protective Services	x			Brice Daly has approved specific roles until March 2023.
LOCAL AUTHORITY	Peace River Regional District - Dawson Creek Sean Cairns, Protective Services Manager	x			Peace River Regional District has pre-approved roles located on their website: https://prrd.bc.ca/wp- content/uploads/2014/12/LocalAuthorityv4_2010.pdf
LOCAL AUTHORITY	Northern Rockies Regional Municipality – Fort Nelson Erin LaVale, Emergency Coordinator		х		Erin LaVale has approved generic roles until February 2023.
LOCAL AUTHORITY	Blueberry River First Nations Judy Desjarlais, Chief			х	Unable to contact. Enclosed generic roles and responsibilities.
LOCAL AUTHORITY	Halfway River First Nations Roberto Moretti, Band Manager				Consultation not required but sent public information pamphlet on March 10, 2022
GOVT – FEDERAL	Public Services Procurement Canada George Smith, Contract Asset Performance Manager	x			George Smith has approved specific roles until January 2023.



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**EMERGENCY MANAGEMENT BC** 

#### **EMERGENCY RESPONSE ROLES & RESPONSIBILITIES**

#### **Before An Emergency**

- Assist the OGC with planning initiatives regarding upstream petroleum industry emergency response as requested by the OGC
- EMBC Southwest 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 and 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.

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

For more information, please contact your nearest Environmental Public Health office.

Edmonton Main Office	780-735-1800	Edmontonzone.environmentalhealth@ahs.ca
Calgary Main Office	403-943-2295	Calgaryzone.environmentalhealth@ahs.ca
Lethbridge Main Office	403-388-6689	Southzone.environmentalhealth@ahs.ca
Grande Prairie Main Office	780-513-7517	Northzone.environmentalhealth@ahs.ca
Red Deer Main Office	403-356-6366	Centralzone.environmentalhealth@ahs.ca

www.ahs.ca/eph

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## Emergency Response Roles & Responsibilities

## 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);

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.





#### 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:**

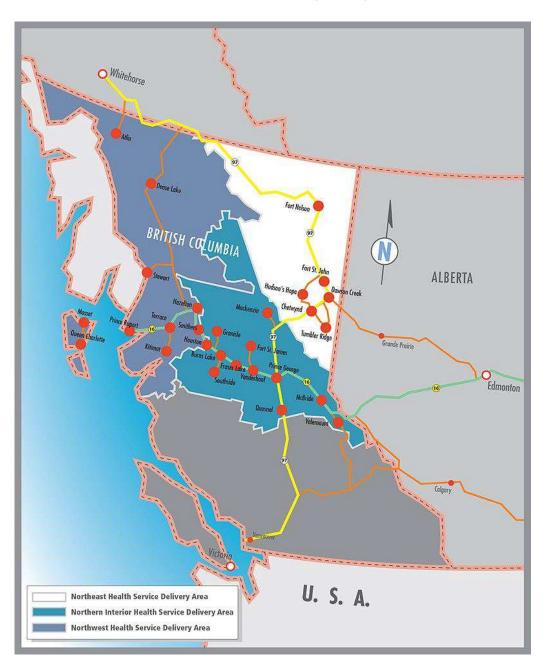
- For Emergency events that require immediate connection with Northern Health, please call :
  - HEMBC on call number (24/7) 1-855-554-3622
    - HEMBC will notify/activate the appropriate Northern Health programs (i.e. Public Health, Acute Care, etc.) based on the nature of the event/emergency.
    - 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
  - o <u>HEMBC@northernhealth.ca</u>
- 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: <u>HEMBC@northernhealth.ca</u>
- For Environmental assessment inquires and general government consultation questions pertaining to health please email the NH Office of Health and Resource Development at: <a href="mailto:resource.development@northernhealth.ca">resource.development@northernhealth.ca</a>





## 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.

#### First Nations Health Authority (FNHA) - Roles & Responsibilities

#### **Before the Incident**

Health Emergency Management facilitates coordinated FNHA activities in response to emergencies that may impact the health of BC First Nations community members. Through collaboration and partnership with various federal, provincial, regional and non-governmental health organizations, Health Emergency Management ensures that First Nations communities are effectively incorporated into emergency preparedness, prevention, response and recovery activities.

This work does not replace the role or services of the Ministry of Health and health authorities. The First Nations Health Authority collaborates, co-ordinates, and integrates their respective health programs and services to achieve better health outcomes for B.C. First Nations and Aboriginal people.

- Ensure that communities are effectively linked within the provincial emergency response system and receive emergency management support at a level equivalent to non-First Nations.
- Facilitates the delivery of a first responder training program to BC First Nations communities to enhance access to first responders who have life-saving skills and knowledge to perform patient care until the arrival of an ambulance.

#### **During the Incident**

- Provides leadership within FNHA during an emergency and as a central FNHA contact for health emergencies in First Nations communities. Supports various mitigation, planning, response and recovery activities, including internal and external communications during an emergency; such as, Provincial Regional Emergency Operations Calls (PREOCs) attendance, situational awareness reports, information dissemination to communities, and emergency event debriefs.
- Maintains situational awareness during seasonal and other situations with potential impacts on health of community members.
- Builds partnerships with external partners (Federal, Provincial, Regional, and non-governmental organizations, and First Nations) related to emergency preparedness, and facilitates collaborative response efforts.

#### After the Incident

- Ensure an effective FNHA response during the response and recovery stages of an emergency.
- Complete a "lessons learned" process based on the scope of involvement and provide any feedback to the industrial operator.
- Participate in multi-agency debriefings.



#### 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.) bdaly@saddlehills.ab.ca

2. Cary Merritt – Chief Administrative Officer - Cell (780) 864-5587 (24 hr.) cao@saddlehills.ab.ca

3. Ron Pelensky - Cell (780) 500-7017 rpelensky@saddlehills.ab.ca

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

#### **Public Information Officer**

Michael Archer

- Cell (780) 864-5569 - Office (780) 864-3760 marcher@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 a 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)

2019/10/23

Safe Strong Sustainable



## PEACE RIVER REGIONAL DISTRICT

1981 Alaska Avenue, Box 810, Dawson Creek, BC, V1G 4H8 Tel: 250-784-3200, Fax: 250-784-3201. 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 Oil & Gas Commission (BCOGC), 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 BCOG's Emergency Operations Centre (EOC) if established
  - With remote support as a cooperating agency through the BCOGC Liaison Officer and/or,
  - In the BCOGC operations section as an assisting agency
- Provide support and assistance to ensure notification of endangered area residents
  - o 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, BCOGC, 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 November 13, 2020

## 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.
- **Q** 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.

#### Emergency Services (as managed / operated by the Local Authority)

Emergency Services will also, as a general rule, provide resources in support of a petroleum incident, on an "as available" basis.

#### Before the Event

- □ Maintain readiness status for emergency notification.
- □ Participate in industrial operators' exercises where possible.
- □ Maintain 24-hour emergency contact numbers.

#### **During the Event**

- 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.

#### 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.

#### **BLUEBERRY FIRST NATION**

Resources would be provided in support of a petroleum emergency on an "as available" basis and in accordance with Local Authority Policy.

#### Before the Event

- Work with the licensee to effectively prepare for a petroleum industry incident. Provide input to the licensee's site-specific plan to ensure it is compatible with the Municipal Emergency Plan (MEP) where feasible.
- Derticipate in licensee's preparatory training and exercises where possible.
- □ Maintain 24 hour emergency contact numbers.

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

- Respond to and assess the emergency incident with the licensee.
- Establish contact with the licensee in order to obtain emergency status information such as:
  - Additional hazard information
  - Roadblock locations and if assistance is required to set up and maintain
  - Direction of approach to the incident
  - Determine the extent of any injuries.
  - □ Find out what response and public protection actions have been taken
  - □ The location of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs).
- Activate the Municipal Emergency Plan (MEP) and establish a Municipal Emergency Operations Centre (MEOC) if required.
- □ When possible work with all other responders to establish a single Regional EOC (REOC) or have a representative present at the licensee's EOC.
- □ If necessary, declare a State of Local Emergency.
- Activate the emergency public warning system to alert people to life threatening hazards, as required.
- □ Initiate public protection measures, as necessary.
- □ The licensee will coordinate notification and shelter in place or evacuation within the Emergency Planning Zone (EPZ). If the hazard area extends beyond the EPZ, the county will coordinate, with the licensee; evacuation of the public.
- Coordinate with the licensee establishment and maintenance of reception centre(s).
- 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.
- Coordinate news releases with the licensee, if required.

#### After the Event

- Complete a "lessons learned" process and provide any feedback to the licensee.
- □ Participate in multi-agency debriefings.

P 403.212.2332 | F 403.313.9180 | E info@h2safety.ca 210, 7260 12 St. SE | Calgary, AB, T2H 2S5

#### h<sub>2</sub>safety.ca



#### Emergency Services (as managed / operated by the Local Authority)

Emergency Services will also, as a general rule, provide resources in support of a petroleum incident, on an "as available" basis.

#### Before the Event

- □ Maintain readiness status for emergency notification.
- □ Participate in licensees' exercises where possible.

#### **During the Event**

- 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, to scope of ability where trained personnel are available.
- Provide emergency medical assistance, as required.
- □ Coordinate news releases with the licensee, if required.

#### After the Event

- Complete a "lessons learned" process and provide any feedback to the licensee.
- □ Participate in multi-agency debriefings.



#### LOCAL AUTHORITY – Halfway First Nation

(County / MD / ID / SA / City / Town / Village / First Nations)

Resources would be provided in support of a petroleum emergency on an "as available" basis and in accordance with Local Authority Policy.

#### **Before the Event**

- □ Work with the licensee to effectively prepare for a petroleum industry incident. Provide input to the licensee's site-specific plan to ensure it is compatible with the Municipal Emergency Plan (MEP) where feasible.
- Participate in licensee's preparatory training and exercises where possible.
- □ Maintain 24 hour emergency contact numbers.

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

- Respond to and assess the emergency incident with the licensee.
- Establish contact with the licensee in order to obtain emergency status information such as:
  - Additional hazard information
  - **D** Roadblock locations and if assistance is required to set up and maintain
  - Direction of approach to the incident
  - Determine the extent of any injuries.
  - □ Find out what response and public protection actions have been taken
  - □ The location of the On-site Command Post (OSCP) and any Emergency Operations Centres (EOCs).
- Activate the Municipal Emergency Plan (MEP) and establish a Municipal Emergency Operations Centre (MEOC) if required.
- □ When possible work with all other responders to establish a single Regional EOC (REOC) or have a representative present at the licensee's EOC.
- □ If necessary, declare a State of Local Emergency.
- Activate the emergency public warning system to alert people to life threatening hazards, as required.
- □ Initiate public protection measures, as necessary.
- □ The licensee will coordinate notification and shelter in place or evacuation within the Emergency Planning Zone (EPZ). If the hazard area extends beyond the EPZ, the county will coordinate, with the licensee; evacuation of the public.
- Coordinate with the licensee establishment and maintenance of reception centre(s).
- 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.
- □ Coordinate news releases with the licensee, if required.

#### After the Event

□ Complete a "lessons learned" process and provide any feedback to the licensee.

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<sup>□</sup> Participate in multi-agency debriefings.

#### Emergency Services (as managed / operated by the Local Authority)

Emergency Services will also, as a general rule, provide resources in support of a petroleum incident, on an "as available" basis.

#### Before the Event

- □ Maintain readiness status for emergency notification.
- □ Participate in licensees' exercises where possible.

#### **During the Event**

- 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, to scope of ability where trained personnel are available.
- Provide emergency medical assistance, as required.
- □ Coordinate news releases with the licensee, if required.

#### After the Event

- Complete a "lessons learned" process and provide any feedback to the licensee.
- □ 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 MOTIs 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.

## SECTION 4. INCIDENT CLASSIFICATION

- 4.1 Strategic Priorities ......1
- 4.2 Situation Assessment ......1

## 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?

What is the impact to ARC's assets/operations?

- A What is the business exposure? Company assets, noncompliance business loss
- What is the impact to ARC's reputation?
- **R** 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 <u>initial</u> 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.

#### **Alberta AER Incident Classification Matrix** 4.4

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

Regulator

Follow these 3 Steps to determine the Level of Emergency

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

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 Description			
1	Unlikely	The incident is contained or controlled and it is unlikely that the incident will escalate. There is no chance of additional hazards. Ongoing monitoring required.		
2	ModerateControl of the incident may have deteriorated but imminent control of the hazard by the licensee is probable. In either case, it is unlikely that the incident will further escalate.			
3	Likely	Imminent and/or intermittent control of the incident is possible. The licensee has the capability of using internal and/or external resources to manage and bring the hazard under control in the near term.		
4	4 Almost Certain or Currently Occurring Almost Certain or Currently Occurring Almost Certain or Currently Occurrently Occurrently			

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

Under "Description" pick the description that currently fits the likelihood of the incident escalating. For example, if the incident is contained and controlled and there is no chance of additional hazards, the incident would receive a "Rank" of 1.

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: 1) In Alberta the licensee must use the Assessment Matrix for Classifying Incidents to classify an

incident. 2) In Alberta the licensee 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.

3) After contacting the Alberta Energy Regulator (AER), the licensee in Alberta, must notify the local authority, the RCMP/police and the local health authority if the hazardous release goes off site and has the potential to impact the public or if the licensee has contacted members of the public or the media.

Once the situation improves, the licensee must make the decision to downgrade or stand down an emergency in consultation with the government regulator.

**Table 3. Incident Classification** Sten 3 🗸 **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

Revised June 2018

Alberta Energy



## Alberta AER Incident Response Table

S	tep4↓		Table 4. I	ncident Resp	onse - Inc	cident Classificatio	on		
Responses Alert		Level - 1 Emergency		Level - 2 Emergency		Level - 3 Emergency			
Col	mmunicatior	าร							
Internal Discretionary, depending on licensee policy.		Notification of off-site management.		Notification of off-site management.		Notification of off-site management.			
	External public	Courtesy, a discretion.	atlicensee	Mandatory for indiv have requested not within the EPZ.		Planned and instructive in accordance with the specif ERP.	ic	Planned and instructive in accordance with the specific ERP.	
	Media	Reactive, a	is required.	Reactive, as required.		Proactive media management to local or regional interest.		Proactive-media management to national interest.	
Go	overnment	Reactive, a Notify AER media is co	if public or	Notify government regulator. Call local authority and health authority if public or media is contacted.		Notify government regulator, local authority & health authority.		Notify government regulator, local authority & health authority.	
Act	tions			-				-	
	Internal	On site, as required by licensee.		On site, as required by licensee. Initial response undertaken in accordance with the site specific or corporate-level ERP.		Predetermined public safety actions are under way. Corporate management team alerted and may be appropriately engaged to support on-scene responders.		Full implementation of incident management system.	
	External	On site, as licensee.	required by	On site, as required	On site, as required by licensee. Po		Potential for multi agency (operator, municipal, provincial or federal) response.		
Res	sources	Immediate	and local				IND C C	Cignificant incremented	
	Internal	Immediate No addition required.	and local. al personnel	Establish what resources would be required.		Limited supplemental resources or personnel required.		Significant incremental resources required.	
	External	None.		Begin to establish resources that may be required.		Possible assistance from government agencies and external support services, as required.		Assistance from government agencies and external support services, as required.	
	Ale	rt	Level-1 E	Emergency Level		I-2 Emergency		Level-3 Emergency	
An incident th handled on si licensee throu operating proc is deemed to low risk to me the public.		e by the licensee's proper gh normal to the public, and edures and environ mental im be a very can be handled of mbers of personnel. There		rty, there is no threat d there is minimal mpact. The situation entirely by licensee e will be immediate zard. There is little rest. the licensee's way, but there incensee's pro must be notified hazard is prot environment.		property or the right-of- is its he potential for the extend beyond the orgory. Outside agencies proty. Outside agencies lmm ed. Imminent control of the prov		safety of the public is in jeopardy na major uncontrolled hazard. re are likely significant and oing environmental impacts. lediate multi agency municipal and incial government involvement is ired.	
	Alei	t Level-1 E		Emergency Level		I-2 Emergency		Level-3 Emergency	
<ul> <li>I level if required initiate control procedures</li> <li>Isolate the haz - Activate the El - Conduct public special needs</li> <li>If special needs</li> <li>If special need to voluntarily e reception cent</li> <li>Notify appropri personnel and agencies</li> </ul>		RP safety actions for esidents a residents decide vacuate, activate a e ate internal government pring conducted at	-Fully activate procedures of established -Inform gove situation and (governmen health autho -Identify the H operating ar action to pro shelter or ev -Prepare igni related) -Respond to public quest -Prepare for situation to d -Record activ and municip applicable -Establish ro: -Activate the	nazard and emergency eas and take any required tect the public through vacuation. tion team (butane gas media, company and ions the potential of the escalate to a Level-3 iffes and keep government al agencies advised, if	In addition to Level-2 responses: -Emergency response plan and command centres are fully activate -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 a a Level-1 or Level-2 emergency -Continue to maintain the EOC, ond it is activated				

## 4.5 British Columbia OGC 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 OGC to confirm the level and clarify the specifics of the incident.

**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	<ul> <li>Major on site equipment or infrastructure loss</li> <li>Major act of violence, sabotage, or terrorism which impacts permit holder assets</li> <li>Reportable liquid spill beyond site, uncontained and affecting environment</li> <li>Gas release beyond site affecting public safety</li> </ul>
3	<ul> <li>Threats of violence, sabotage, or terrorism</li> <li>Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property</li> <li>HAZMAT worker exposure exceeding allowable</li> <li>Major on site equipment failure</li> </ul>
2	<ul> <li>Major on site equipment damage</li> <li>A security breach that has potential to impact people, property or the environment</li> <li>Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property</li> </ul>
1	<ul> <li>Moderate on site equipment damage</li> <li>A security breach that impacts oil and gas assets</li> <li>Reportable liquid spill or gas release on location</li> <li>**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</li> </ul>
0	□ 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	Uncontrolled, with control unlikely in near term		
3	Escalation possible; under or imminent control		
2	Escalation unlikely; controlled or likely imminent control		
1	Escalation highly unlikely; controlled or imminent control		
0	□ 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 Commission online within 24 hours using the <u>Form A: Minor Incident Notification Form (http://www.bcogc.ca/node/11188/download)</u> . In addition to Form A, spills must also be reported to EMBC.				
Moderate (3-4)	Level-1 Emergency; immediate notification (call EMBC)				
Major (5-6)	Level-2 Emergency; immediate notification (call EMBC)				
Serious (7-8)	Level-3 Emergency; immediate notification (call EMBC)				



					Probability		
	_		4	3	2	1	0
OGC Incident Classification Matrix		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	
		☐ Major on site equipment or infrastructure					
	4	<ul> <li>loss</li> <li>Major act of violence, sabotage, or terrorism which impacts permit holder assets</li> <li>Reportable liquid spill beyond site, uncontained and affecting environment</li> <li>Gas release beyond site affecting public safety</li> </ul>	Level 3	Level 3	Level 2	Level 2	Level 1
Ice	3	<ul> <li>Threats of violence, sabotage, or terrorism</li> <li>Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property</li> <li>HAZMAT worker exposure exceeding allowable</li> <li>Major on site equipment failure</li> </ul>	Level 3	Level 2	Level 2	Level 1	Level 1
Consequence	2	<ul> <li>Major on site equipment damage</li> <li>A security breach that has potential to impact people, property or the environment</li> <li>Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property</li> </ul>	Level 2	Level 2	Level 1	Level 1	Minor Notification Form
	1	<ul> <li>Moderate on site equipment damage</li> <li>A security breach that impacts oil and gas assets</li> <li>Reportable liquid spill or gas release on location</li> <li>** 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</li> </ul>	Level 2	Level 1	Level 1	Minor Notification Form	Minor Notification Form
	0	□ No consequential impacts	Level 1	Level 1	Minor Notification Form	Minor Notification Form	No Notification Required
<ul> <li>The permit holder must report the minor incident to the Commission 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, EMBC must also be called at 1-800-663-3456 so that a Dangerous Goods Incident Report (DGIR) number may be issued.</li> <li>Level 1, 2, or 3 Emergency</li> <li>If the incident receives a score of Level 1, 2, or 3, it must be reported immediately (within 1 hour) to the Commission's incident reporting line</li> </ul>			<ul> <li>the emergency status.</li> <li>The permit holder must consult with the Commission for escalating, downgrading or the standing-down of an incident.</li> <li>Permit Holders Post-Incident Report The Form D: Permit Holder Post Incident Report Form (https://www.bcogc.ca/node/5771/download) must be submitted by the permit holder to the Commission within 60 days for: <ol> <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> </ol> </li> </ul>				

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



### **Spill Reporting Criteria**

Where the permit holder holds or maintains rights, the permit holder must report to the BC Oil and Gas Commission, 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; <u>Spill Reporting Regulation</u>, Schedule "Reporting Levels for Certain Substances" for determining reportable spillage amounts of other substances:

### Other Reportable Incidents

The Commission's 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 Commission 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)
  - o associated spill
  - o general situation deterioration, i.e. leaks, equipment failure, unable to circulate, etc.
- 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

**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 OGC and • Emergency Management British Columbia (EMBC) Provincial Emergency Coordination Centre (PECC).



## 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 BCOGC 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

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.		
ICS 215A Incident Action Plan Safety Analysis	Used to communicates to the Operations and Planning Section Chiefs the potential hazards identified by the Safety Officer. It identifies mitigation measures to address the identified hazards.		

## FORM DESCRIPTIONS, continued

Emergency Form Title	Emergency Form Description		
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 BCOGC Emergency Incident Form (Form C)	A regulatory required form created by the BCOGC used to send detailed information to the BCOGC about an emergency used for assessment, historical, and analytical purposes following an incident.		
Resident Form Title	Resident Form Description		
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

Resident Form Title	Resident Form Description		
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.		
Media Form Title	Media Form Description		
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.		



## **ICS 201 INCIDENT BRIEFING**

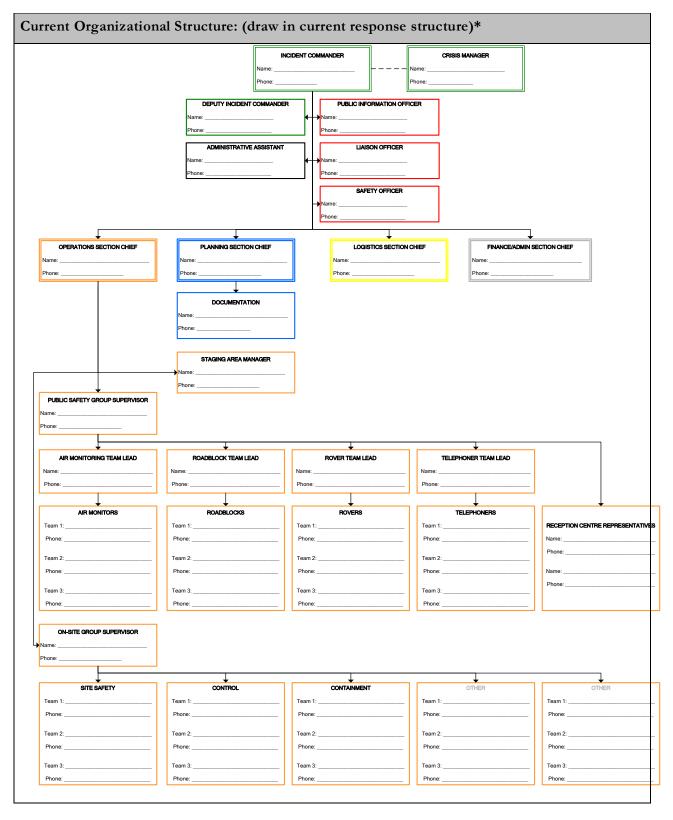
## **Incident Name:**

Incident Date:						
Prepared By: Prepared Date: Prepared Time:						
Level of Emergency $\Box$ Alert / Minor $\Box$	Level 1 🗌 Lev	vel 2				
Level 3 Map Sketch:						
Note: Maps can be drawn or attached here.						
Initial Emergency Summary: (Write description of	or attach A1)					
Situation Summary and Health & Safety Briefing:						
(Recognize potential incident Health & safety Hazards and develop necessary measures (remove hazard, provide PPE, warn people of the hazard) to protect responders from those hazards).						
The final people of the final of to protect responders in	011 11000 nazar00j.					



Summary of C	urrent Actions			
Impacts (P E A R)				
People Workers / Responder Priority				
Priority Public Protection				
Environment				
Asset Integrity				
Reputation				
OBJECTIVES (Non-prioritized)				
Current Actions (Strategies & Tactics)				
Planned Actions (Strategies & Tactics)				





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



Resource Summ	igned (In S	ervice)	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: (C	overnment)	Time				
Agency		Called			Notes	



Site Type: (Select only 1)								
□ Well (Active)		□ Well	(Abandor	ned/Suspended)			□ Rem	note Sump
U Well (Drilling & Completions): Rig Name:								
□ Battery/Plant/Facility		🗆 Tank	Farm/St	orage			🗆 Pipe	eline
□ Other – Specify:	□ Other – Specify:							
Incident Type: (Check all t	hat apply)							
□ Sour Gas Release		□ Swee	t Gas Rel	ease			🗆 Liqu	uid Spills
□ Natural Disaster/Weather		□ Fire/	Explosio	n			Dril	ling Kick
□ Worker Injury/Fatality		□ Secur	ity (theft,	threat	, terrorism	)	🗆 Indu	uced Seismicity
U Well Bore Communication	L	D Pipel	ine Boring	g			□ Veh	icle/Transportation
Equipment/Structural Dar	nage	D Pipel	ine Break				□ Wel	l Control
$\Box$ Other – Specify:								
Activity: (Check all that app	ply)							
Construction (Road, Lease	, Pipe)		ng/Explo				□ Was	ste Management
□ Processing			Fracturin				□ Serv	
□ Repair			ng (Emerg				□ Wel	l Testing
Pressure Testing		□ Trans	sportation	1				
$\Box$ Other – Specify:								
Material Information:								
Is spill off lease? $\Box$ Y	′es □ ]	No						le, Oil, Diesel, Fuel
□ Acid	Emulsion (Oil, Gas, Water)				□ Non-Toxic Gases (Nitrogen, Carbon Dioxide, Inert Gases)			
□ Methanol	□ Non-Toxic	Liquids			□ Fresh Water □ Salt W			□ Salt Water
□ Sour Natural Gas	Sour Liquid	ls (<1% H <sub>2</sub>	2S)		□ Sweet	Natural C	fas	
□ Toxic Gas Liquid (>1% D	ifferent Toxins)				□ Other	- Specify		
Area Information:								
Land Type:	and 🗆	Crown Lan	d		Field Nat	me:		
Area Type: 🛛 Forest	🗆 Muskeg	🗆 Fa:	rmland	$\Box$ R	□ Residential □ Other			
Access: 🗆 Helicopte	r 🛛 ATV	□ 4W	/D	□ 2 <sup>v</sup>	WD	🗆 Unkr	lown	
Name of road the asset is loca	Name of road the asset is located on:							
KM where the incident occurred:								
Distance to nearest residence/public facility:								
Nearest City/Town/Open Ca	ımp:							
Weather Conditions:								
Weather Conditions	□ Clear		oudy		ther:			
Wind Direction N	NE NW	VЕ	SE	S	SW	W		Temp: oC
Wind Strength	Calm 🛛	Moderate	□ Stro	ong	🗆 Gus	sty		
Medical:								
Public Health and Safety:	_				rker Injurie	es:		
$\Box$ Could be jeopardized	□ Is jeopar	dized			First Aid	🗆 Fata	lity	□ Hospitalization



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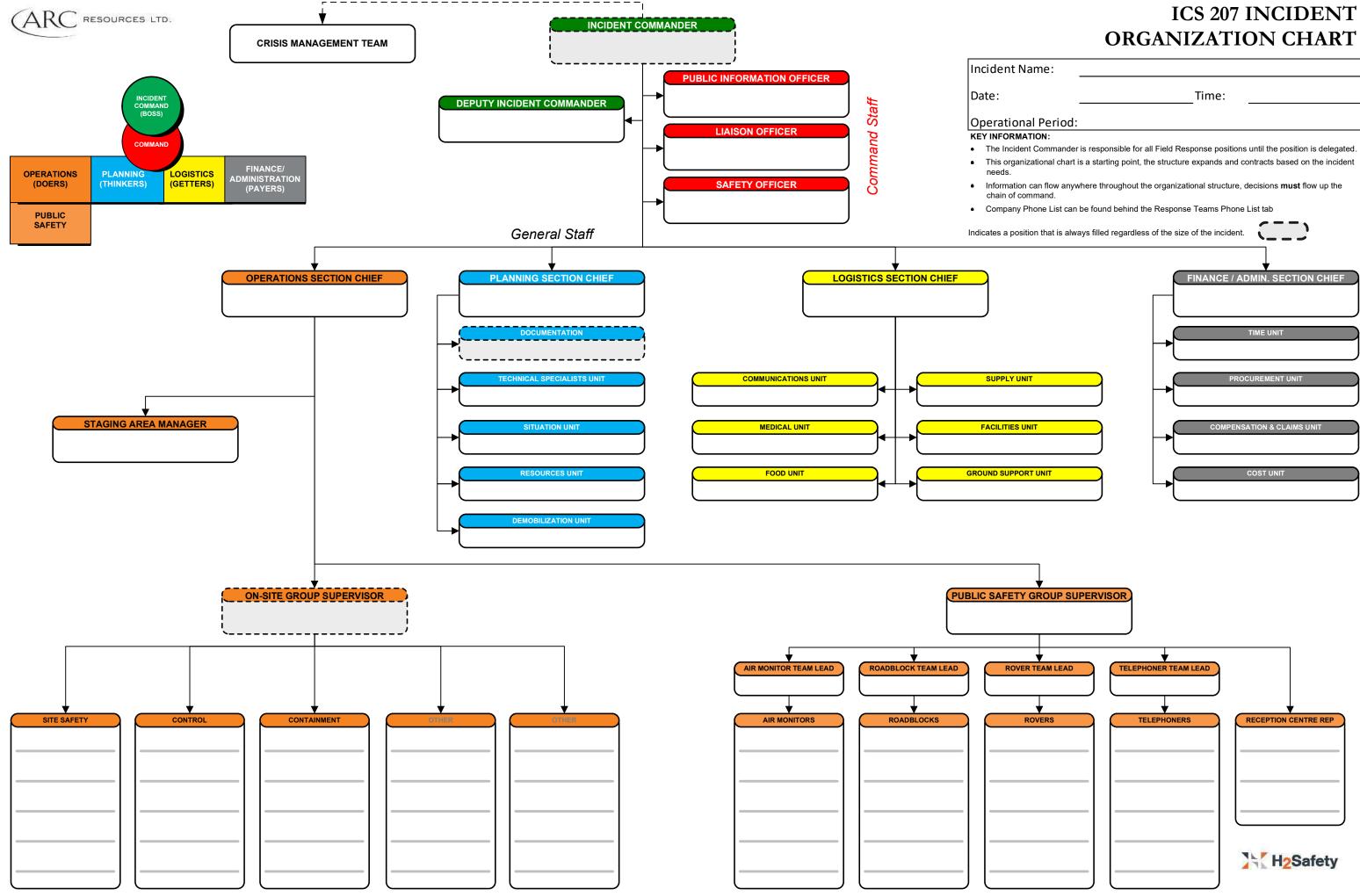


## **ICS 202 INCIDENT OBJECTIVES**

Incident Name:						
Date / Time Initiated:						
Prepared by: ICS Position:						
General	Control Objectives for the Incident:					
1						
2						
3						
4						
5						
Weather	Forecast:					
General	Safety Message:					
Note Cro	ite and prioritize SMART (Specific Measureable Att	ainable, Realistic, & Time-Sensitive) objectives that address the				
	ues and utilize the solutions identified on the Operation.					

NEBC Emergency	<b>Response Plan</b>
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## **ICS 209 INCIDENT STATUS SUMMARY**

Incident Name	:		Location of Incident:				
Date / Time Ini	tiated:		(LSD / NTS)				
Prepared by:			ICS Position				
Incident Detail	s:						
Gas readings:	H <sub>2</sub> S		SO <sub>2</sub>	LEL			
-			302				
Level of Emerg		Alert / Minor	Level 1	Level 2 Level 3			
	1: (Check all that ap						
Air	□ Water	□ Soil	□ Other – Specify:				
Site Type: (Sele	ect only 1)						
U Well (Active	)	🗆 Well (Aba	andoned/Suspended)	🗆 Remote Sump			
🗆 Well (Drilling	g & Completions): R	ig Name:					
□ Battery/Plar	nt/Facility	🗆 Tank Farr	m/Storage	□ Pipeline			
🗆 Riser (Pipeli	ne)						
□ Road or Roa	d Structure	Name:		Location on Road:			
□ Other – Spee	cify:						
Incident Type:	(Check all that appl	y)					
□ Sour Gas Re	lease	Sweet Gas Release		Liquid Spills			
Natural Disa	ster/Weather	□ Fire/Explosion		Drilling Kick			
🗆 Worker Inju	ry/Fatality	Security (theft, threat, terrorism)		□ Induced Seismicity			
Well Bore Communication		Pipeline Boring		□ Vehicle/Transportation			
Equipment/Structural Damage		Pipeline Break		Well Control			
□ Other – Spee	cify:						
Activity: (Check all that apply)							
<ul> <li>Construction (Road, Lease,</li> <li>Pipe)</li> </ul>		□ Drilling/E	Exploration	□ Waste Management			
□ Processing		Well Frace	cturing	□ Servicing			
🗆 Repair		🗆 Flaring (E	Emergency)	□ Well Testing			
Pressure Tes	sting	□ Transpor	tation				
Other – Specify:							



Consequence or Impa	acts:	Check all the	nat apply	, if none	e, leave	blank)		
🗆 Worker Safety (Inju	uries,	Fatalities)	🗆 Pro	operty				
Economic (Loss of a	and/c	or damage t	o equipn	nent or i	nfrastru	ucture, lo	oss of prod	uction, work stoppage)
□ Other – Specify:								
<b>Material Information</b>	:							
Is spill off lease?		🗆 Yes	s - Estima	ited spill	quanti	ty:		□ No
🗆 Liquid Hydrogen (C	rude	, Oil, Diesel,	Fuel)		Пто	oxic Gas	Liquid (>1	% Different Toxins)
□ Acid		Emulsion (O	il, Gas, V	Vater)		on-Toxic : Gases)	: Gases (Ni	trogen, Carbon Dioxide,
Methanol		Non-Toxic Li	quids		🗆 Fr	esh Wat	ter	□ Salt Water
Sour Natural Gas		Sour Liquids	. <b>(&lt;1% H</b> 2	S)	□ Sv	weet Na	tural Gas	
□ Other – Specify:								
Area Information:								
Land Type: 🛛 🗆 Pri	vate	Land	Cro	wn Land	Field	Name:		
Area Type: 🛛 For	rest	🗆 Mu	iskeg	🗆 Farr	nland	🗆 Re:	sidential	🗆 Other
Access: 🗆 He	licop	ter 🗆 AT	V	□ 4W	D	□ 2W	/D	Unknown
Name of road the asse	et is l	ocated on:						
KM where the incider	nt occ	urred:						
Distance to nearest re	esider	nce/public f	acility:					
Nearest City/Town/O	pen C	Camp:						
Weather Conditions:								
Weather Conditions		🗆 Cle	ar	🗆 Clou	ıdy	🗆 Otl	ner:	
Wind Direction	Ν	NE	NW	E	SE	S	SW	W
Wind Strength		Calm		derate	🗆 Str	ong	🗆 Gusty	1
Temperature	°C							
Public / Worker Injur	ies /	Medical Em	ergencie	es:				
□ First Aid □ Ho	spita	lization [	□ Fatalit	y □O	ther – S	Specify:		
Notification: (Notify a	all ag	encies as re	quired)					
□ 911 (Police/RCMP, Fire, EMS)		□ Energy (OGC, AER	-	or		al Autho /, Town,	rity (MD, City)	□ Health Authority
🗆 Canada Energy Boa	ard	□ Occupa		ealth &	🗆 Eme	ergency	-	□ Ministry of
(CER)						Transportation		
U Workers'		Emerge		onse	□ We	stern Ca	nadian	
Compensation Board (WCB)Assistance Canada (ERAC)Immediation Spill Services (WCSS)Immediation CANUTEC								
Transportation	$\sim$	□ Other			🗆 Oth	er		□ Other
Dangerous Goods (TD *Request that the AER notify		a Environment	& Parks (Fc	orestry/Fish	/Wildlife/I	_ands), Env	ironment & C	limate Change Canada (ECCC) and the
Department of Fisheries and C	Dceans	as required.						
Refer to the Governr	nent				-			rea Specific Information for
	complete list of agencies requiring contact.							

Agency Notification					
Agency Nam	e	Contact Nan	ne	Contact Number	Notified (Y/N)
Collect all complet	ed C3 Gove	rnment Agency Conta	ct Logs fror	n responders for full documen	tation.
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	Locat	tion/LSD		
Collect all co	ompleted A5 Air Monitoring Logs	from responders for full	documentation.		
Notes:					
Reception Centres			Phone Number		
Name	L	Location			
Collect all completed B1 Reception Centre Registration Logs from responders for full documentation.					
Notes:					



## ICS 211 CHECK IN / OUT

Incident Name:	Incident Name:							
Date / Time Initiated:	Date / Time Initiated:							
Prepared by:				ICS Position:				
Check-in Location		Staging Area		ICS Res. Unit	Other:			
Name of Company	Date of Check-in	Supervisor Name	Total # of Personnel	Incident Assignment	Assigned	Available	Date of Check-out	
Notes:						1		





## **ICS 214 ACTIVITY LOG**

Incident Name:						
Date / Time Initiated:						
Prepared by:		Position / Title:				
Personnel Assigned						
Name	ICS Po	sition	Location			
Activity Log						
Time		Actions				





## **ICS 215 OPERATIONAL PLANNING WORKSHEET**

Incident Name:					
Date / Time Initiated:					
Prepared by:	ICS Position:				
Objective:					
Strategy:					
Tactical Response					
Work Assignments	Resources				





ICS 215A INCIDENT ACTION PLAN SAFETY ANALYSIS										
Incident Name: Prepared by:							Date / Time Initiated: ICS Position:			
Division or Group	Potential Hazards									Controls (e.g., PPE, buddy system, escape routes)
	Type of Hazard	Type of Hazard	Type of Hazard	Type of Hazard	Type of Hazard	Type of Hazard	Type of Hazard	Type of Hazard	Type of Hazard	



## A1 INITIAL EMERGENCY REPORT FORM

## FIRST ON-SCENE ACTIONS

	Get to a safe area immediately.							
Evacuate	Move upwind if release is downwind of you.							
	Move crosswind if a release is upwind from you.							
	Move to higher ground if possible.							
	Call for help ("Man Down").							
Alarm	□ Sound bell, horn or whistle, or call by radio.							
	For medical emergencies, call 911.							
Assess	□ Take head count, locate any casualties. Consider all of the hazards.							
A33633	Fill out information below to complete assessment.							
Protect	Put on breathing apparatus before attempting rescue.							
Rescue	Remove victim to a safe area.							
First Aid	□ Follow the standard first aid protocols at worksite. (CPR, etc.)							
Medical Aid	Arrange transport of casualties to medical aid.							
weulcal Alu	Provide information to Emergency Medical Services (EMS).							

INCIDENT DETAILS To be completed by the person involved or notified							
Report taken by				Date / Time			
Name of per	son calling	7		Caller Telephone			
Name of per	Son canny	5					
Incident Loc	ation						
			(LSE	) / NTS)			
Event Summ	hary						
Agencies	□ Yes	Who?					
Notified	🗆 No						
Event		ent contained or o		Intermittent control possible			
Status	🗆 Immir	nent control poss	ible	Incident is uncontrolled			
Site Type	🗆 Well	□ Pipeline	□ Tank Farm/Storage	□ Battery/Plant/Facility	□ Other		
	🗆 Sour (	Gas Release	□ Sweet Gas Release	Pipeline Break	Security (theft, threat, terrorism)		
Incident Type	🗆 Loss c	f Containment	□ Fire/Explosion	U Worker Injury/Fatality	□ Vehicle/Transportation		
<i>//</i> -	🗆 Liquid	Spill	□ Other				



IMPACTS								
	Public Health and Safety	Could be jeopar	dized	□ Is jeopardized				
LE	Public Protection Measures Taken	□ Notification	□ Evacuation	□ Shelter-in-place				
	Worker Injuries	□ First Aid	□ Hospitalized	□ Fatality	□ Other			
	Distance to nearest surface		KM I	nearest urban	km			
PEOPLE	development Details		centre					
	Release Impact	□ Off-Lease Prod	uct	Amou	nt			
		SO <sub>2</sub> LEL_	Oth	ner				
ħ	Distance to nearest watercourse -	k	m Weather Co	onditions	0" 360 * N			
MEI	Details							
ENVIRONMENT				2	70° W UNAV ESE SSE SE 135° 135°			
ASSETS	Details							
	Media ☐ Yes ☐ No Involvement?	Regulator Involvement?		blic Affairs/Commun elations Issues?	ity □Yes □No			
REPUTATION	Details							
NOT	ES / INSTRUCTIONS PROVIDED:							

#### 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

Date:		Prepared by:
Time:	🗌 a.m. 🗌 p.m.	Duration of call:

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

	Name:										
	Contact number:										
	Description of the cond	ern:									
How ma	any people are you with	right now?									
	Adults	Children									
Can you	ı provide the location of	the incident?									
	Location of the incident (address, legal, landmark, etc.):										
Where a	are you right now?										
	Home / Work	🗖 In a Vehicle	Outside	Other							
	If the resident is at hor	me / work / outside te	ll 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 ve	ehicle and cannot shel	ter-in-place tell th	em:							
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										

<b>NEBC Emergency</b>	<b>Response Plan</b>
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# **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 c	entre:						
Licensee:		Caller:			Phone:					
E-mail address for release report:										
Licence #:	Licence #: Pipeline line #: Approval #:									
Incident location:// / W M										
Emergency level:										
Serious event?  Yes  No										
If yes, what kind of serious event?	Blowou	t 🗌 Explosion	🗌 Fire	e 🗌 Other control	loss 🗌 F	Fracking 🛛 Casing failure				
Land type (jurisdiction):	ld 🗌 Fi	rst Nations	Métis	CFB Cro	wn – Dispos	ition #:				
Agencies notified:					Date	e:				
FIRST duty office (DO) contacted:	🗌 Yes	☐ No If yes, da	ate & tim	e DO was contacted	:					
DO contact name:										
Release Details										
Volumes		. 33 3.		3	3.					
Substance*	Released	(m <sup>3</sup> /10 <sup>3</sup> m <sup>3</sup> )	R	ecovered (m <sup>3</sup> /10 <sup>3</sup> n	ıč)	Disposal/storage location				
* For emulsion, break down oil & water if	-									
Description of how the release volu	me was de	termined and verifi	ied (inclu	ding calculations; e.	g., spill lengt	h × width × depth):				
Area affected (length × width):	m²									
How was the area affected determine	ned? (Aeria	al survey, perimete	er walk, ra	inge finder, samples	taken,etc.):					
Who delineated the spill area (envir	ronmental t	echnologist opera	ator etc.)	and what process w	as used?					
	onnontari	connologiot, opera								

Reminded licensee to update the AER immediately if release volumes or area changes from what was originally reported.							
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? 🗌 Yes 🛛 No (pipeline right-of-way is off lease)							
If yes, was the landowner notified?							
Release within disposition boundary?							
Outside disposition – was leaseholder notified?  Yes No Name of leaseholder:							
☐ 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:							
Distance of release to the nearest water body, watercourse, or waterway:							
How was this distance determined?							
Wildlife/waterfowl/livestock affected:							
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?							
If yes, indicate if they were							
☐ notified ☐ instructed to shelter in place ☐ advised to evacuate							

Notes/description:										
Media interest?										
Damage to public property? I Minor/no damage Substantial (home covered in oil) Extensive (home destroyed)										
Pipeline Specific										
Hit? Yes No Line #:	Test failure?									
Normal operating pressure: kPa	Maximum operating pressure: kPa									
Is the pipeline shut in, depressured, and isolated?										
If yes, date & time:										
What is the total volume of liquid in the pipeline?										
Are there isolation valves?  Yes No If yes, have they be	een activated?									
Are there any other pipelines that tie into the failed line?  Yes	No If yes, have they been shut in/isolated? $\Box$ Yes $\Box$ No									
Reminded the company to contact the AER before excavating the	e pipeline.									
Reminded, advised, or directed the company that the pipeline is r	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 las	t checked. Date:									
How was the ROW surveillance conducted (from the air, by quad, on f	oot, using infrared, etc.)?									
Requested that daily production volumes for the well/pipeline be a	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:
□ ICS 202 – Incident Objectives	
□ ICS 207 – Incident Organizational Chart	
□ ICS 209 – Incident Status Summary	
□ ICS 215 – Operational Planning Worksheet	
□ ICS 215A – IAP Safety Analysis	
Emergency Status Board	
□ Map:	
□ Map:	
□ Map:	
□ Other:	
□ Other:	
□ Other:	
Notes:	

<b>NEBC Emergency</b>	<b>Response Plan</b>
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#### A5 AIR MONITORING LOG

Date:		Responder Name:	Responder Name:					
Page	of	Responder Position:						
U		'						

TIME	LOCATION OF SAMPLES	H₂S	LEL	<b>O</b> <sub>2</sub>	SO <sub>2</sub>	OTHER	TEMP(°C)	WIND CONDITIONS *		COMMENTS	
TIME		(ppm)	(%)	(%)	(ppm)	UTHER		FROM	SPEED (km/hr)	COIVIIVIENTS	
		1	l								

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



TIME	LOCATION OF SAMPLES	H <sub>2</sub> S	LEL	<b>O</b> <sub>2</sub>	SO <sub>2</sub>	OTHER	TEMP(°C)	WIND C	ONDITIONS *	COMMENTS	
	LOCATION OF SAMIFLES	(ppm)	(%)	(%)	(ppm)	OTHER		FROM	SPEED (km/hr)	COMMENTS	

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



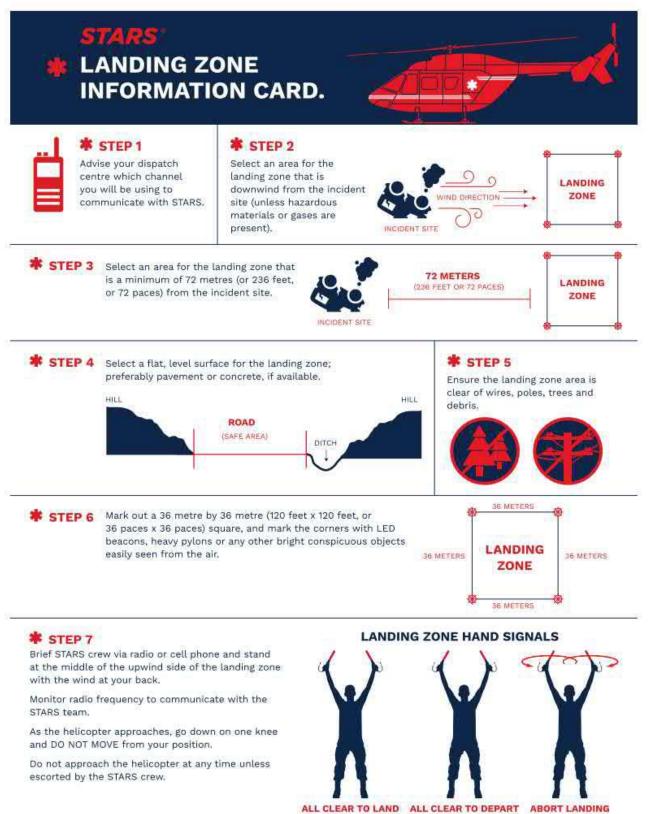
#### A6 THREATENING CALL / BOMB THREAT

					_/ \								
Date: Time Call Received: Time Call Reported:													
Person	Receiving Cal	ll:				What/Whom Call Directed To:							
Caller's	Sex: 🗌 Ma	ale 🗌	Female	Unknown		Approxin	nate Age:						
Accent	: 🗌 Yes [	_ No ⊤y	pe:	Familiar voice:		Yes 🗌	]No Wł	าง:					
Threat	(Exact Wordii	ng):											
<ul> <li>TIPS:</li> <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>Signal someone to call your supervisor; give him / her this information.</li> <li>Do not hang up or disconnect your phone, even after the caller hangs up.</li> <li>For telephone tracing, call the local telephone company and local police.</li> </ul>													
IF BON	IB THREAT, A	SK THE FO	LLOWING Q	UESTIONS:									
	WILL THE BOI and Time)	MB GO OF	F?										
WHERE	IS IT LOCATE	D?											
WHY D	ID YOU PLACE	EIT?											
WHAT	KIND OF BOM	1B IS IT?											
WHAT	DOES IT LOOK	K LIKE?											
WHAT	IS YOUR NAM	IE?											
WHERE	ARE YOU CA	LLING FRC	M?										
Was th No	e caller famili	ar with co	mpany facili	ties, or employe	es?	(e.g.: nick	names, fa	amilia	arity with staff, o	etc.)		Yes	
Did cal	ler appear fan	niliar with	building / fa	cility by the des	cript	ion of the	e bomb lo	catio	n?	🗌 Ye	s [	No	
IDENTI	FYING CHARA	CTERISTI	CS OF CALLE	R									
	VOICE		SPEECH	ł	LA	NGUAGE			MANNER		В	ACKGROUND	
	Loud Soft High Pitched Deep Raspy Pleasant Intoxicated		<ul> <li>Fast</li> <li>Slow</li> <li>Distinct</li> <li>Distorted</li> <li>Stutter</li> <li>Nasal</li> </ul>		Ex Go Fa Po Fo	cellent ood			Calm Angry Rational Irrational Coherent Incoherent Deliberate /			Office Machines Factory Machines Street Traffic Airplanes Trains Animals Party	
									Serious Emotional			Atmosphere Music	
Name	Image: Second												
nume (	si the supervi	551 m3t m	,cu.										

<b>NEBC Emergency</b>	<b>Response Plan</b>
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#### **A7 STARS LANDING ZONE CARD**



# STARS

AR

LANDING ZONE BRIEFING FOR STARS CREW.



#### STEP 1

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

#### 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 2

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

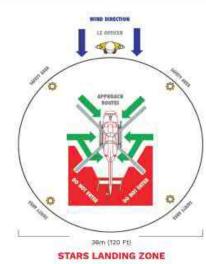
**STEP 5** Communicate the wind direction and approximate speed.

#### STEP 3

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

\* 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** 

# \*

#### 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.





#### **A8 SPILL REPORT FORM**

Date spill occurred: Time spill reported:							
INFORMATION ON S	PILL PR	OVIDED BY					
Name:						Phone No.:	
Address:							
SPILL ASSESSMEN	T						
Legal Description:	LSD: NTS:		Sec:	Twp:         Rge:           /			WM
Location (Field nan	ne/Geog	raphic location)	: On-lease		] Off-lease (provi	de site drawing for eith	er)
Type of Spill (i.e. co	ondensa	te, oil, produce	d water):				
Amount of spill: (estimate)			☐ cubic metres ☐ barrels	or Le	engthWidt	hDepth	☐ metres ☐ feet
Source of Spill (i.e.	truck, p	ipeline, tank, et	c.):				
Details:							
Source Status (i.e.	still flow	ing, spreading,	entering water course	):			
Soil Conditions before	ore spill	(i.e. wet, moist,	dry):				
Land Use (i.e. cultiv	vated, pa	asture, hay, bus	sh, slough, etc.):				
Vegetation Type pr	esent:				Effect (i.e. kill, d	iscolour, none):	
Damages to Prope	rty:						
Potential Impacts (i	i.e. livest	tock, drinking w	ater, fire, H <sub>2</sub> S, etc.):		Land Ownership	o: 🗆 Crown 🗆 Priv	ate
Owner's Name (if p	orivate):				Phone Number:		
Has Owner been N	otified?	□ Yes □	No				
Action Taken:							
Action Proposed:							
			EMERGENCY		ATION		
AGENCY		NOTIFIED BY	NAME OF PERSON	NOTIFIED	LOCATION	OF PERSON NOTIFIED	DATE AND TIME
AER/OGC							
Alberta Environm 1.800.222.6514							
EMBC 1.800.663.3	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)





### A10 EMERGENCY INCIDENT FORM (FORM C)

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

# This in an internal Commission document provided to Industry for reference purposes only.

This document outlines the information that will be requested by Commission emergency management staff following any Level 1, 2 or 3 incident, as defined in the <u>Emergency</u> <u>Management Matrix</u> available on the Commission's website.



#### A10 EMERGENCY INCIDENT FORM (FORM C)

BC Oil and Gas Commission 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 Commission within 1 hour of the incident.Oil and Gas Commission 24 hour Emergency Number:250-794-5200

Oil and Gas Commission 24 hour Emergency Number:EMBC 24 hour Emergency Number:1-800-663-3456

MISCELLANEOUS INFORMATION								
DGIR #:	Ledger Number:	Kerm	it Number:					
Incident Date (YYYY-MM-	DD):	Incide	ent Time (24 hou	ır clock):				
					PST	MST		
Received Date (YYYY-MM	I-DD):	Recei	ved Time (24 ho	our clock):				
					PST	MST		
INFOR	RMATION OF PERSON RI	EPORT	FING INCIDEN	NT TO OGC				
Permit holder Name:			Reported by (n	ame):				
Phone Number:			Alternate Num	ber:				
E-mail:				Fax Number:				
	INCIDENT	DETA	AILS					

		LEVI	EL OF	EMERGENC	Y		
Risk Score:	Risk Score:(attach risk matrix)Level 1Level 2Level 3						
Informed company the	Informed company they must contact the OGC to downgrade or stand down the level.						
		SITE	ТҮРЕ	(Select one onl	ly)		
Well (Active)Well (Abandoned/Suspended)Remote Sump					emote Sump		
Well (Drilling & Complet	ions): Ri	ig Name:					
Battery/Plant/Facility		T []	ank Fa	rm/Storage		P	ipeline
Riser (Pipeline)							
Road or Road Structure: N	lame:				Locatio	on on	road:
Other -Specify:							
	IN	CIDENT	ТҮРЕ	C (check all tha	t apply)		
Spill (releases and dischar	ges) [	Fire/E	xplosic	on			Drilling Kick
Worker Injury	[	Securi	ty (thef	ft, threat, sabota	ge, terrorisi	n)	Induced Seismicity
Well Bore Communication	n [	Pipelir	ne Bori	ng			Vehicle
Equipment/Structural Dam	age						
Other -Specify:							
		ACTIVI	TY (cl	heck all that ap	oply)		
Construction (road, lease,	pipeline,	facility)		Drilling/Ex	xploration		] Waste Management
Processing (natural gas, pe	etroleum	liquids, o	ther)	Well Fracturing			Servicing
Repair			🗌 Fla	aring (emergency)		] Well Testing	
Pressure testing			Tr	Transportation			
Other: Specify:							
CONSEQUE	NCE OI	R IMPAC	CTS (cl	heck all that a	oply)(If nor	ıe, le	ave blank)
Worker Safety (fatality, injuries)	Prop private)	te) equipment o			omic (loss of and/or damage to t or infrastructure, loss of n, work stoppage)		
Other -Specify:							
		AR	EA IN	FORMATION			
Land Type: Private Land		rown Lan	ıd	Field Name	:		
Area Type: Forest	Mus	keg	🗌 Fa	rmland	Residentia	al	Other

Access: ATV Helicop	ter Four	r-wheel-drive	Two-wheel-c	lrive 🗌 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:							
CAUSE (check all that apply)							
Third Party	Manufac	turing Defect	Corrosi	on (internal, external)			
Employee (negligence, procedural, behavioural)	🗌 Natural (	weather, flood, fire)		(materials, equipment, system)			
Geological	Over Pre	ssuring Equipment					
Unknown at this time Explain:							
Other Factors -Specify:							
C	AUSE/REME	DIAL ACTIONS					
	Describe the cause and <b>remedial actions</b> in more detail:						
	WEA	THER					
Weather Conditions:		cloudy		ther			
Wind Direction: From: N NE	NW E	SE S SW	W				
Wind Strength	moder	ate : stro	ng	gusty			
Temperature: °C							
Comments:							
PUBLIC INJURIES / MEDICAL EMP	ERGENCIES						
First Aid	Hospitalizati	ion [	<b>Fatality</b>				
Other:							

NOTIFICATION							
What government agencies has the pe	ermit holder not	ified?					
EMBC	Ministry of	fEnvironment	Ministry of Transportation				
Public Works	WorkSafe	BC	Local Health Authority				
Regional/Municipal Authority	RCMP		Ministry of Forest				
Canada Energy Regulator	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       Other       Other       Other       Other       Other       Other							
GAS							
Does Material contain any H2S?	Yes 🗌 No [	Unknown 🗌 N/A					
If Yes, how much?	1	opm					
Gas Rate: $10^3 \text{m}^3$	d or mmcfd	Gas Volume :	$10^3 \text{m}^3 \text{ or mmscf}$				
Can you hear/smell gas?  Yes	🗌 No	Propane/NGLs/LP	Ss? Yes No				
LIQUID							
Does Material contain any H2S (Oil,	water, condensa	nte)? 🗌 Yes 🗌 No	Unknown 🗌 N/A				
If Yes, how much?	1	opm					
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 do	l, yyyy)				
Estimated Cost of clean-up: \$							

		SAFETY	ISSUES	
Hazard Response Zone Size	e:	km		
Are responders in danger?	Unknov	wn 🗌 No 🗌 Yes:		
Are public in danger?	Unknown	No Yes		
First Nations Band Affected	1:	No 🗌 Yes Name	of Band:	
Public safety actions taken:				
Evacuation Shelterin	g (Instruc	et Permit holder to	o contact Local Authority	)
·	ighway or	r Public Works fro		ghway for any public roads,
Do you need or do you	nave a NO	TAM?		
Have you conducted a T	Transient S	urvey?		
Any Media Releases mu	ist be done	e in conjunction wit	h OGC	
Have you or do you nee Health Authority if public	-		ality Monitoring (Instruct	Permit holder to contact
Have you or will you ne	ed to Ignit	te?		
Have you notified all ter Allotments/Grazing Lease	nure holde	rs? Non-resident la	ndowners/Trappers/Guide-	Outfitters/Range
		ASS	ETS	
GEOPHYSICAL PROGR	RAM (A U	TM location is rec	quired)	
Geophysical #:		Program	n Name:	
Client Name:				
UTM (NAD 83):		m e	easting	m northing
(Place on the program that	incident h	appened REQUIRE	ED)	
SITE (On lease equipmen	t, wells, o	r facilities) Fill info	ormation in for asset with	incident.
Location of asset:	NTS			or
	DLS	, SEC	, TWP, RGE	_ W6M
OGC Site #:		Site Detail (on lea	ase equipment):	
WELL				
Well Authorization #:			Status of well:	
Depth/Perforation:		m KB	Wellbore Fluid Density:	kg/m <sup>3</sup>

Updated: 01-Nov-2017 Effective: 01-Dec-2017

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 Pressur	re/SITP – Shut in Tubing Pressure/SICF	P – Shut in Casing Pressure/RSPP – Reduced Speed	Pump Pressure
FACILITIES			
OGC Facility Code # :		Equipment on Site :	
Design Capacity:		Actual Throughput:	
Operating Pressure:		Operating Temperature:	
PROJECT (PIPELINES)	) (A UTM location is requir	red)	
Project Location	NTS From	/	
	NTS To	/ or	
		, TWP, RGE W6 , TWP, RGE W6M	М
UTM (NAD 83): (Place on Pipeline where in	m easting ncident happened REQUIREI	m northing	
Project #		Pipeline Segment #	
Product:		Line Length between valves:	(m
ID	mm	OD mm	
Operating Pressure	kPa	Maximum Operating Pressure	kPa
ESD or Block Valve Closu	ure? Yes No	Unknown	

OTHER I	OTHER LOCATION							
(Any asset	(Any asset that does not apply to above such as a road, remote sump, borrow pit, etc)							
(A UTM I	location must	be filled out i	in the Locat	tion Section.)				
Location 7	Гуре:			Location Desc	cription :			
Location of	of asset:	NTS		/		or		
		DLS	, SEC	2, TWP _	, RGE	W6M		
UTM (NA	AD 83):		m	easting		m northing	REQUIRED	
GPS:	Latitude:			Long	itude:			



#### **B1 RECEPTION CENTRE REGISTRATION LOG**

Due to travel and time constraints, the company may not always be able to have a company employee at the Reception Centre before evacuees begin arriving. In this case this cover page can be included with the forms on the next 2 pages and sent to a representative at the Reception Centre to provide them with guidance on how to register and track evacuees until a company representative arrives.

#### **EVACUEE REGISTRATION GUIDELINES**

ARC Resources requires your assistance with receiving evacuees at the following Reception Centre:

Your company contact is:

Name:	Position:	Contact Number:	Fax Number:

1) Record all evacuees as they arrive on the forms provided.

2) Provide all evacuees with the statement below and any other status updates as provided by your company contact.

3) Provide the evacuees with food and lodging as required.

4) Record if any evacuees choose to leave the Reception Centre (name, contact number, where are they going, etc.).

5)	Continually update the company of any residences arriving at or leaving the Reception Centre so that they can follow up on any residents that are
	unaccounted for.

#### STATEMENT TO PROVIDE TO RESIDENTS AS THEY ARRIVE



Date:	Date: Responder Name:											
Page     of     Responder Position:     Responders Phone No.:												
	NAME (LIST ALL I	NAMES IN PARTY)					DESTINATION					
RESIDENT ID	FIRST LAST		# OF NUMBER OCCUPANTS ARRIVED		ARRIVAL TIME	DEPART TIME	PHONE # (Where they can be reached)	COMMENTS				



#### **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
TOTAL REPORTED EXPENSES									

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



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
-									
	TOTAL REPOR	RTED EXPENSES							

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

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



#### **B3 RESIDENT CONTACT LOG**

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

		Ref. No. on Map	SHELTER /	NUMBER	OF PEOPLE	ASSISTANCE OR	
TIME	RESIDENT NAME	FOR RESIDENCE	EVACUATE	INSIDE	OUTSIDE	TRANSPORTATION REQUIRED?	COMMENTS
			${\mathbf O}$ shelter			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	
			O SHELTER			O YES	
			O EVACUATE			O NO	



		Ref. No. on Map	SHELTER /	NUMBER (	OF PEOPLE	ASSISTANCE OR	
TIME	RESIDENT NAME	FOR RESIDENCE	EVACUATE	INSIDE	OUTSIDE	TRANSPORTATION REQUIRED?	COMMENTS
			O SHELTER			O yes	
			O EVACUATE			O NO	
			${\mathbf O}$ shelter			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O SHELTER			O yes	
			O EVACUATE			O NO	
			O shelter			O yes	
			O EVACUATE			O NO	
			O shelter			O YES	
			O EVACUATE			O NO	
			O shelter			O YES	
			O EVACUATE			O NO	
			O shelter			O YES	
			O EVACUATE			O NO	
			O shelter			O YES	
			O EVACUATE			O NO	
			O shelter			O YES	
			O EVACUATE			O NO	
			${\mathbf O}$ shelter			O YES	
			O EVACUATE			O NO	
			${\mathbf O}$ shelter			O YES	
			O EVACUATE			O NO	



**B4 ROADBLOCK LOG** 

Date	:		Responder Name:_	Responder Name:							
Page	2	of	Responder Position	1:		Respo	onders Phone No.:				
No	te: Only em	nergency responders shou	ld be allowed to enter the Emer	gency Planning	Zone (EPZ).						
	VEHICLE TYPE	LICENSE PLATE NUMBER AND PROVINCE / STATE	NAME OF DRIVER (IF AVAILABLE)	NUMBER OF PEOPLE IN	TIME ENTERING ZONE	TIME EXITING	COMMENTS (RECORD ALL VEHICLES TURNED AWAY)				

ТҮРЕ	AND PROVINCE / STATE	(IF AVAILABLE)	VEHICLE	ZONE	ZONE	(RECORD ALL VEHICLES TURNED AWAY)



VEHICLE TYPE	LICENSE PLATE NUMBER AND PROVINCE / STATE	NAME OF DRIVER (IF AVAILABLE)	NUMBER OF PEOPLE IN VEHICLE	TIME ENTERING ZONE	TIME EXITING ZONE	COMMENTS (RECORD ALL VEHICLES TURNED AWAY)



#### **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.

<b>NEBC Emergency</b>	<b>Response Plan</b>
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### **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	iscalling from	(company name)	·					
Is this the	(name of residence / business) at	(telephone number)	?					
(Comp	<i>any name)</i> is responding to a <i>(potential)</i> emergency at	<i>(location)</i> in	your area.					
	no danger at this time. All efforts are being made to resolve orm you and provide you with an early notification.	the problem and this ph	one call is					
To help us	understand and your immediate needs we need to know:							
How many	y people are at your location now?							
	Adults							
	Children							
Do you wi	sh to leave your residence at this time?							
IF YES	Please travel in a <i>north / east / south / west</i> direction to o	ur reception centre locat	ed at:					
IF NO	Please standby for further contact. Please do not use your may prevent us from contacting you with updated informa eliminated.							
If you have urgent questions, please contact <u>(company name)</u> at <u>(telephone number)</u> .								
Thank you	Thank you for your cooperation.							

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

<b>NEBC Emergency</b>	<b>Response Plan</b>
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### **B7 SHELTER-IN-PLACE PHONE MESSAGE**

Hello, thi	s is	(your name)	of	(company	name)	·
Is this the	2	(name)	residence at	(telepho	ne number)	?
(Com	pany name)	is responding to	a ( <i>potential</i> ) emer	gency at	(location)	_in your area.
hazard n	o longer exists	, or you are advise	that you, and thos d to evacuate. eeds, we need to ki		ay indoors un	til the potential
How mai	ny people are	at your location n	ow?			
	Adults					
	Children					
		out of the area?	ou cannot contact t	o inform then	n of the situat	ion and advise them
IF YES	Whom?					
	Location of	the person(s)				
			them as soon as po	ossible.		
Do you h	ave children i	n school at this tin <b>3</b> No	ne?			
IF YES	What schoo	ol?				
	Children's r	ames				
	the area im	mediately. If schoo	ensure the safety o I is in session, you ver when the schoo	children will	be redirected	be directed to leave to the reception
Do you h	ave the "Shel	ter-in-Place" instru	uctions previously	provided to y	ou by <u>(co</u>	ompany name) ?
	🛛 Yes	<b>D</b> No				
IF YES	Please follo	w the Shelter-in-Pl	ace instructions loo	cated inside th	he resident pa	mphlet.
IF NO	Verbally we	alk the resident the	ough the Shelter-i	n-Place instru	ictions on the	next page.
Do you u	nderstand wh	at I have told you	?			
Is there a	n alternate n	umber we can con	tact you at?			
-	ve any urgent ou for your co	•	contact (comp	any name)	at <u>(teleph</u>	one number) .
	-	•	call to the Public S	afety Group S	Supervisor im	nmediately)

ARC resources LTD.

#### 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.



#### **B8 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, thi	s is	(your name)	of	(company nai	me)
Is this the	2	(name)	residence at	(telephone number)	
(Compo	any name)	is responding t	o a ( <i>potential</i> ) emergency a	at <u>(location)</u>	in your area.
•			nt that you and your family irection to our reception ce	•	e immediately and
To help u	s understand y	vour immediate	needs, we need to know:		
How mar	ny people are a	at your location	now?		
	Adults				
	Whom? Location of t	the area? 7 No the person(s)	you cannot contact to infor		
Do you h		n school at this t <b>7</b> No	ime?		
IF YES	Children's no We will cont the area imm	ames act the school to nediately. If scho	o ensure the safety of your ool is in session, your childr Iriver when the school day i	children. Buses will b en will be redirected	

NEBC Emergency Response Plan	<b>NEBC</b>	Emergency	y Response	Plan
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Do you re	quire 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
	ntact <u>(company name)</u> if you are unable to make it to the reception centre for any reason.
Please kee	ep your phone line free so that we can contact you if necessary.
Is there ar	n alternate number we can contact you at?
is there u	
	y representative at the reception centre will address any questions you may have and will make ents for your temporary accommodations. Do you understand everything I have told you? Are you
-	mediately?
0	
If you have	e any urgent questions, please contact (company name) at (telephone number).
-	a 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, ethe Company's(location name)site, located/ north / south) of(nearest town or city)	
Presently, <u>(number of personnel)</u> workers are being of the injured cannot be released until their families have b	-
The (well site, plant, pipeline, office, drilling location)         still flowing)	has been <u>(shut down, isolated, or is</u>
Company staff have been activated and are directing en public, our workers and the environment.	nergency response procedures to protect the
The cause of the <u>(fire, explosion, gas release, spill)</u> is available. As information becomes available, news releas	
Any further inquiries should be directed to the Emergency S a later time.	Support Team, who will issue a press release at
Contact:	
Offi	ce:
Fi	эх:
Note: Only the <b>Media Spokesperson</b> designated by the Cris information to the public or the media. Refer to page 12 of s for the generic media statement to be used by all other resp	ECTION 8: MEDIA & STAKEHOLDER RELATIONS

<b>NEBC Emergency</b>	<b>Response Plan</b>
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### **C2 MEDIA CONTACT LOG**

Date:			Responde	er 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."									
				wing information to expedite you		te the form below	).			
				ss on this information to the appr	opriate person." Telephone	Numbers	Demonto / Information Demuined			
Time	Call To	Call From	Media Outlet	Reporter / Contact Name	Work	Fax	Remarks / Information Required			

Document all key events, conversations, and meetings on this form. Where lengthy notes are necessary, use additional copies or the back of the page.



Time	Call To	Call From	Media Outlet	Reporter / Contact Name	Telephone	Numbers	Remarks / Information Required
_					Work	Fax	



## C3 GOVERNMENT AGENCY CONTACT LOG

Date:			Responde	r Name:							
Page	of						Phone No.:				
If you feel you are not the appropriate person to be answering the government agency representative's questions, use the following series of statements.											
Mote:	"ARC Resources has a government liaison representative to answer your questions."										
1000		"Ma	ay I request the follow	ving information to expedite you	ır request?" (comple	te 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	Agency	Contact Name	Work	Fax	Remarks				
-											
1											

Document all key events, conversations, and meetings on this form. Where lengthy notes are necessary, use additional copies or the back of the page.



Time	Call To	Call From	Agency	Contact Name	Telephone	Numbers	Remarks
Time			Agency	Contact Name	Work	Fax	Remarks



### **C4 MEDIA SITE**

LOCATION	
Address:	
City / Town:	
Phone #:	
Contact Name:	
Home #:	
MAP OR DIRECTION	ONS TO SITE
	· · · · · · · · · · · · · · · · · · ·

<b>NEBC Emergency</b>	Response	Plan
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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,  $H_2S$ , 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.



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.

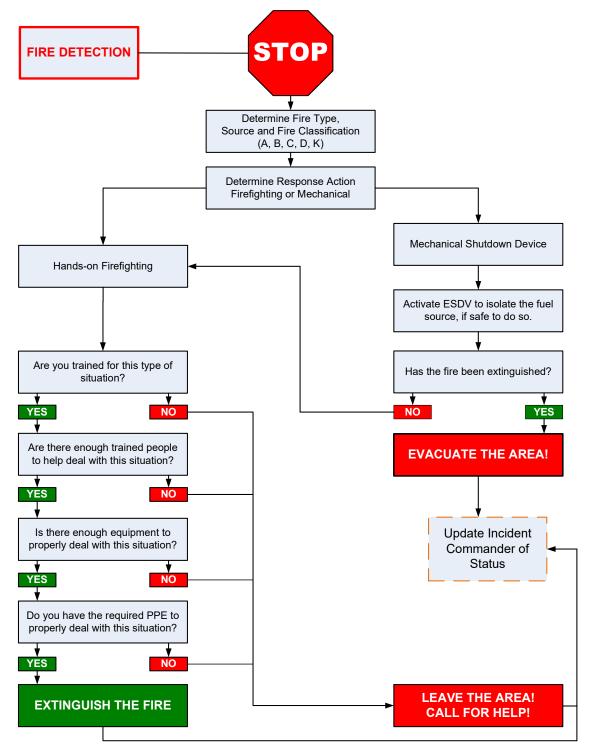
#### **British Columbia:**

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 <u>of British Columbia</u> (ICBC) as soon as you can.



### 6.4 Fire / Explosion

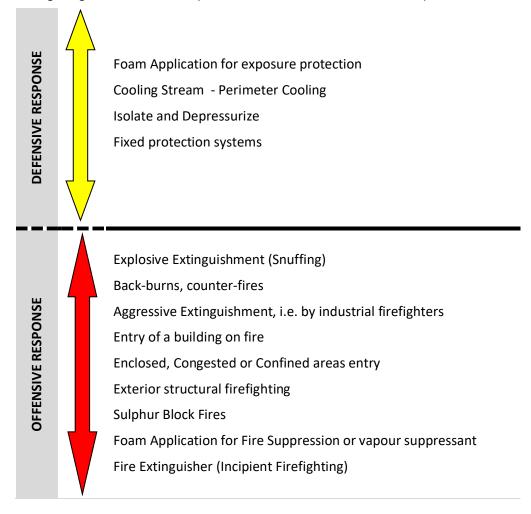
#### Fire Response Guidelines - Decision Tree





#### 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.



- □ Follow First on Scene 7 Steps (Section 1.2).
- D Notify your immediate Supervisor and / or Incident Commander
- □ Well control without fire (uncontrolled release):
- Desition 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.
- $\Box$  Monitor for H<sub>2</sub>S and LEL.
- Activate ESDs.
- □ Monitor and control runoff.

#### Fires involving Dangerous Goods

 $\Delta RC$ 

#### 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).
- D 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.



#### Vehicle Fires

- □ Follow First On-Scene 7 Steps (Section 1.2).
- D 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 resubmit.

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. RESOURCES LTD.

### 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: <u>http://www.wcss.ab.ca/index.asp</u>

#### Initial Spill Response Actions

- □ Follow First on the Scene 7 Steps (Section 1.2).
- D 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?
- $\Box \quad \text{Is there } H_2S \text{ or other toxin present?}$
- Are concentrations safe or is additional PPE needed?
- Are there any areas deemed hazardous? (Mark with flags).



- □ 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
- U 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:

Land Containment Options				
Containment Method Technique Description		Comments		
	is used to contain spilled material on flat or sloped	Sufficient dry earth, gravel or sand needs to be available to contain spill. Earth may be frozen.		
Earth or Sand Dike (All seasons)	surfaces. Sandbags filled with soil or sand are used to contain spill.	Surface disturbance to remove earth or sand may result in erosion, especially on steep slopes.		
	Augment with poly-sheeting if available.	Work crews and/or earth-moving equipment are required to build a dike.		
	Snow or ice at or near the site is used to contain spilled material on flat or sloped surfaces.	Sufficient snow or water needs to be available to contain spill. Snow or ice dike will melt quickly in warm weather.		
Snow or Ice Dike (Winter only)	Augment with poly-sheeting if available.	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.		



Land Containment Options				
Containment Method	Technique Description	Comments		
Sorbent Dike (All seasons)	Sorbent material is used to contain spill.	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. Contaminated sorbents need to be disposed in compliance with government legislation.		
		Sufficient sorbent or sorbent boom, work crews and storage containers or a lined storage area for contaminated sorbents needs to available to build sorbent dike.		
	A trench or sump is excavated downslope on sloping terrain to limit surface or subsurface spill movement. Work crews and/or earth-	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.		
Trench or Sump (All seasons)	moving equipment are required to build trench or sump, as well as plastic or other impermeable sheeting for a trench liner.	Surface disturbance to remove earth or sand may result in erosion or further penetration in sandy soil.		
		Ensure no other pipelines or underground utilities are in the excavation area.		
	Land Recovery	/ Options		
Recovery Method	Technique Description	Comments		
Vacuum Truck	A vacuum truck is used to recover spilled material from a dike or trench in areas accessible by trucks or heavy equipment.	The method depends on site access. 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.		
	A pump is used to recover spilled material from a dike or trench in areas not accessible by vacuum trucks.	Pumps need to be safe for use at the spill site and compatible with the product to be pumped. Surface disturbance and soil damage may result from movement of the pump and storage equipment to the site.		
Pumping Spilled Material into Storage		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.		
		A work crew and power supply for the pump needs to also be available.		

(ARC RESOURCES LTD.

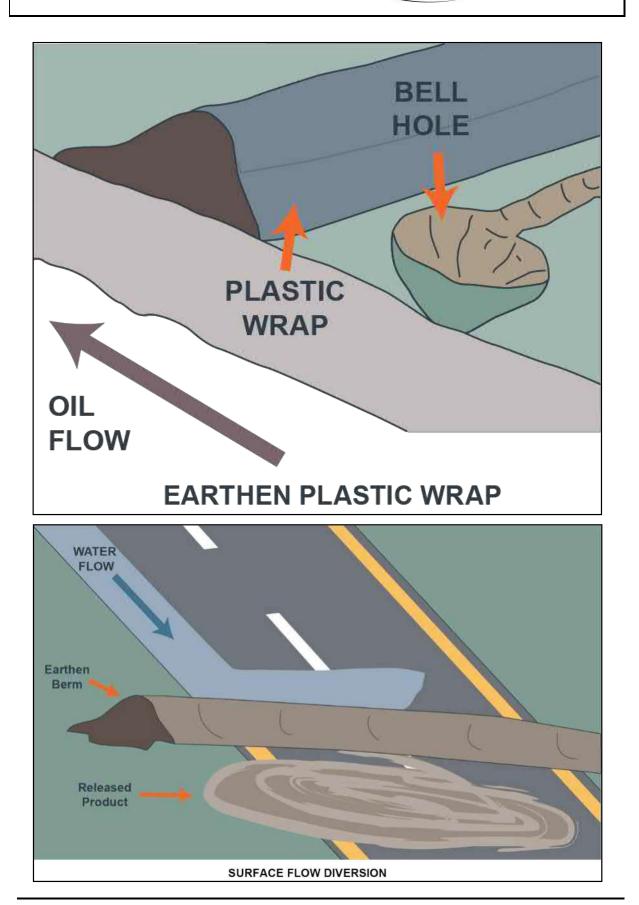
# BERMS

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.

<ul> <li>Objectives</li> <li>To halt the advance of spilled product and allow for the recovery of the spilled product.</li> <li>Contain and prevent further migration of released products by channeling the spill in a particular direction</li> <li>Create a pooled area for recovery of released product.</li> <li>Diversion of surface flows from impacted area.</li> </ul>	<ul> <li>Safety</li> <li>Identify hazards and complete a site safety plan.</li> <li>Consider toxic and flammable vapours.</li> <li>Adjacent infrastructure such as powerlines, pipelines, and underground services.</li> <li>Establish communications in remote areas.</li> <li>Be cautious of wildlife.</li> </ul>
<ul> <li>Environmental Consideration</li> <li>Utilize existing access and routes to minimize disturbance of soils. Consider environmental sensitivities such as vegetation soil types and wildlife/ fish habitat.</li> <li>If possible, remove and conserve topsoil for reclamation activities. Avoid constructing berms with topsoil material.</li> <li>Ensure decontamination areas have been established to minimize transfer of released product during construction of berm.</li> <li>Handle and dispose of contaminated wastes in an approved manner.</li> </ul>	<ul> <li>Procedure</li> <li>Lay plastic on ground, across expected route of spill travel.</li> <li>Pile non-porous materials on downstream side of plastic (away from approaching oil).</li> <li>Flip upstream side of plastic sheet over berm to prevent contamination of berm contents.</li> <li>Hand dig small bell hole upstream of berm recovery.</li> <li>Ensure waste disposal bags and tags if sorbents are to be used.</li> <li>Personnel</li> <li>Supervisor / lead</li> <li>Site safety</li> <li>Labourers</li> <li>Vacuum truck operator</li> <li>Equipment / Resources</li> <li>Sorbents</li> <li>Sorbents</li> <li>Vacuum truck / portable vacuum unit</li> </ul>
	BELL HOLE KEY OIL FLOW

EARTHEN WITH KEY





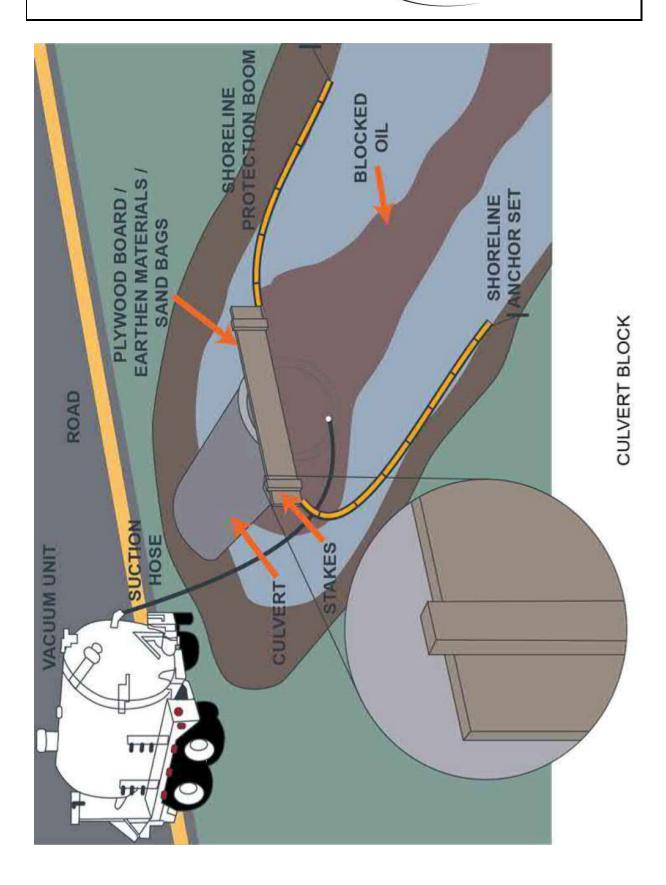


# **CULVERT BLOCK**

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.

<ul> <li>Objectives</li> <li>Contain and prevent further migration of released products using sandbags / plywood.</li> <li>Create pooled area to allow recover of released product.</li> </ul>	<ul> <li>Safety</li> <li>Identify hazards and complete a site safety plan.</li> <li>Consider toxic and flammable vapours.</li> <li>Adjacent infrastructure such as powerlines, pipelines, and underground services.</li> <li>Establish communications in remote areas.</li> </ul>
<ul> <li>Environmental background background background</li></ul>	<ul> <li>Proceedure</li> <li>Using earthen materials or sandbags, completely block the culvert or,</li> <li>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.</li> <li>Monitor water levels to ensure sufficient flow and to prevent washouts.</li> <li>Utilize vacuum unit or skimmer to recover pooled fluids and dispose at appropriate location.</li> <li>Utilize containment boom to protect banks from oil impacts.</li> <li>Personnel</li> <li>Track hoe operator</li> <li>Vacuum operator</li> <li>Supervisor / lead</li> <li>Site safety</li> <li>Labourers</li> <li>Equipment / Resources</li> <li>Shovels</li> <li>Earthen materials or sandbags</li> <li>Vacuum truck / portable vacuum unit</li> <li>Skimmer</li> <li>Temporary storage</li> <li>Plywood, stakes, nails</li> </ul>







# **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

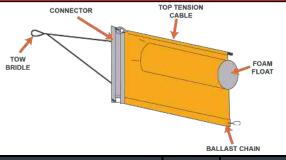
- Divert surface contaminants from sensitive resources.
- Divert surface contaminants to areas of quiet water where velocities are slower and contaminants may be collected.

# 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 shirts 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

1.4 kph 1.6 kph

0.9 mph 1.0 mph

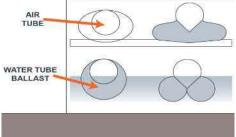
60°

45°

2.0 kph

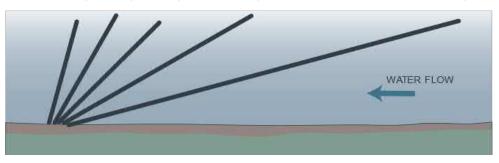
1.2 mph

75°





15° 5.4 kph 3.3 mph



30°

2.8 kph

1.7 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	0.5	0.31	0.14	0.46	30 degrees
108	1.0	0.62	0.28	0.92	
72	1.5	0.93	0.42	1.38	
54	2.0	1.25	0.56	1.84	
43	2.5	1.5	0.69	2.26	20 degrees
36	3.0	1.9	0.83	2.72	
31	3.5	2.2	0.97	3.18	
27	4.0	2.5	1.11	3.60	
24	4.5	2.8	1.25	4.10	15 degrees
22	5.0	3.1	1.39	4.56	
18	6.0	3.7	1.67	5.48	
15	7.0	4.3	1.94	6.36	10 degrees
14	8.0	5.0	2.22	7.28	
12	9.0	5.6	2.50	8.20	
11	10.0	6.2	2.78	9.12	

## 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. ٠
- 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:
  - o 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.
  - o 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.
  - o Bridge Pier Bridle can be installed on large, moderate to fast moving watercourse with the use of workboats
  - o In-Stream anchors and chain sets can be deployed within the watercourse by workboat crews and include sarca, danforth and rake anchors.
  - o Boom Vane can be deployed from shore and utilizes the instream current and mooring lines to set boom angles.



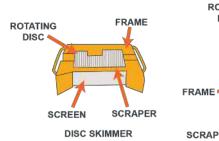
# SKIMMERS, VACUUM UNITS, TEMPORARY STORAGE

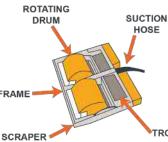
Recovery will involve the use of equipment as determined by plans and the scope of the incident.

### 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.

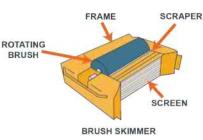
Skimmer Type	Oil Type	Mode	Debris Tolerance	Wave Tolerance	Currents
Drum (selective)	Wide range of oil vis∞sities	Station ary	Debris must be managed to allow flow of oil to skimmer	Low sensitivity to waves with height less than diameter of drum	Not generally used in currents
Disc (selective)	Low to medium viscosity	Station ary	Debris must be manæged 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	Station ary	Debris must be manæged 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	Lowsensitivity to waves	Static water conditions

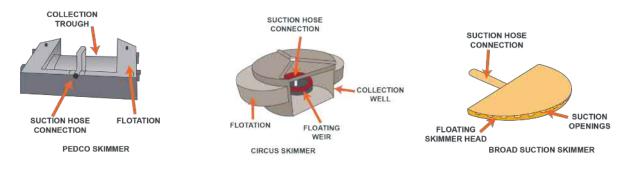




DRUM SKIMMER

TROUGH

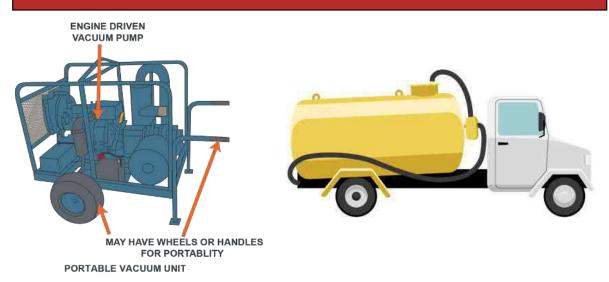






### Vacuum Units

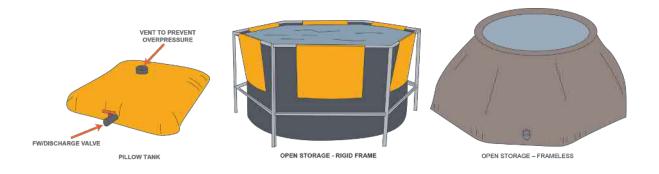
- Operate on the same principle as an industrial vacuum cleaner
- A suction pump pulls large quantities of air through a hose and into a large-volume receptacle. The sudden velocity
  drop that occurs in the receptacle causes liquids and solids to fall out of the airstream and collect. This process may
  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 vapor control. Hence, they may not be suitable for storage of highly volatile products.

Storage Type	Vapor Control	Capacity	Storage Length
Pillow Tan k	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	Teporary





#### 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.

Time Required For Object to	Su	Boom Angle		
Travel 30 meters	(km/hr)	(m/s)	(miles/hour)	(degrees)
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°

The following table is used for estimating spill velocity based on a 30 meter (100 foot) distance:



**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			
	A containment boom is	The watercourse needs to be accessible to allow containment activities.			
Containment Boom (Spring to Fall) (Spring to Fall) (Sprin	watercourse to prevent migration of the spilled	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.	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			
	May be used in combination with containment boom.	boats, and a work crew need to be available to conduct this method.			



Watercourse Containment Options				
Containment Method	Technique Description	Comments		
Sorbent boom (Spring to Fall)	Sorbent booms may be used in narrow, low flow streams or rivers to remove small amounts of surface oil. Chicken wire or containment boom may be used to back up sorbent boom.	The watercourse needs to be accessible to allow boom to be deployed. 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). Sorbent boom also has no skirt allowing large amounts of oil to easily flow under it. Sorbent boom will pick up sheen but not large amounts of oil. Sorbent boom is not very effective in cold weather. 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. Sorbent boom, work crew and possibly boats may be required.		
Earth or Sand Dike (Spring to Fall)	Dikes are used across very shallow streams and intermittent creeks to contain flowing oil. Dikes can also be used to contain spilled materials along a shoreline.	Sufficient earth or sand is needed to construct the dike. Flowing may be caused if stream or creek is dammed (a containment weir may be used to alleviate this problem – see below) Damage may be caused by evacuation and construction in the watercourse and along the banks. A work crew with shovels, earth-moving equipment, earth or sand, sandbags and/or sheets of metal or wood may be required.		
Containment Weir (Spring to Fall)	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.	Containment weirs are used in shallow streams and creeks and are suitable for maintaining a constant water level at the site and preventing flooding. 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.		



Watercourse Recovery Options				
Recovery Method	Technique Description	Comments		
	A vacuum truck is used to recover free petroleum from	A vacuum truck and operator are required. Use of this method is subject to site access.		
Vacuum Truck	water in areas accessible by trucks or heavy equipment.	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.		
		Pumps need to be safe for use at the spill site and be compatible with the product to be pumped.		
		Surface disturbance and soil damage may result from movement of the pump and storage equipment to the site.		
Pumping of Spilled Material into Storage	A pump is used to recover free oil from the watercourse in areas not accessible by vacuum	Technique will generate large volumes of contaminated water that will require storage.		
	trucks.	Skid tanks, tankers, port-a-tanks, fuel bladders, permanent tanks or a lined excavated area need to available to provide storage for the recovered material.		
		A work crew and power supply for the pump need to also be available.		
		Skimmer will need sufficient water depth to float.		
		Weir skimmers work best on thicker layers of oil in flowing water. Will generate large quantities of water/oil mixture.		
	Mechanical devices are used to skim oil from water surface or	Drum or disc skimmers will pick up thinner layers of oil on slow moving water.		
Skimmers	remove oil/water mixture for storage.	Debris and vegetation may clog skimmer making oil pickup difficult.		
		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.		



#### 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.

Wetland or Muskeg Containment Options				
Containment Method	Technique Description	Comments		
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.		

A summary of available options is provided in the following table:



	Wetland or Muskeg Containment Options			
Containment Method	Technique Description	Comments		
		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.		
Pumping of Spilled Material into Storage	A pump is used to recover free oil from wetlands or muskeg.	The technique will generate large volumes of contaminated water that will require storage.		
		Skid tanks, tanker trucks, port-a-tanks, fuel bladders, permanent tanks or a lined excavated area need to be available.		
		A work crew and power supply for the pump need to also be available.		
		The wetland or muskeg area needs to be accessible.		
	Used to skim oil from water surface or remove oil/water mixture for storage. Drum or disc skimmers will	Skimmer will need sufficient water depth to float.		
Skimmers		Debris and aquatic vegetation may clog skimmer, making oil pickup difficult.		
Drum or disc skimmers will pick up thinner layers of oil on slow moving water.	A suction, floating weir, disc or drum skimmer, pump and work crew are required to undertake method. A secure storage facility is also required.			
Fresh Water	Water is flushed through an area to push oil that is in vegetation or on the water	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.		
Flushing	surface toward a collection point for recovery.	Physical damage may be caused to sensitive environmental areas.		
	The method can be used in conjunction with trenches.	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.		



#### 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 loadbearing 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.

Load-Bearing Capacity of Ice Thickness for Continuous Travel <sup>1</sup>				
Permissible Load	Effective Ice Thickness inches (centimetres)			
	Lake	River		
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)		

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.

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>&</sup>lt;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:

	On Ice Containment Options			
Containment Method	Technique Description	Comments		
	Earth or sand at or near the site	Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required to build dike.		
	is used to contain spilled material on flat or sloped surfaces.	Sufficient dry earth, gravel or sand needs to be available to contain spill. Earth may be frozen.		
Earth or Sand Dike (All seasons)	Sandbags filled with earth or sand are used to contain spill.	Surface disturbance to remove earth or sand may result in erosion, especially on steep slopes.		
	Augment with impermeable or poly-sheeting if available.	Earth or sand placed on ice needs to be removed before spring break-up.		
	per, encennig i encenzio	Work crews and/or earth-moving equipment are required to build dike.		
		Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required to build dike.		
Snow or Ice Dike	Snow or ice at or near the site is used to contain spilled material on flat or sloped surfaces. Augment with impermeable or	Sufficient snow or water needs to be available to contain spill. Snow or ice dike may melt quickly in warm weather.		
(winter only) Aug		Contaminated snow or ice may need to be removed or stored for treatment.		
	poly-sheeting if available.	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.		
		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.		
	Sorbent material is used to contain spill.	Contaminated sorbents needs to be disposed of properly to comply with government regulations.		
		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.		

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	On Ice Clea	an-up Options			
Clean-up Method	Technique Description	Comments			
		Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required.			
		Effective ice thickness needs to be sufficient to sup the weight of manpower and equipment required. All necessary safety precautions should be underta for personnel who work near any open water. Manual removal may be a difficult and time-consum process.           and         A work crew with hand tools or earth-moving equipment (e.g. backhoe) and operators, as well as cutting equipment, may be required. 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.           t ice clean- e         Effective ice thickness needs to be sufficient to sup the weight of manpower and equipment required. All necessary safety precautions should be underta for personnel who work near any open water. A work crew with steaming equipment is required to undertake this method.           Clean-up is labour-intensive and time-consuming. Limited access to site may make this method difficu or impossible.           Sorbents are not very effective on weathered oil or cold weather. Sorbents may freeze to the surface. Sorbents needs to be disposed of properly to comp with government regulations.           Sufficient sorbent, work crews and storage containe or a lined storage area for contaminated sorbents needs to be available.           Contaminated snow or ice needs to be removed fro clean-up site and placed in melting tanks. The method may be labour-intensive and time- consuming, as melting is not be very efficient for clean- up of large volumes of petroleum-contaminated ice. very cold temperatures, sufficient heat may not be available in the tanks to melt ice.           M work crew, heating tanks, skimming equipment, transfer vehicles and operators are required. A lined storage facility for storage of cont			
Manual Removal by Work Crew and/or	A work crew or earth- moving equipment is used	Manual removal may be a difficult and time-consuming process.			
Equipment (Winter)	to remove thick oil or contaminated snow and ice.	equipment (e.g. backhoe) and operators, as well as ic cutting equipment, may be required.			
		disposal. Oil present in snow may be skimmed off			
	Steam is used to melt ice surface to aid in spill clean- up.	Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required.			
Steaming of Ice Surface	•	All necessary safety precautions should be undertake for personnel who work near any open water.			
	other clean-up and recovery techniques.	A work crew with steaming equipment is required to undertake this method.			
		Limited access to site may make this method difficult			
Sorbents	The method is used in	or impossible. Sorbents are not very effective on weathered oil or in cold weather. Sorbents may freeze to the surface.			
(Spring to Fall)	isolated areas to clean up small amounts of oil.	Sorbents needs to be disposed of properly to comply with government regulations.			
	Snow or ice is removed	Contaminated snow or ice needs to be removed from clean-up site and placed in melting tanks.			
Snow or ice melting	from the clean-up site and melted in heated tanks to allow spilled material to be skimmed off the surface of the melt water.	consuming, as melting is not be very efficient for clean- up of large volumes of petroleum-contaminated ice. In very cold temperatures, sufficient heat may not be			
	The technique may be used in association with				
	other clean-up and recovery techniques.	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.			



#### **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.

	Under Ice Containment Options			
Containment Method	Technique Description	Comments		
		Effective ice thickness needs to be sufficient to support the weight of manpower and equipment required to build slot.		
		All personnel working near any open water need to take all required safety precautions.		
Ice Slotting The use curr mov	Ice slots are cut into ice on rivers to collect oil moving under the ice.	The location of the spill needs to be confirmed by drilling holes downstream of the spill source before constructing the ice slot.		
	The technique is best used for rivers with	Total containment of spilled petroleum in an ice slot is unlikely, due to material trapped under ice.		
	current, as oil will be moved toward slot by current.	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.		
		Storage tanks or a lined excavated storage area may be required to store recovered oil/water mixture.		



#### **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.

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- □ 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	e spill/release quotas listed in the table on the following p appropriate regulatory agency.	age MUST be	e reported immediately to the
Agency	Reportable Spills	Report Type	Report to
Alberta Energy Regulator (AER) - Oil & Gas Regulation	<ol> <li>Any release that has caused, is causing, or may cause an adverse affect*</li> <li>Any pipeline release regardless of volume</li> <li>Any release greater than 2m<sup>3</sup> on site</li> </ol>	Verbal	AER 24 Hour Number 800-222-6514
Alberta Energy Regulator (AER) - Environment Regulation	<ul> <li>3) Any release greater than 2m<sup>3</sup> on-site</li> <li>4) Any release off-site</li> <li>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>)</li> <li>6) Any release of substance listed as toxic, prohibited or restricted by CEPA</li> <li>7) Any release that meets or exceeds the reporting threshold in the Environment Reporting Requirements column in the <b>Release Reporting Thresholds</b> table on the following page.</li> <li>Note: The AER Table of Reportable Releases found below further breaks down release types by industry activity.</li> </ul>	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)*
	Environmental emergencies if: 1) The emergency involves any of the substances identified in Environment	Verbal	AER 24 Hour Number 800-222-6514
Canadian Environmental Protection Agency (CEPA)	<ul> <li>&amp; Climate Change Canada's E2 List of regulated substances. See the website link at the bottom of the following page for more information.</li> <li>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.</li> </ul>	Written	Within 30 days
Alberta Transportation - Environmental and Dangerous Goods Emergencies (EDGE)	<ul> <li>Substances regulated by Transportation of Dangerous Goods if:</li> <li>1) A release is anticipated, or the release meets or exceeds the reporting threshold in the TDG Reporting Requirements column in the Release Reporting Thresholds table on the following page.</li> </ul>	Verbal	911 Local Authority Environmental and Dangerous Goods Emergencies (EDGE)
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	Verbal	1) 888-226-8832 or 613-996-6666 2) 613-995-5555 3) 613-995-0479
	3) Canadian Nuclear Safety Commission - Class 7 radioactive materials only	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
	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines:	Verbal	Via Transportation Safety Board (TSB) Reporting Hotline 819-997-7887
Canada Energy Regulator	<ol> <li>An incident that harms people or the environment,</li> <li>A rupture, or</li> </ol>	Written	PipelineNotifications@tsb.gc.ca
(CER) &	3) A toxic plume	Written	CER Online Event Reporting System (OERS)
Transportation Safety Board	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		https://apps.cer-rec.gc.ca/ers/home/index
(TSB)	Roles & Responsibilities chart in SECTION 5: EXTERNAL AGENCIES and the CER site section behind the AREA SPECIFIC INFORMATION tab for further	Written	CER - Within 21 days after the day of incident/near-miss
	regulations, definitions and reporting guidelines.		TSB - Within 30 days after the day of the incident/near-miss
Canadian Nuclear Safety	All radioactive releases must be reported immediately.	Verbal	613-995-0479
Commission (CNSC)		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						
Alberta							5	_ >
Alberta Energy Regulator (AER) Field C	Offices		<b></b> ⊆	Oil Sa	Oil s	Pip	Pi stall:	Pip Re Activit Equip
Spill Reporting Line	800-222-6514		& Ga	ining Sand	Situ Sand	Pipelines	peline ations	3 2 2 2
Canada		Reportable Release	õ	<u>0</u> ,	<u></u> . 0	ŭ	0 O	₽∞¤₽
Canada		Any leak or break from a pipeline				Х		
Alberta Transportation - Environmental and Dangerous Goods	Emergencies (EDGE)	Release of a substance that has caused, is causing, or may cause an adverse effect	х	х	х	Х	х	х
Province Wide	800-272-9600	Release of a substance into a water body (as defined in the Water Act)	Х	Х	Х	Х	Х	Х
CANUTEC		Release of a substance into a watercourse, groundwater, or surface water (as stated in the <i>Release Reporting Regulation</i> )	х	х	х	Х	х	х
	888-CAN-UTEC	Release of oil, water or unrefined product off-site	Х	Х	Х	Х	Х	Х
All Provinces	(888-226-8832) 613-996-6666	Release of oil, water, or unrefined product exceeding 2 cubic metres (m <sup>3</sup> ) on-site	х	х	х	Х	х	х
Canada Energy Regulator (CER) / Transportation Safety Board of		A liquid spill (as defined in the Oil Sands Conservation Rules)		Х	Х			
Canada (TSB)		Release of a liquid hydrocarbon exceeding 2 m <sup>3</sup>		х	Х	Х	Х	Х
TSB Reporting Hotline (Pipelines)	819-997-7887	Uncontrolled gas release of more than 30,000 m <sup>3</sup>	Х	Х	Х	Х	Х	
					×.		×	

## \* Definition of Adverse Affect



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.

Any third party impact (off-lease), e.g. crop damage, vegetation damage or livestock impact

- Unrecovered spilled substance likely to contaminate surface or groundwater
- Contaminated groundwater and / or surface water
- Release or spill has potential for offsite odour complaints
- Toxic or flammable release to air going off-site

### See following page for spill / release quotas.

Alberta spill reporting document updated March 2022

# 6.6 Alberta Petroleum Industry Release Reporting Requirements

All spills excee	eding the spill/relea	se quotas listed in the table on t appropriate regulate	the following page MUST be reported imported imported imported imported imported imported imported imported imp	mediately to the
Chemical Class	Substance / Example	T.D.G. R Road, Rail or Marine	Reporting Requirements Loss or Theft	Alberta (AER) Reporting Requirements
	Hydraulic Oil		Reporting Requirements	Refined products follow TDG
	Methanol	5	See Class 3 & 6.1	requirements
	Natural Gas		See Class 2.1	30,000 m <sup>3</sup>
	Crude Oil / Emulsion (Unrefined)		See Class 3	> 2 m³ on-site
Other Released	Produced / Salt Water (Unrefined)	No TDG	Reporting Requirements	Any release off-site (Report to
Substances	Condensate (Unrefined)		See Class 3	AER and notify landowner)
	Ammonia			Any release that has caused, is causing, or may cause an
	Glycol			adverse effect
	Drilling Waste (Unrefined)			Any release into a water body, or a watercourse,
	Oilfield Waste (Unrefined)			groundwater, or surface water
Class 1 Explosives	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</b> Flammable Gases	H <sub>2</sub> S Methane Propane Butane Natural Gas		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</b> Non-Flammable Gases	Compressed Air O <sub>2</sub> N <sub>2</sub> CO <sub>2</sub>	Any quantity	No TDG Reporting Requirements	30,000 m <sup>3</sup>
Class 2.3 Toxic Gases (poisonous or corrosive)	H <sub>2</sub> S SO <sub>2</sub> Hydrogen Cyanide Nitric Acid Anhydrous Ammonia Bitumen (Unrefined)		Any quantity	All releases which could pose a danger, or any sustained release of 10 minutes or more
Class 3 Flammable Liquids	Gasoline Diesel Methanol Demulsifiers Scale Inhibitors Lube Oil		Total quantity of 450 kg or more of desensitized explosives Any quantity of UN1261, Nitromethane	
	Calcium Resinate		Total quantity of 450 kg or more of desensitized explosives	
Class 4.1 Flammable Solids	Naphthalene Crude		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	> 2m <sup>3</sup> on-site
Class 4.2 Spontaneously Combustible	Activated Carbon Potassium Sulphide Phosphorus Molten Sulphur		Total quantity of 450 kg or more in Packing Groups I or II	Any release off-site (Report to AER and notify landowner)
Class 4.3 Dangerous when Wet	Calcium Carbide Sodium Activated Carbon		Total quantity of 450 kg or more in Packing Groups I or II	Any release that has caused, is causing, or may cause an adverse effect
<b>Class 5.1</b> Oxidizing Substances	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; UN1498, 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	Any release into a water body, or a watercourse, groundwater, or surface water
<b>Class 5.2</b> Organic Peroxides	Methyl Ethyl Ketone Peroxide Succinic Acid		Any quantity in Class 5.2, Type B, liquid or solid, temperature controlled	1 kg or 1 L
Class 6.1 Poisonous Toxic Substances	Peroxide Arsenic Lead Acetate Mercuric Chloride Mercuric Oxide Methanol Toxic Pesticides		Any quantity of Packing Group I	<ul> <li>2 m<sup>3</sup> on-site</li> <li>Any release off-site (Report to local AER office and notify landowner)</li> <li>Any release that has caused, is causing, or may cause an adverse effect</li> <li>Any release into a water body, or a watercourse, groundwater, or surface water</li> </ul>
Class 6.2 Infectious Substances	Infectious Substances affecting Humans / Animals	Any quantity of Category A or B	Any quantity	All releases
<b>Class 7</b> Radioactive Substances	Uranium Plutonium Naturally Occurring Radioactive Materials (N.O.R.M.)	<ul> <li>For packages being transported under exclusive use:</li> <li>(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</li> <li>For packages not being transported under exclusive use:</li> <li>(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.</li> </ul>	Any quantity	Discharge or radiation level exceeding 10 mSv/h at package surface & 200 u Sv/h, 1 m from the package surface
Class 8 Corrosives	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	<ul> <li>2 m<sup>3</sup> on-site</li> <li>Any release off-site (Report to local AER office and notify landowner)</li> <li>Any release that has caused, is causing, or may cause an adverse effect</li> <li>Any release into a water body, or a watercourse, groundwater, or surface water</li> </ul>
<b>Class 9</b> Miscellaneous Products, Substances & Organisms, Environmentally Hazardous Substances	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
Other	A		any fire where loss exceeds 2m <sup>3</sup> of oil, or 30,000m <sup>3</sup> of gas where damage	

#### 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	
	Report when: 1) If a spill/release occurs or is at imminent risk of occurring. 2) Any Minor Incident through KERMIT. <u>**See Note**</u>	Verbal	24 Hour Number 800-663-3456 (Within 1 hour of a level 1, 2 or 3 emergency)	
<b>F</b>	<ul> <li>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.</li> <li>4) All spills or releases of any amount of material which impacts or may impact a body of water.</li> <li>5) All spills are released of hearerdous substances which are not provincially.</li> </ul>	Written	Electronic submission through the Online Minor Incident Reporting System, operated through KERMIT (Within 24 hours of a Minor incident)	
Emergency Management BC (EMBC)	<ol> <li>All spills or releases of hazardous substances which are not provincially regulated (such as radioactive substances).</li> </ol>		Minister of Environment	
	6) All pipeline incidents, such as spills during construction phase or failure (without release) of any pressure control or ESD device.		Initial Report - as soon as possible on request of the minister	
BC Oil & Gas Commission (OGC)	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. Despense to lead based on illowing the spilled based on the spilled	Written	<b>Follow-up Report</b> - at least once every 30 days after the spill began (if continuing) and any time the previously reported information has become inaccurate or incomplete	
	<ul><li>Response to land based spills:</li><li>1) During the day must be initiated within 6 hours from time of discovery.</li><li>2) During the weekend or night must be initiated within 12 hours from time of discovery.</li></ul>		End of Spill Report - 30 days after spillage has been contained and eliminated.	
	Environmental emergencies if:	Verbal	OGC / EMBC 24 Hour Number 800-663-3456	
Canadian Environmental Protection Agency (CEPA)	<ol> <li>The emergency involves any of the substances identified in Environment &amp; Climate Change Canada's E2 List of regulated substances. See the website link at the bottom of the following page for more information.</li> <li>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.</li> </ol>	Written	Within 30 days	
Transportation of Dangerous Goods (TDG)	<ul> <li>Substances regulated by Transportation of Dangerous Goods if:</li> <li>1) A release is anticipated, or the release meets or exceeds the reporting threshold in the TDG Reporting Requirements column in the <b>Release</b></li> </ul>	Verbal	911 Local Authority Dangerous Goods OGC / EMBC 800-663-3456	
	Reporting Thresholds table on the following page.	Written	Within 30 days	
Canadian Transport Emergency Centre	Loss and theft reporting: 1) CANUTEC - all loss or theft of dangerous goods materials 2) Natural Resources Canada Inspector - Class 1 explosive materials only	Verbal	1) 888-226-8832 or 613-996-6666 2) 613-995-5555 3) 613-995-0479	
(CANUTEC)	3) Canadian Nuclear Safety Commission - Class 7 radioactive materials only	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	OGC / EMBC 24 Hour Number 800-663-3456	
Canada Energy Regulator	Immediately reportable and near-miss events as defined in the Event Reporting Guidelines: 1) An incident that harms people or the environment,	Verbal	Via Transportation Safety Board (TSB) Reporting Hotline 819-997-7887	
(CER)	2) A rupture, or	Written	PipelineNotifications@tsb.gc.ca	
& Transportation Safety	3) A toxic plume Note: Immediately reportable incidents must be reported within 3 hours to both	Written	CER Online Event Reporting System (OERS)	
Transportation Safety Board (TSB)	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	Written	https://apps.cer-rec.gc.ca/ers/home/index CER - Within 21 days after the day of incident/near-miss	
	regulations, definitions and reporting guidelines.	Written	TSB - Within 30 days after the day of the incident/near-miss	
Canadian Nuclear Safety	All radioactive releases must be reported immediately.	Verbal	613-995-0479	
Commission (CNSC)	Immediately reportable events on First Nation reserve lands only:	Written	Within 21 days	
Indian Oil & Gas (IOGC)	<ol> <li>Any health or environment-threatening emergency or off-lease spills.</li> <li>On-lease spills greater than 1m<sup>3</sup>.</li> </ol>	Verbal	IOGC Tsuu T'ina Office 403-292-5625	

<u>\*\*Note:</u> The permit holder must report any minor incident (both spill and non-spill related) to the OGC 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 EMBC so that a Dangerous Goods Incident Report (DGIR) number may be issued.

Lead Agency Contact Numbers		
British Columbia		
Emergency Management BC (EMBC)	800-663-3456	
BC Oil & Gas Commission (OGC)	800-003-3450	
Canada		
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	
CER Other Emergencies	403-299-2773	

#### OGAA S.37 - Spillage

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:

Note: Spills must be reported promptly to avoid possible prosecution.

(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; <u>Spill Reporting</u> <u>Regulation</u>, 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 2022

## 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. (OGC / EMBC) Reporting Requirements
	Hydrogen Sulphide (H <sub>2</sub> S)	Road, Rail or Marine Any quantity	Loss or Theft Any quantity	10 ppm or greater
	Hydraulic Oil	5, 5	Reporting Requirements	
	Methanol		ee Class 3 & 6.1	100 L on-site Any release off-site
	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
Other Released Substances	Drilling or Invert Mud		Reporting Requirements	
	Condensate		See Class 3	100 L on-site / Any release off-site
				200 kg or 200 L
	Glycol Fresh Water		Reporting Requirements	10.000 L
			Reporting Requirements	
	Any fluid with toxic substances	NOTDG	Reporting Requirements	25 L
Class 1 Explosives	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</b> Flammable Gases	Methane Propane Butane Natural Gas (see line 25 below) Compressed Air		Total quantity of 450 kg or more	10 kg
Class 2.2 Non-Flammable Gases	02 N2 CO2 SO2	Any quantity	No TDG Reporting Requirements	10 kg
Class 2.3 Toxic Gases (poisonous or corrosive)	Hyđrogen Cyanide Nitric Acid Anhydrous Ammonia		Any quantity	5 kg
<b>Class 3</b> Flammable Liquids	Gasoline Diesel Methanol Demulsifiers Scale Inhibitors		Total quantity of 450 kg or more of desensitized explosives Any quantity of UN1261, Nitromethane	100 L 100 L
			Total quantity of 450 kg or more of desensitized	
<b>Class 4.1</b> Flammable Solids	Calcium Resinate Naphthalene Crude		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	
Class 4.2 Spontaneously Combustible	Activated Carbon Potassium Sulphide Phosphorus		Total quantity of 450 kg or more in Packing Groups I or II	25 kg
Class 4.3 Dangerous when Wet	Molten Sulphur Calcium Carbide Sodium Activated Carbon		Total quantity of 450 kg or more in Packing Groups I or II	
<b>Class 5.1</b> Oxidizing Substances	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</b> Organic Peroxides	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
Class 6.1 Poisonous Toxic Substances	Arsenic Lead Acetate Mercuric Oxide Methanol Toxic Pesticides		Any quantity of Packing Group I	5 kg or 5 L
Class 6.2 Infectious Substances	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</b> Radioactive Substances	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"
Class 8 Corrosives	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
Class 9 Miscellaneous Products, Substances & Organisms, Environmentally Hazardous Substances	P.C.B. Asbestos Substances not regulated by the <i>Transportation of Dangerous</i> <i>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 k 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.

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



### 6.8 Hazardous Materials Spill

#### Initial Actions

- Always refer to the SDS.
- □ Safe approach from upwind, uphill, upstream, keep safe distance.
- Desition 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
- **D** 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.

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

ERAC will respond to emergencies involving the following products:

#### **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 of 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
- D 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, 0 furnaces / hot water heaters, static electricity, earthworks construction near escaping gas (e.g. stones/rocks being moved violently against other hard obiects).
  - Topography such low lying areas such as river valleys, coulees where plume / 0 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

Pi	peline 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

The following are <u>proposed</u> EPZ Distances for selected pipeline diameters are:

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 occuring 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 Medial 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: <u>https://www.getprepared.gc.ca/cnt/hzd/index-</u>

#### 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, (<u>https://weather.gc.ca/canada\_e.html</u>) 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.

- U 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,

<u>http://www.weatheroffice.gc.ca/forecast/canada/index\_e.html?id=AB</u> 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 hallwav.
- 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.
- Stav 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 finders 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.



# 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
  - o Motor Vehicle Accident
  - o 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)
  - o 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 EMBC 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/furtherinformation/office-chiefinspector#:~:text=In%20addition%20to%20the%20Office,Division%20(MCAD)%20share%20fi ve%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 w/Draegersorb
3	4	Kegs of Draegersorb	Y	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 recommend	ed 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	

# (ARC RESOURCES LTD.

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. <mark>M</mark> ine Rescue Competition Props		

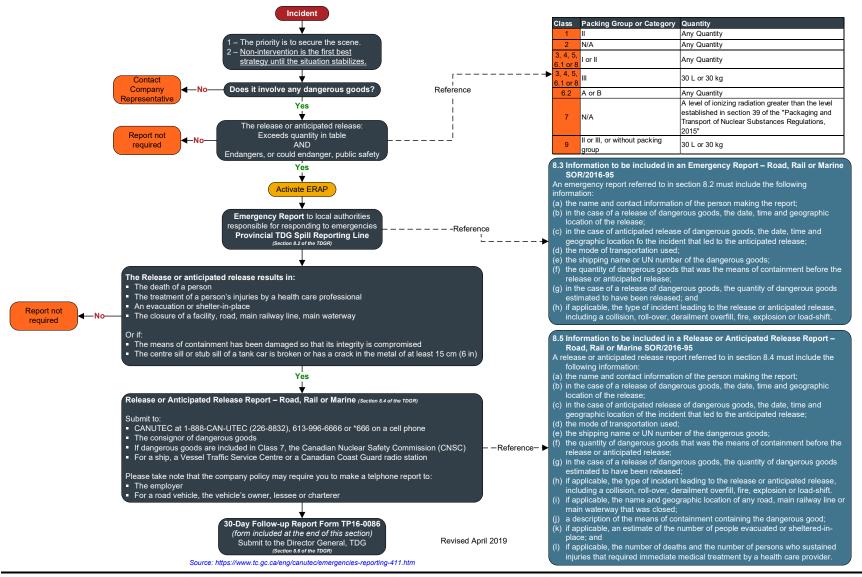
The contacts for obtaining this additional rescue equipment are listed below:

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



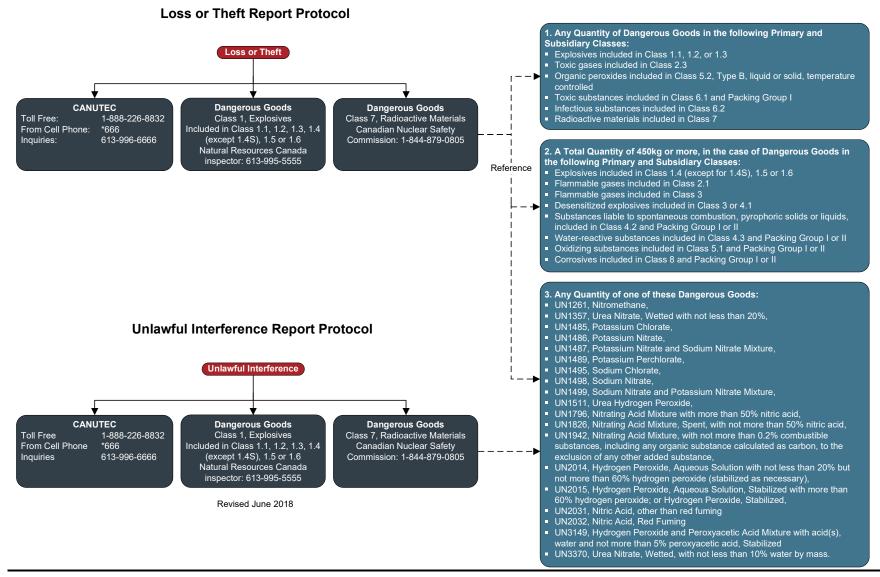
# 6.18 Transportation Incidents

First On-Scene Transportation (Road, Rail, Marine) Incident Flowchart





# Loss, Theft or Unlawful Interference Reporting Flowchart





# **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:

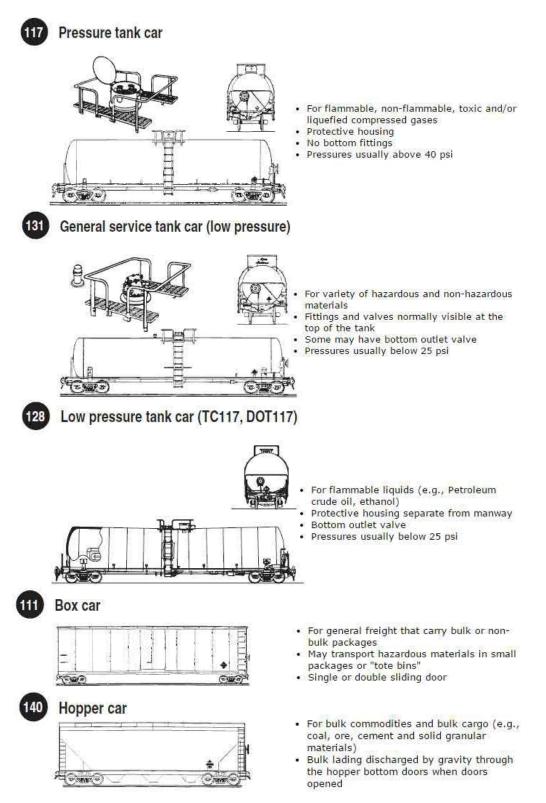
 Refer to Refer to Section 3: Government Agency Roles or Area Specific Information for contact information

# 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).

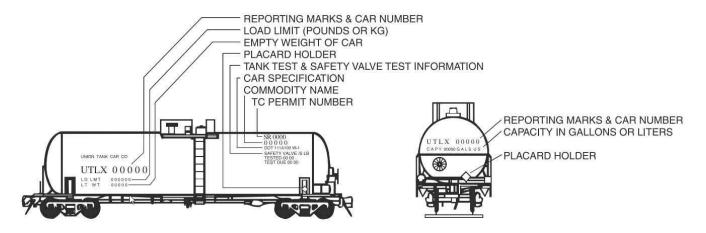


## **Rail Car Identification Chart**





# 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.

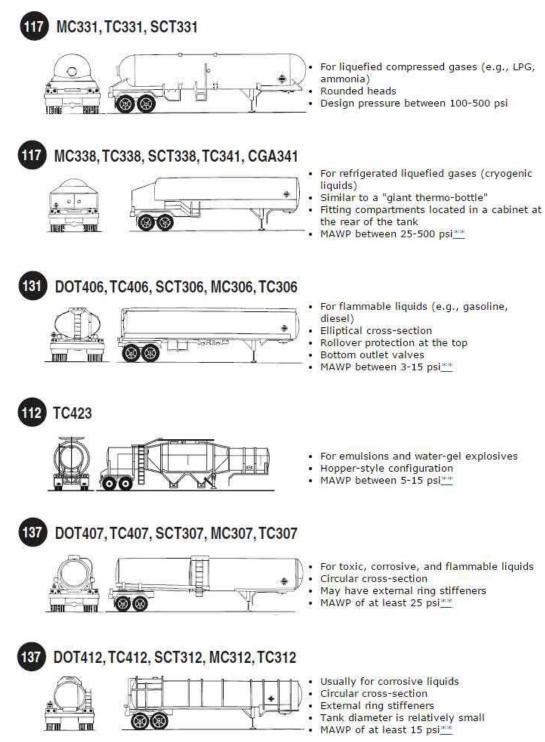
Source: 2020 Emergency Response Guidebook



# **Road Trailer Identification Chart**

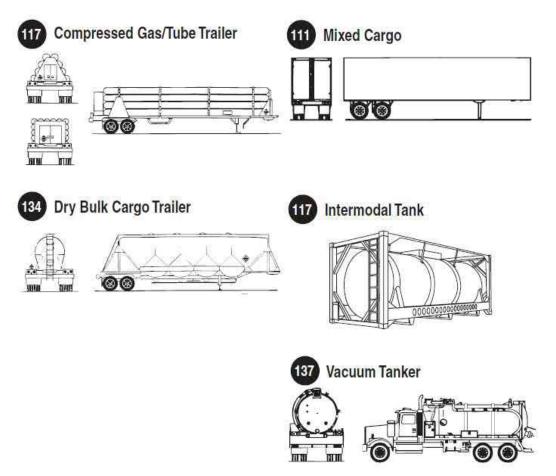
**WARNING:** Road trailers may be jacketed, the cross-section may look different than shown and external ring stiffeners would be invisible.

**NOTE:** An emergency shut-off value is commonly found at the fornt of the tank, near the driver door.





# Road Trailer Identification Chart, continued



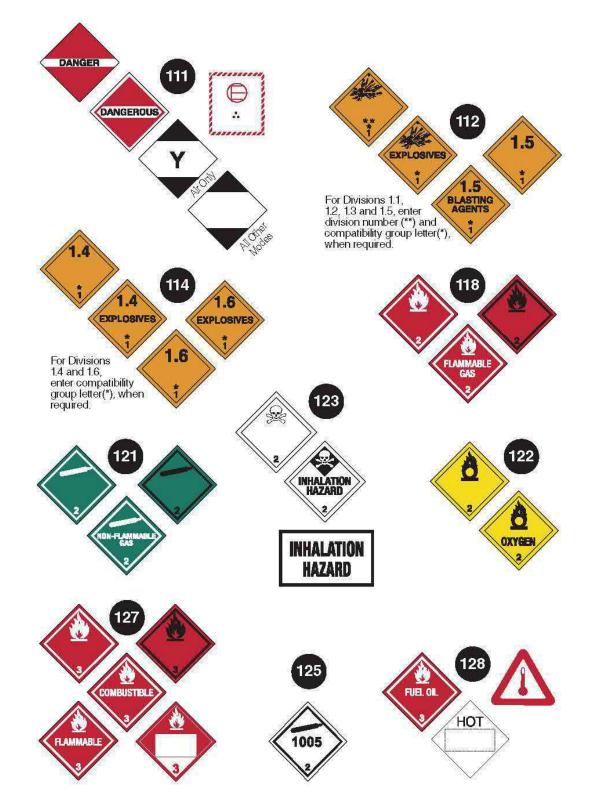
**CAUTION:** This chart depicts only the most general shapes of road trailers. Emergency response personnel must be aware that there are many variations of road trailers, not illustrated above, that are used for shipping chemical products. The suggested guides are for the most hazardous products that 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

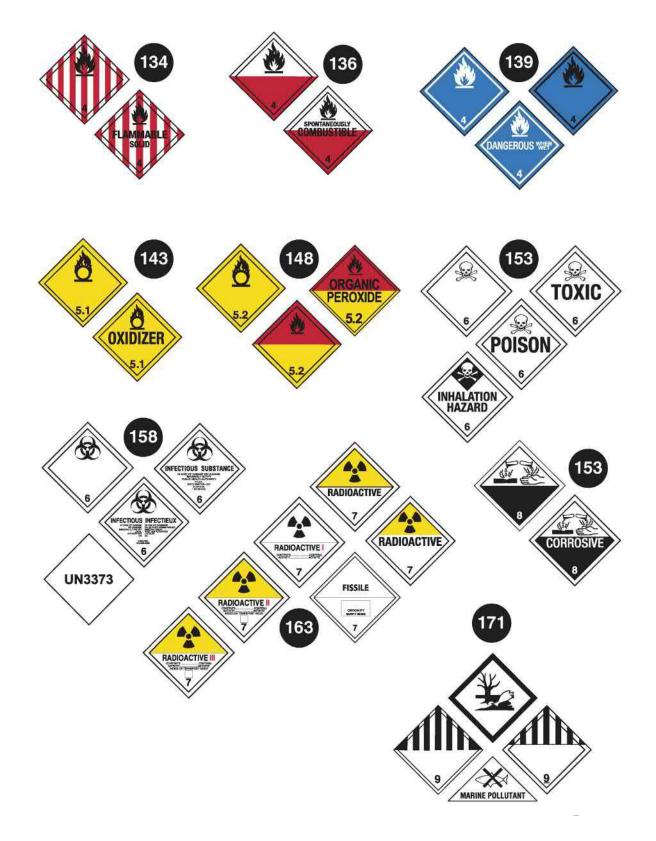


# Table of Markings, Labels and Placards





# Table of Markings, Labels and Placards, continued





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# TRANSPORTATION OF DANGEROUS GOODS 30-DAY FOLLOW-UP REPORT

PART I: REPORTING TIMELINE					
1. Please provide applicable date	s and check one box				AL USE ONLY
Date of initial report to CANUTE	EC (yyyy-mm-dd):			Road, Rail or	Marine Reports
30-Day Follow-up Report submi	ssion date (yyyy-mm-dd):				d Release
30-Day Follow-up Repor	t			Ŭ	
Update or amendment to	30-Day Follow-up Report			Air Report	- Caada Aasidast en Insident
Date original 30-Day F	Follow-up Report submitted	(yyyy-mm-dd):		O Dangerous	s Goods Accident or Incident
PART II: CONTACT INFORMATI	ION			1	
2. Information of the person comp	leting this report				
Consignor Consign	ee Carrier/Aircraft	Operator	Other		
First Name	Last Name		Title		
Telephone (999-999-9999)	Company Name				
Address			City		Province/Territory
Country	Postal Code (Z9Z 9Z9)	Email	1		1
3. Information on the Consignor, (	Consignee and Carrier/Aircr	aft Operator			
Consignor					
First Name	Last Name		Title		
Telephone (999-999-9999)	Company Name				
Address			City		Province/Territory
Country	Postal Code (Z9Z 9Z9)	Email			
Consignee First Name	Last Name		Title		
			The		
Telephone (999-999-9999)	Company Name				
Address	I		City		Province/Territory
Country	Postal Code (Z9Z 9Z9)	Email	•		
Carrier/Aircraft Operator					
First Name	Last Name		Title		
Telephone (000,000,0000)	Company Name				
Telephone (999-999-9999)	Company Name				
Address			City		Province/Territory
			-9		
Country	Postal Code (Z9Z 9Z9)	Email	1		
L					

PART III: INCIDENT INFORMATION				
4. Please indicate the date and time of t	the incident			
Date (yyyy-mm-dd)			Time (24-hour	r system)
5. Geographic location of the incident				
Address				
City	Province/Territory	Postal Cod	e (Z9Z 9Z9)	GPS Position
If the incident occured by rail, please inc	dicate the milepost and subdiv	ision		happened on First Nations Territory, please indicate the Territory
			name	
Origin of consignment			Destination of	consignment
	Some address as considered and co	200		
Same address as consignor	<ul> <li>Same address as consig</li> </ul>	nee		Iress as consignor Same address as consignee
Other (please provide address):				ase provide address):
6. Geographic Area (Check only one bo		_		
O Urban Mixed use – residential, commercial	I O Suburban Primary residential			es, agricultural lands O Wilderness/Remote
7. Mode of Transport (Check all applica	ble boxes)			
Road	Rail		Air	Marine
	7, please indicate the position	n of the ves	sel and the nex	t location at which the vessel will be at anchor or alongside a
fixed facility			Next location	
Position			Next location	
9. Phase of Transport (Check only one	boy			
	DOX)		Loodina	
Consignment moving between origin	n and destination		Consignment	ent is being packed or loaded into a means of transport at origin
Unloading			— Temporar	ry Storage
Consignment is being unpacked or	unloaded from a		Consignm	ent is in short term storage pending transportation
means of transport at destination 10. Type of Incident (Check all applicab	le boxes)			
Collision/Sideswipe	,		Derailmer	nt
Moving vehicles striking an object, a	animal, or another vehicle			aving the rail tracks
Ran off road			Overturn	
Vehicle enters a soft shoulder, ditch				rning on its side or upside down
Shifting of the consignment within a	vehicle		Dropped Means of o	containment falling unexpectedly
Struck			Other (PI	lease specify):
<ul> <li>Means of containment being struck</li> <li>Type of Release (Check all applicate)</li> </ul>				
			- Leak	
Quick, immediate discharge, emissi	on or escape			radic or continuous discharge, emission or escape
Explosion			Fire	
Violent sudden release of energy fro		ducing a		ubstances combined with oxygen to typically produce flame, heat
shock wave that may result in fragm	ient projection and/or fire ball		and smoke	e
			Vapour	
Boiling Liquid Expanding Vapour Ex	plosion		Dispersion	n in air of particles of a substance that is liquid or solid in its ate
Venting				ed Release
Controlled release of gas into the er	nvironment		Distressed	d means of containment that is not leaking, venting or otherwise
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			releasing i	its contents

12. Informat	tion on the Dangero	us Goods										
UN Number	Shippin Name		Primary Class	Subsidia Class(es		Before the	ntity in MOC Release or ed Release	Units (kg, L, etc.)	Estimated Quantity Released (if applicable)	Units (kg, L, etc.)		
13 Moone (	of Containment											
		the means of o	ontainment	tinvolved	in the incident by	, completing	the appropri	ate forms from	Annex E of the Guide (T	D15204)		
						, completing				110204)		
	uences of the incide	ent (Check all ar	oplicable b	oxes)								
	er to the Guide for m				this section							
Human		(e.g. product lo				vironmental	(e.a. contam	ination of wate	rway, ground, air)			
	tion of people and b		-	, oquipino			(o.g. contain					
Was there a	an Evacuation as a r	esult of the inci	ident?	) Yes	○ No							
	Shelter in place as a			) Yes	◯ No							
	se complete the follo				$\bigcirc$							
			Residence		Public Buil		v	/orknlace	Public (Outsi	da) Araas		
		Includes ho buildings us			Includes libraries, hospitals, churches, government		Workplace Includes warehouse,		, Includes parks,	olaygrounds,		
Dunungs		(e.g. Retire			buildings,		fa	acility, etc.	parking lot	s, etc.		
Estimated number of people evacuated												
Estimated n sheltered in	n <b>place</b>											
Estimated n buildings e	vacuated											
Size of Eva	cuation area (square	e meters)	Dui	Duration of Evacuation (hours)				Duration of Shelter in place (hours)				
16. Injuries	and/or deaths											
Were there	any injuries and/or o	deaths?	Yes (pleas	e complet	e the following ta	able) (	) No					
Minor Injur	ies 🔿 Yes	◯ No										
Number of	injured requiring i	mmediate first	aid treatn	nent at the	e scene							
Attributed to	Dangerous Goods		Attr	Attributed to incident				Total				
Moderate I	njuries Ves	◯ No	I									
Number of	injured requiring i	mmediate eme	ergency tre	eatment ir	n hospital and r	elease short	ly after					
Attributed to Dangerous Goods		Attr	Attributed to incident				Total					
Major Injur	ies 🔿 Yes	() No	I									
	injured requiring i	mmediate trea	tment with	h overnigi	ht hospitalizatio	on						
Attributed to	Dangerous Goods		Attr	ributed to i	incident			Total				
Deaths	() Yes	◯ No										
Number of	0	$\bigcirc$										
	Dangerous Goods		Attr	ributed to i	incident			Total				

17. Please indicate an estimate	e of costs in Canadiar	dollars associated	with the i	incident, as applicable			
NOTE: Refer to the Guide for r	more information on h	ow to fill this section	l				
	nage incurred by carrier	Property damage		mergency response ost	Clean-up	cost	Total cost
18. Infrastructure closure and o	duration (please use a	dditional sheets for I	multiple (	closures)			
Was there an infrastructure clo	osure as a result of the	incident?	Yes	🔿 No			
If Yes, please complete the fol	llowing table	_		-			
		Туре					ation of the closure (in hours)
Aerodrome – Area of land movement or servicing of a therewith							
Air cargo facility – Facility	y used to receive or tra	ansfer cargo carried	or to be	carried by an aircraft			
<b>Facility</b> – Permanent or te dangerous goods	mporary building or a	portion of a building	or equip	ment used in loading or	r unloading	of	
<b>Railway –</b> Tracks used by	trains						
Waterway – Navigable boo	dy of water through wl	nich a ship or boat ca	an move				
<b>Roadway</b> – The strip of lar multiple lane freeway	nd over which motor v	ehicles circulate, suc	ch as dirt	t road, numbered provin	ncial highwa	ay or	
Runway – the strip of grou	und on a landing field	hat aircraft use for la	anding o	r takeoff			
19. Geographic location of clos	sure						
Address							
City	Province/Te	erritory	Postal (	Code (Z9Z 9Z9)	GPS Posif	tion	
If the incident occured by rail, p	please indicate the mi	epost and subdivision	on	Name of facility, road,	railway or v	vaterway	
20. ERAP Requirements							
Was an ERAP required under	Part 7 of the <b>Transpo</b>	rtation of Dangerou	us Good	Is Regulations?	⊖ Yes	🔘 No	
If Yes, please complete the fol	llowing table						
ERAP Reference Number		ERAP I	Holder				
Address							
O't.	Dere in es /T				<u> </u>	Talanhanaaft	
City	Province/Te	erritory		Postal Code (Z9Z 9Z9)	)	I elephone of E	ERAP Holder (999-999-9999)
Email			I				
Level of Response (check all the	hat apply)						
No response First	responders on scene	Phone call to	D ERAP I	holder Employe	e from ER/	AP 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

anad



# 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 (Z246.1-17), 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 EOC Director.



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 coworker 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**

	Threat Description		osives (TNT alent) <sup>1</sup>	Build Evacu Dista	ation	Outdoor Evacuation Distance <sup>3</sup>		
	Pipe Bomb	5 lbs	2.3 kg	70 ft	21 m	850 ft	259 m	
f)	Suicide Belt	10 lbs	4.5 kg	90 ft	27 m	1,080 ft	330 m	
ivale	Suicide Vest	20 lbs	9 kg	110 ft	34 m	1,360 ft	415 m	
(TNT Equivalent)	Briefcase/Suitcase Bomb	50 lbs	23 kg	150 ft	46 m	1,850 ft	564 m	
ENE)	Compact Sedan	500 lbs	227 kg	320 ft	98 m	1,500 ft	457 m	
sives	Sedan	1,000 lbs	454 kg	400 ft	<mark>1</mark> 22 m	1,750 ft	534 m	
kplos	Passenger/Cargo Van	4,000 lbs	1 814 kg	640 ft	195 m	2,750 ft	838 m	
High Explosives	Small Moving Van/ Delivery Truck	10,000 lbs	4 536 kg	860 ft	263 m	3,750 ft	1 143 m	
T	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	

#### Improvised Explosive Device (IED) SAFE STAND OFF DISTANCE



## 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.

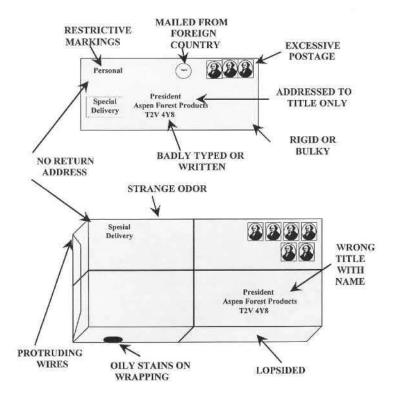
## Suspicious Packages

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.
- Accredit 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 <u>contact@cyber.gc.ca</u> or by phone at

1-833-292-3788.

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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):

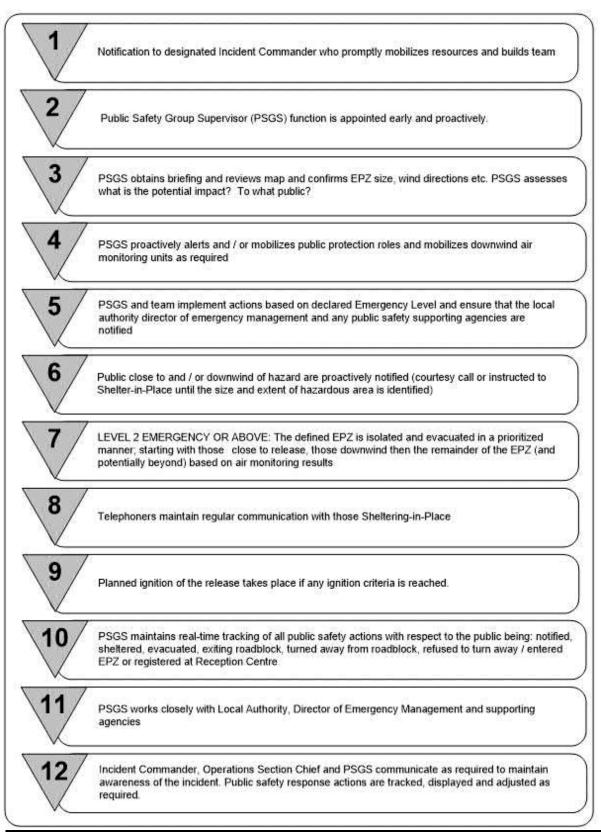
- Area Isolation setting up roadblocks or barriers
- □ Evacuation contacting public and recommending evacuation away from the area and assisting them evacuate as required
- □ Shelter-in-Place contacting public and recommending that they close all windows and doors and take shelter indoors until airborne 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



## 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.

AER e.g. fo	Expectations in regard to Public Protection Measures or Sour Gas and / or HVP Incidents
ALER	Т
	Courtesy notification to the public, at ARC's discretion If public or media is contacted, ARC must notify AER Alert mobile monitoring equipment and be ready for a callout or mobilize monitoring equipment if location is remote Prepare for evacuation in case of escalation of the situation
LEVE	L 1 - No danger to public outside ARC's property
	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. 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. 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. Mobilize mobile monitoring equipment If residents are contacted, ARC (Liaison Officer) must notify the Local Authority and/or First Nations and consider notification to Alberta Health Services 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.



#### 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.
- Lt 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.
- Let 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, 0 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.
- $\Box$  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  $H_2S$  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 OGC Emergency Criteria and Action Plans to classify and report an incident to the Oil and Gas Commission and EMBC. The OGC has specifically listed the <u>mandatory</u> actions that ARC must take for each Emergency Level. These BC OGC mandatory actions are listed in the following table.

OGC Expectations in regard to Public Protection Measures e.g. for Sour Gas and / or HVP Incidents		
Level 1: Potential Emergency	<ul> <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 OGC and EMBC 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> <li>Ensure all Level 1 actions are taking place and are completed</li> <li>Update OGC &amp; EMBC 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 OGC'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> <li>Ensure all Level 1 and 2 actions are taking place and are completed</li> <li>Update OGC &amp; EMBC 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 OGC and EMBC 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.

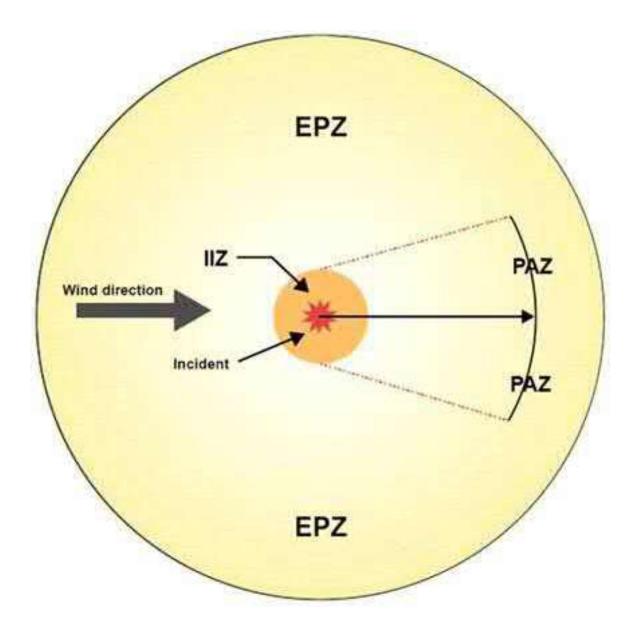
Immediately following a release of H<sub>2</sub>S or HVP product, the approximate size and direction of the PAZ may be determined if actual conditions data is available.

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.



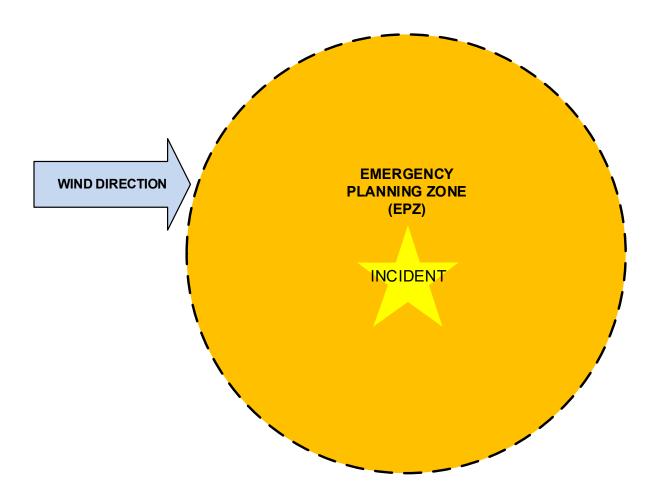
The AERH2S program calculates the Emergency Planning and Response Zones, starting from the closest residence to the well/pipeline and moving outwards, based on the following:

- 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





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#### 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 ad 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.

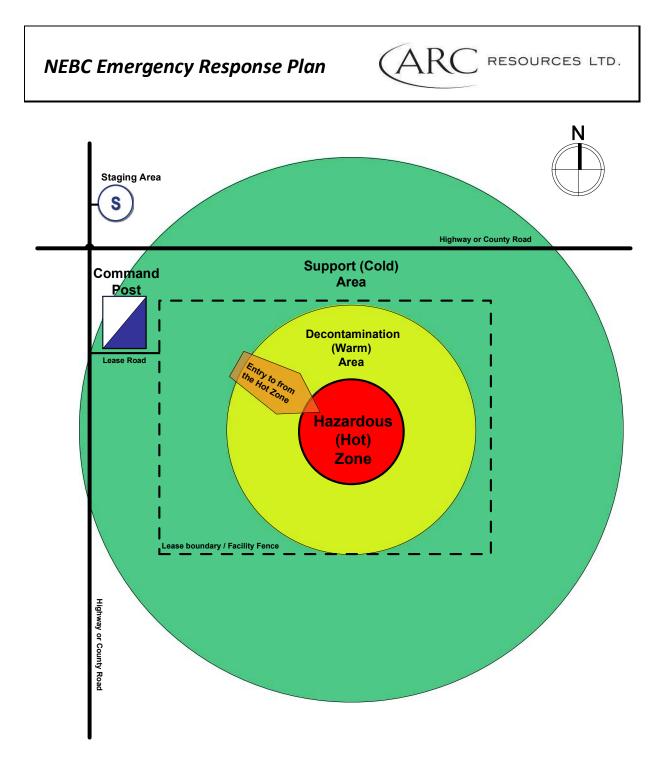
Only personnel with appropriate training and an understanding of the specific response and control procedures will be allowed entry into the Hazardous (hot) Area.

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;
- SO<sub>2</sub> readings of 5 ppm or greater;
- Oxygen content of less than 19.5% or greater than 22%;
- 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 area 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 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 guickly identifying the specific or generic hazards of the material(s) involved in the incident.

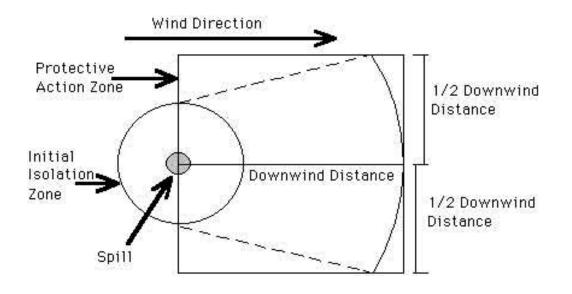
- Includes general information to protect themselves and the public during the initial response phase of the incident.
- Provides guidance about the initial isolation and protective action distances to • protect those closest to the hazard first and then those who are downwind.
- Is a practical, proven 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.



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## 7.7 Roadblocks

ARC

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:

- Given Stares, 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.



Air quality monitoring is used for tracking the presence and concentrations of  $H_2S$  during a sour gas release and  $SO_2$  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  $H_2S$  and  $SO_2$  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  $H_2S$  and  $SO_2$  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  $H_2S$  and  $SO_2$  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 – BC OGC Requirements

	Level 1	Level 2	Level 3
	Emergency		
Sour Well	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.
Special Sour Well	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.
Production facilities containing sour gas	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.
-	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.			

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## 7.9 Shelter-in-Place Criteria

ARC

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 though 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:

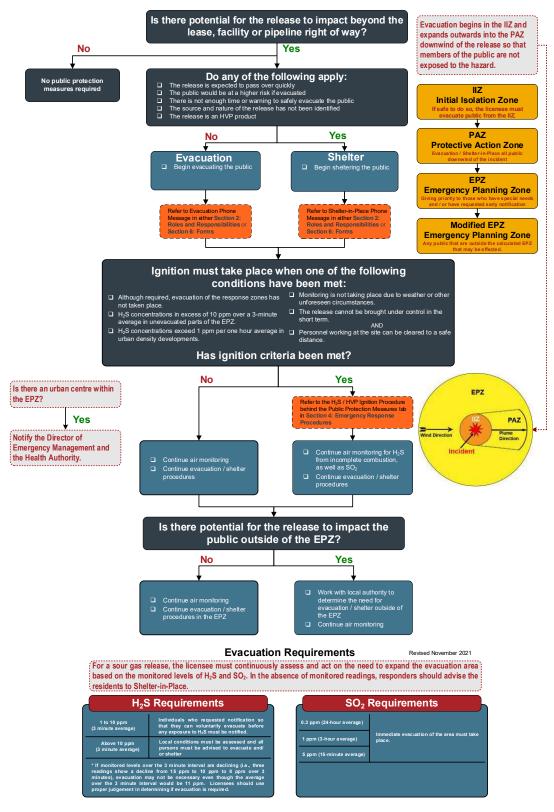
- The size and expected duration of release;
- Egress routes;
- Current and expected meteorological conditions; and
- Potential for unexpected ignition.

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.

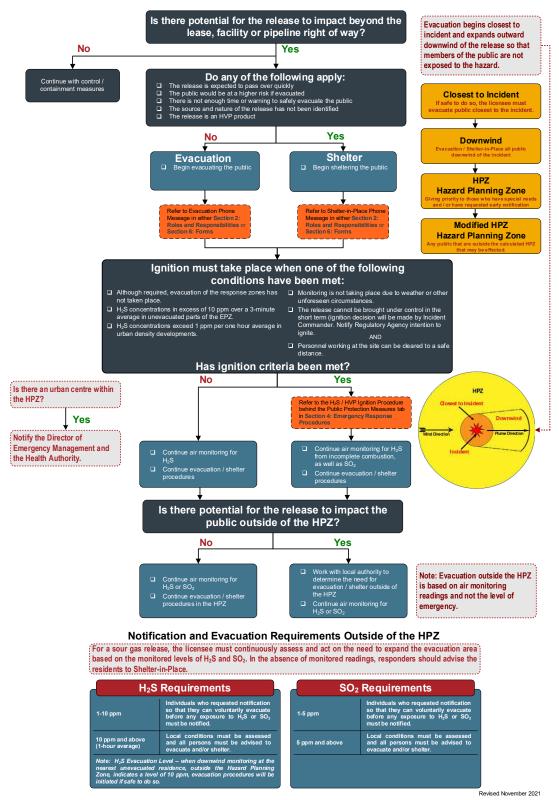


## 7.12 Public Protection Measures Flowchart – Alberta





## 7.13 Public Protection Measures Flowchart – British Columbia





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## 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  $H_2S$  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;  $H_2S$  and  $SO_2$  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  $H_2S$  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.

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 $H_2S$ 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	

**Evacuation Requirements – Alberta** 

determining if evacuation is required.

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SO <sub>2</sub> Concentrations In Unevacuated Areas	Requirement	
5 ppm (15-minute average)		
1 ppm (3-hour average)	Immediate evacuation of the area must take place.	
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**

British Columbia Notification and Evacuation Requirements outside the EPZ in Un-evacuated Areas			
H₂S Concentrations	Requirement		
1 – 10 ppm	Individuals who requested notification so that they can voluntarily evacuate before any exposure to $H_2S$ of $SO_2$ 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.			
SO <sub>2</sub> Concentrations	Requirement		
1 – 5 ppm	Individuals who requested notification so that they can voluntarily evacuate before any exposure to $H_2S$ or $SO_2$ 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  $H_2S$  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  $H_2S$  from incomplete combustion, as well as  $SO_2$ .

## 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  $H_2S$  is ignited, it is converted to  $SO_2$ . The heat of combustion carries the  $SO_2$  gases high into the atmosphere. The resulting  $SO_2$  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  $H_2S$  or  $SO_2$  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
- $\Box$  Monitoring results indicate H<sub>2</sub>S concentrations in excess of 15 parts per million (ppm) for 15 minutes in unevacuated areas
- $\Box$  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 OGC 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 0 CANNOT be accomplished; or
  - Monitoring results indicate H<sub>2</sub>S levels of 15 ppm for 15 minutes in 0 unevacuated areas; or
  - Monitoring is not taking place due to some unforeseen circumstances, such 0 as bad weather or communication breakdown.
  - Monitored  $H_2S$  concentrations exceed 1 ppm (1-hour average) in urban 0 density developments.
- □ For special sour wells, as determined by OGC 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

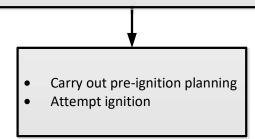
#### During a release of H<sub>2</sub>S assess the following:

- 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  $H_2S$  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.





#### **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).
- $\Box$  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.

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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.

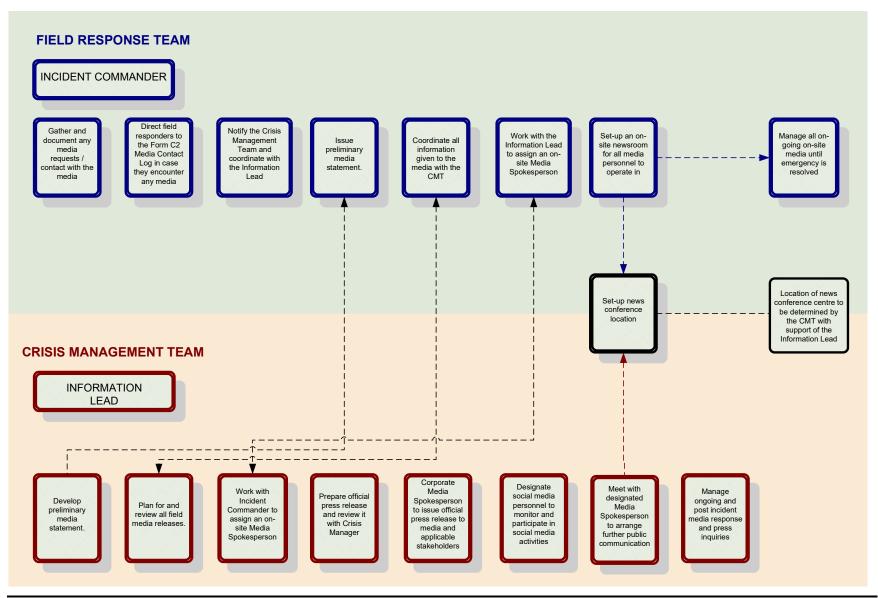
Media releases must be generated and released as significant developments occur. ARC will coordinate all media releases with the AER/OGC prior to release to ensure consistency and accuracy of information.

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

ARC

- 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**

ARC

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 nonmedia 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> <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> <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>

# NEBC Emergency Response Plan



Information Lead	To the general public – during an incident	<ul> <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> <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".

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- 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

ARC

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.

**NEBC Emergency Response Plan** 



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:

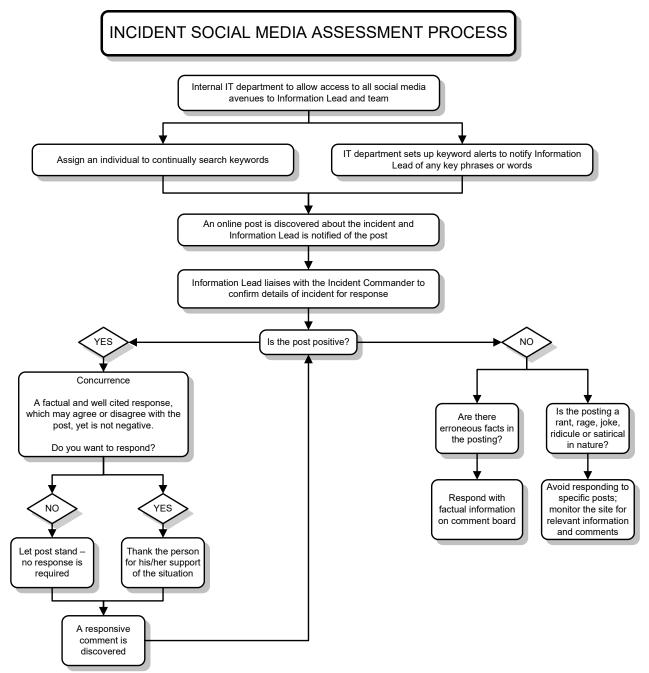
- Responding in a timely manner will show users that ARC cares about the incident and is performing to the best of its abilities in response to the emergency.
- Ensure you do not delete any posts, instead respond with the facts; it will seem suspicious if you delete posts (only delete them if they are 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



NEBC Emerge	ncy Res	sponse	Plan
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# 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 responsible environment. The cause of the incident has not been confirmed but ARC with 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 pas information on to our Information Lead.	ss this

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	( <i>time)</i> on		(date)
a		(nature	of accident) occurred
at the ARC Resources	(plan	t, well site, pipeline) l	ocated approximately
	km (east, west,	south, north) of	(nearest town)
The	(plant, well site,	<i>pipeline)</i> has been sh	ut down and isolated.
ARC Resources has activated it	s Emergency Response	e Plan to protect the <sub>l</sub>	public, our
employees and the environme	ent.		
Presently, (number	of) people are being tr	eated for injuries.	
The names and condition of th	e injured are not being	g released at this time	2.
The cause of the (n	ature of accident) is no	ot yet known and we	don't have an
estimate of damage. A subsec	quent investigation ma	y determine those fac	cts.
ARC Resources will release fur	ther information as it t	pecomes available.	
You can contact our Media Spo	okesperson in Calgary a	at	
(Phone number or m	nain Calgary Office Swi	tchboard Number 403	3-503-8600

# **NEBC Emergency Response Plan**



# 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 guickly 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"

Reporters Name	
Media Affiliation	
Phone Number	
Fax Number	
Deadline	
Information Requested:	

*"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 Oil and Gas Commission 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:

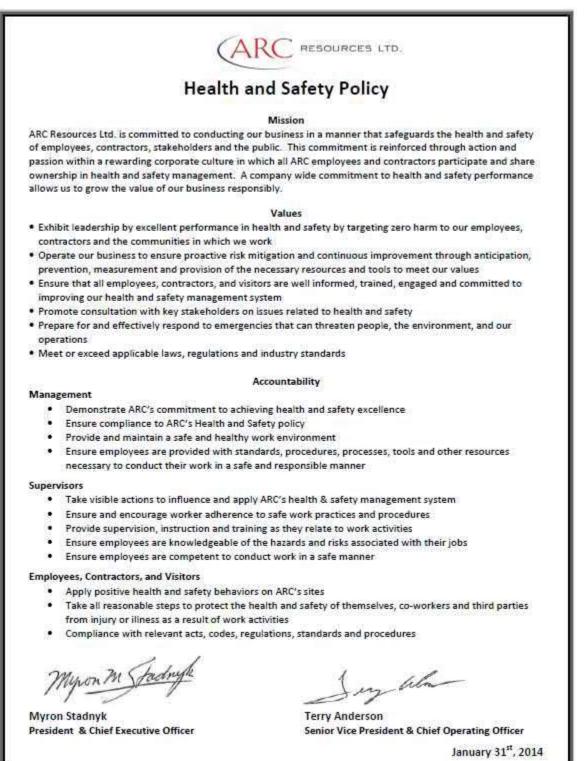
- Medical Emergency ٠
- Motor Vehicle Accident •
- Sour Gas Release •
- Fire / Explosion •
- Petroleum Spill
- Hazardous Materials Spill •
- **CEPA Product Environment Release** •
- LPG Release •
- NGL Release •
- **HVP** Release •
- Notification of Next-of-Kin •
- Natural Hazards •
- Wildlife Encounter •

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 ARC Health and Safety Policy

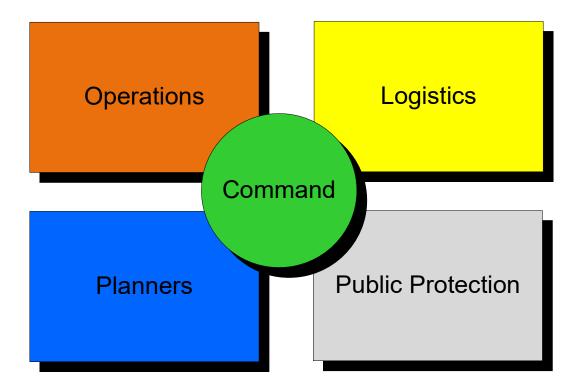




# 9.4 Incident Command System

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.

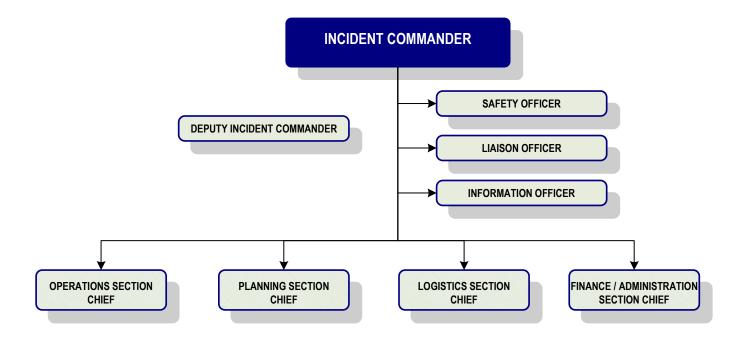
**Information Lead** – is the point of contact for the media, or other organizations seeking information directly from the incident or event. Communications / Media assumes the responsibility of managing all media issues. Also handles all general public concerns, including all community relations issues. 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.



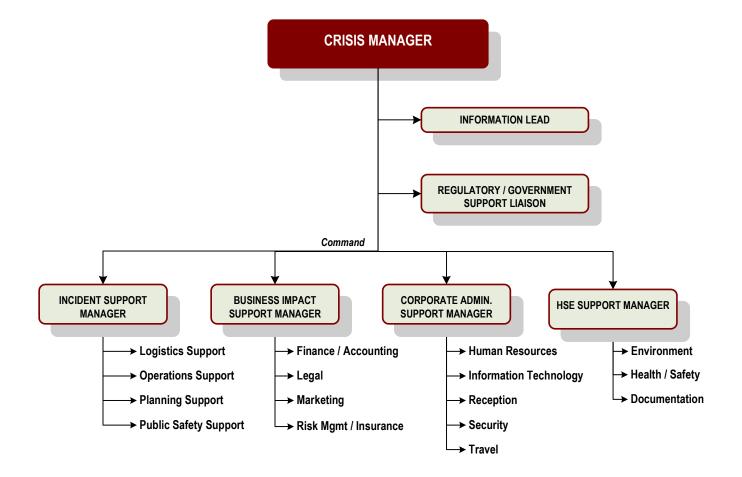
# 9.7 Field Response Team Organization



- 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
On-site	This is where the Operations Section Chief works from to manage all on-site Control and Containment operations	<ul> <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> <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>
Staging Area	<ul> <li>Where tactical response resources are stored while awaiting assignment.</li> </ul>	<ul> <li>Resources in the staging area are under the control of the Logistics Lead and / or Staging Manager.</li> </ul>	<ul> <li>Close proximity to or at the incident site outside the present or potential hazard zone.</li> </ul>
Incident Command Post / Centre	<ul> <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> <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> <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>
Calgary Emergency Operations Centre	<ul> <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> <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> <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>

# NEBC Emergency Response Plan



Facility	Purpose	Key Activities	Location
Reception Centre (As part of a site- specific plan. This must be considered if an incident could require temporary relocation of the public.)	<ul> <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> <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> <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>
by the lead regulate oversee the respon responses into a si	ory agency, municipal gove use (as follows). Regulators ingle regional emergency o	e incident, up to 3 additional cer ernment, and the provincial gove s encourage combining industry perations centre (REOC). It is in ivated government MEOC or EO	ernment to support and and municipal nportant to assign and
Municipal Emergency Operations Centre (MEOC)	<ul> <li>Municipal EOC Team         <ul> <li>established by municipality with responsibility for emergency management – e.g. County / MD</li> </ul> </li> </ul>	<ul> <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> <li>MEOC location varies depending on jurisdiction</li> <li>Location of local government representatives, ARC representative</li> </ul>
Regional Emergency Operations Centre (REOC	<ul> <li>Established by lead agency personnel</li> <li>Local government</li> <li>Health authority</li> <li>Provincial government departments</li> </ul>	<ul> <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> <li>Regional EOC / PMIR established close to the incident site; or</li> <li>May co-locate with ARC (Incident Command Post)</li> </ul>



# NEBC Emergency Response Plan

Facility	Purpose	Key Activities	Location
Alberta Emergency Management Provincial Operations Centre (POC)	• Established by Emergency Management Alberta, as required	<ul> <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> <li>Alberta – POC, Edmonton</li> <li>Location of lead agency, provincial government departments, federal government departments (if appropriate), and an ARC representative.</li> </ul>
EMBC Provincial Emergency Coordination Centre (PECC)	• Supports the activities of the Provincial Regional (PREOC) and the Local Authority`s EOC.	<ul> <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>	• Victoria



# 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 sire map:
  - Location of photographer
  - Direction if view of photographer and
  - Area captured in photograph

#### Internal Debriefing

ARC

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.

**NEBC Emergency Response Plan** 



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 oneon-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 five (5) 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 OGC Notification of Facility / Producing Well Start-Up / Modification Meeting form is used by permit holders to notify the Commission 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 ≥ 250kw, Dehydration Facilities, Multi-well Oil Batteries, Treatment, Recovery, Disposal (TRD) & Waste Management Facilities, LNG Facilities, Wells/ Facilities with ≥ 5% H2S or upon request by OGC.

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 OGC an Operator Incident Summary Report.

### 9.13 Training, Drills and Exercises

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 schedules 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 Oil and Gas Commission). 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 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.

 $H_2S$  and  $SO_2$  are chemicals commonly encountered in sour gas operations. In Canada, several communication packages have been published containing different, but not contradictory, information about  $H_2S$  and  $SO_2$ . 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  $H_2S$  and  $SO_2$ .

#### 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.

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

#### Worker Exposure Limits for H<sub>2</sub>S - Provincial OHS Regulations / Codes

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, <a href="http://www.atsdr.cdc.gov">http://www.atsdr.cdc.gov</a>). 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

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.

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.

3 American Conference of Governmental Industrial Hygienists

4 Ceiling Limit: the concentration of a substance in air which may not be exceeded at any time during the work period.



# 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).	
Over 10 ppm, Protective Equipment is Necessary		
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>

 $SO_2$  gas is an irritant gas which results from the burning of  $H_2S$  gas.  $SO^2$  gas is more toxic than  $H_2S$ ; 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

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	
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.		
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.		
3 American Conference of Industrial Hygienists		

#### **Occupational Exposure Guidelines for SO<sub>2</sub>**

Concentration SO₂ 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).

#### Acute Health Effects of Sulphur Dioxide (SO<sub>2</sub>) (Alberta Regulations)

<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)

Concentration SO <sub>2</sub> in Air (ppm)	Description of Potential Health Effects
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

Adjacent to	Within 25 m.
Air quality monitoring	Measurement of atmospheric concentrations of a hazardous substance, such as $H_2S$ or $SO_2$ .
Alberta Energy Regulator (AER)	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.
Alert (Alberta specific)	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.
Auto-ignition temperature	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.
Best practices	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.
Body of water	Streams, lakes, and rivers.
Boiling Liquid Expanding Vapour Explosion (BLEVE)	Boiling Liquid Expanding Vapour Explosion, which is associated with natural gas liquids and high vapour pressure liquids.
Boiling point	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.



British Columbia Oil and Gas Commission (OGC)	The OGC is the lead agency for all regulated oil and gas related activities within British Columbia.
British Columbia Emergency Management (EMBC)	Aids local governments in analyzing hazards and risks, develop and test emergency plans, train and organize emergency staff and volunteers. EMBC also manages all agencies in the event of an emergency or disaster, which cannot be handled locally.
(British Columbia specific)	
Businesses	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.
Closure order (British Columbia specific)	When the OGC 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 commission may make an order in writing setting out and delimiting the closed area. For Alberta see Fire Hazard (FH) Order.
Corporate Emergency Response Plan	This Emergency Response Plan is to facilitate a co-ordinated response by company executive and management personnel to an emergency situation, which may affect the company or its affiliated companies. The Corporate Emergency Response Plan is an integral part of all site-specific company Emergency Response Plans and procedures.
Crisis Manager	The Crisis Manager activates the Corporate Emergency Operations Centre with staff to provide advice and support to the Incident Commander (Field Response Team).
	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.
Crisis Management Team	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.

Critical Incident Stress Debriefing (CISD)	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.
Critical sour well (Alberta specific)	A well with an H2S release rate greater than 2.0 m3/s or wells with lower H2S release rates in close proximity to an urban centre as defined in ID 97-6: Sour Well Licensing and Drilling Requirements.
Emergency	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.
Emergency Awareness zone (EAZ)	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).
(British Columbia Specific)	
Emergency Operations Centre (EOC)	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 (POC).
Emergency Planning Zone (EPZ)	The geographical area that surrounds a well, pipeline or facility containing hazardous product that requires specific emergency response planning by the licensee.
Emergency Response Plan (ERP)	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
ERCBH2S (Alberta specific)	A software program that calculate site-specific EPZs using thermodynamics, fluid dynamics, atmospheric dispersion modelling and toxicology.



Evacuation	Organized, phased, and supervised withdrawal of members of the public from dangerous or potentially dangerous areas to safe areas. 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.
	Planned Evacuation – An evacuation coordinated by local government authority that can authorize evacuation alerts and orders.
Explosive Limits(Lower and Upper)	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.
Facility	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.
Field Response Team	Company and contractor personnel directly involved in controlling the incident at the emergency site and from the EOC.
Fire Hazard (FH) Order (Alberta specific)	An order issued by the AER during an emergency to restrict public access to a specified area.
Gathering system	The network of pipelines, pumps, tanks, and other equipment that carries oil and gas to a processing plant or to other separation equipment.
Hazard	A situation with potential to harm persons, property, or the environment.



Hazard Planning Zone (HPZ) (British Columbia specific)	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.
Hazardous product	A substance released in quantities that may harm persons, property, or the environment
High Vapour Pressure Liquids (HVPLs)	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.Note:ComparisonsGasoline -Vapour pressure between 55 and 100 kPa at 38°C (8 - 14.5 PSIG@ 100°F).@ 100°F).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).
High Vapour Pressure (HVP) plume dispersion geometry	<ul> <li>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: <ol> <li>The downwind edge of the plume tends to spread out significantly forming a broad frontal edge.</li> <li>Under certain conditions, the plume will travel upwind for a short distance.</li> </ol> </li> </ul>
High Vapour Pressure (HVP) pipeline	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.
High Vapour Pressure (HVP) products	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.



Hydrogen sulphide (H2S)	<ul> <li>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. H2S is colourless, has a molecular weight that is heavier than air, and is 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:</li> <li>Heavier than air (dense), so it will tend to drop towards the ground with time,</li> <li>Lighter than air (buoyant), so it will tend to rise with time, or</li> <li>About the same weight as air (neutrally buoyant), so it will tend to neither rise nor drop but with time disperse.</li> </ul>
Hydrogen sulphide (H2S) release rate	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 (m3/s). The size of the emergency planning zone is estimated from the H2S release rate.
Hydrogen sulphide (H2S) release volume	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 H2S 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.
Hyper- susceptible	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.
Ignition	Process of setting a hydrocarbon release on fire.
Ignition Team	Consists of at least two personnel trained in plume ignition.
Incident	An unexpected occurrence or event that requires action by emergency personnel to prevent or minimize the impacts on people, property, and the environment.



Incident classification	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.
Incident Command Post (ICP)	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.
Incident Commander	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.
Incident Command System (ICS)	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.
Initial Isolation Zone (IIZ)	An area in close proximity to a continuous hazardous release where indoor sheltering may provide limited protection due to proximity of release.
Incident Management System	A system used to coordinate preparedness and incident management.
Isolating the release	Ensuring access to the hazard area is controlled.
Level 1 Emergency (Alberta specific)	There is no danger outside the licensee's property, there is no threat to the public, and there is minimal environmental impact. The situation can be handled entirely by licensee personnel. There will be immediate control of the hazard. There is little or no media interest.
Level 1 Emergency (British Columbia specific)	There is no immediate danger to the public or environment as no H2S has been released; the emergency is confined to the lease or company property.



Level 2 Emergency (Alberta specific)	There is no immediate danger outside the licensee's property or the right-of-way, but there is the potential for the emergency to extend beyond the licensee's property. Outside agencies must be notified. Imminent control of the hazard is probable but there is a moderate threat to the public and/or the environment. There may be local and regional media interest in the event.
Level 2 Emergency (British Columbia specific)	There is potential risk to the public or environment, as the emergency could extend beyond company property. However, control is still possible.
Level 3 Emergency (Alberta specific)	The safety of the public is in jeopardy from a major uncontrolled hazard. There are likely significant and ongoing environmental impacts. Immediate multi agency municipal and provincial government involvement is required.
Level 3 Emergency (British Columbia specific)	An immediate danger to the public or environment exists; control of the situation has been lost.
Licensee	The responsible duty holder as specified in legislation.
Liquid to gas expansion	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.
Liquefied Petroleum Gas (LPG)	Mixture of heavier, gaseous hydrocarbons (butane and propane), liquefied as a portable source of energy.
Local Authority	<ul> <li>A local authority is considered to be:</li> <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 par 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> </ul>
Local State of Emergency	See State of local emergency.

Lower Explosive Limit (LEL)	The lowest concentration of gas or vapour (per cent by volume in air) that explodes if an ignition source is present at ambient temperatures.
Manitoba Growth, Enterprise & Trade – Petroleum Branch	The Manitoba Growth, Enterprise & Trade – Petroleum Branch administers The Mines and Minerals Act and related regulations governing the exploration, development, production, transportation and storage of crude oil and natural gas.
M.D.	Municipal District
Major (full- blown) exercise	As described in CAN/CSA-Z731-03, an exercise involving emergency response agencies and the licensee that entails the deployment of all resources required to test the licensee's ERP. It is intended to provide a realistic simulation of an emergency response.
Maximum Operating Pressure (MOP)	The maximum licensed operating pressure for a vessel or pipeline or a section of it.
On-site command post (OSCP)	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.
Partially controlled flow	A restricted flow of product at surface that cannot be shut off at the licensee's discretion with equipment on-site.
Personal consultation	Consultation through face-to-face visits or telephone conversations with all requisite individuals.
Petroleum industry	Refers to all petroleum industry operations.
Plume (gas plume)	An elongated mobile column of gas or smoke.
Protective Action Zone (PAZ)	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.
Protective Action Distance (PAD)	The distance from the incident to the EPZ outer boundary.



Provincial Operations Centre (POC)	An operations centre with the capacity to accommodate representatives from each government department.
Public	The group of people who may be or 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).
Public facility (Alberta specific)	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.
Public protection measures	The use of sheltering, evacuation, ignition, and isolation procedures to mitigate the impact of a hazardous release on members of the public.
Public Safety Group Supervisor	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.
Publicly used development (Alberta specific)	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).
Publicly used facility (British Columbia specific)	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 OGC may designate as a public facility.
Publicly used facility	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.



Reception centre 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.	
	n
Regional Emergency Operations Centre (REOC)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.	
Residence         A dwelling that is occupied full time or part time.	
Resident         Individual living in the area at a fixed location.	
Resident data recordForm used to track the contact made with residents, businesses and transients.	
Response zones (Alberta specific)The Initial Isolation Zone (IIZ), Protective Action Zone (PAZ) and Emergency Planning Zone (EPZ).	
Roadblock CrewPersonnel 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.	
Rover KitA briefcase containing maps, forms, supplies and instructions needed by the Rover to carry out their duties.	
S.A.B.A. Supplied Air Breathing Apparatus.	
S.C.B.A. Self-Contained Breathing Apparatus.	



Serious injury	A serious injury includes the following:		
	<ul> <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>		
Shelter-in-Place	Remaining indoors for short-term protection from exposure to toxic gas releases.		
Sour gas	Natural gas, including solution gas, containing hydrogen sulphide (H2S).		
Sour gas release	An uncontrolled release of natural gas containing hydrogen sulphide (H2S).		
Sour multiphase product (British Columbia specific)	Any liquid that contains H2S in the gas phase.		
Sour multiphase pipeline (British Columbia specific)	A pipeline that transmits a multiphase product that contains more than 10 moles of H2S per kilomole of natural gas in the gas phase.		
Sour pipeline	Pipeline that conveys gas and/or liquid that contains sour gas.		
Sour production facility	Facility that processes gas and/or liquid that contains sour gas		
Sour well	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.		

Special needs	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. A designation that reflects the proposed well's proximity to
well (British Columbia specific)	populated centers and its maximum potential H2S release rate during the drilling state. The casing or open-hole flow configuration is used in arriving at this designation.
Standing well	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.
State of local emergency	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.
Sulphur dioxide (SO2)	A colourless, water-soluble, suffocating gas formed by burning sulphur in air; also used in the manufacture of sulphuric acid. SO2 has a pungent smell similar to a burning match. SO2 is extremely toxic at higher concentrations. The molecular weight of SO2 is heavier than air; however, typical releases are related to combustion, which makes the gaseous mixture lighter than air (buoyant).
Surface development	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.
Susceptible	The subpopulation of persons who may be considered more sensitive to the effects of H2S and SO2, including the elderly, pregnant women, and the very young, particularly preschool-aged children.
Tabletop exercise	As described in CAN/CSA-Z731-03, 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.



Technically complete Emergency Response Plan (ERP)	A plan that meets all applicable requirements.
Telephoners	Telephoners place calls to residents as directed by the Public Safety Group Supervisor.
Threatening telephone call	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.
Transient	An individual that is temporarily in the area (e.g. camper, cross- country skier).
Trapper	The holder of a provincial licensed and registered trapline for the purpose of hunting and trapping fur bearing animals.
Uncontrolled flow	A release of product that cannot be shut off at the licensee's discretion.
Urban centre	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.
Unrestricted country development	Any collection of permanent dwellings situated outside of an urban centre and having more than eight permanent dwellings per quarter section.
Urban density development	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.
Vapour pressure	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.
Vapour-air plume / vapour cloud	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.

Water body	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.
Well servicing	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.
Workover	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.



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EOCEmergency Operations CentrePPEPersonal Protective EquipmentEPZEmergency Planning ZonePPMParts Per MillionERACEmergency Response Assistance CanadaRCMPRoyal Canadian Mounted PoliceERPEmergency Response PlanRDRural DistrictESDEmergency Shut DownREOCRegional Emergency Operations CentreESDVEmergency Shut-Down ValveRHARegional Health AuthorityETAEstimated Time of ArrivalRMRural MunicipalityFH OrderFire Hazard OrderSABASupplied Air Breathing Apparatus ApparatusFNIHBFirst Nations and Inuit Health Branch – Health CanadaSCBASelf-Contained Breathing Apparatus	EMBC	Emergency Management BC	POC	Provincial Operations Centre	
EPZEmergency Planning ZonePPMParts Per MillionERACEmergency Response Assistance CanadaRCMPRoyal Canadian Mounted PoliceERPEmergency Response PlanRDRural DistrictESDEmergency Shut DownREOCRegional Emergency Operations CentreESDVEmergency Shut-Down ValveRHARegional Health AuthorityETAEstimated Time of ArrivalRMRural MunicipalityFH OrderFire Hazard OrderSABASupplied Air Breathing Apparatus ApparatusFNIHBFirst Nations and Inuit Health Branch – Health CanadaSCBASelf-Contained Breathing Apparatus	EMO	Emergency Measures Organization	PPB	Parts Per Billion	
ERACEmergency Response Assistance CanadaRCMPRoyal Canadian Mounted PoliceERPEmergency Response PlanRDRural DistrictESDEmergency Shut DownREOCRegional Emergency Operations CentreESDVEmergency Shut-Down ValveRHARegional Health AuthorityETAEstimated Time of ArrivalRMRural MunicipalityFH OrderFire Hazard OrderSABASupplied Air Breathing Apparatus ApparatusFNIHBFirst Nations and Inuit Health Branch – Health CanadaSCBASelf-Contained Breathing Apparatus	EOC	Emergency Operations Centre	PPE	Personal Protective Equipment	
ERPEmergency Response PlanRDRural DistrictESDEmergency Shut DownREOCRegional Emergency Operations CentreESDVEmergency Shut-Down ValveRHARegional Health AuthorityETAEstimated Time of ArrivalRMRural MunicipalityFH OrderFire Hazard OrderSABASupplied Air Breathing ApparatusFNIHBFirst Nations and Inuit Health Branch – Health CanadaSCBASelf-Contained Breathing Apparatus	EPZ	Emergency Planning Zone	PPM	Parts Per Million	
ESDEmergency Shut DownREOCRegional Emergency Operations CentreESDVEmergency Shut-Down ValveRHARegional Health AuthorityETAEstimated Time of ArrivalRMRural MunicipalityFH OrderFire Hazard OrderSABASupplied Air Breathing ApparatusFNIHBFirst Nations and Inuit Health Branch – Health CanadaSCBASelf-Contained Breathing Apparatus	ERAC	Emergency Response Assistance Canada	RCMP	Royal Canadian Mounted Police	
ESD       Emergency Shut Down       REOC       Centre         ESDV       Emergency Shut-Down Valve       RHA       Regional Health Authority         ETA       Estimated Time of Arrival       RM       Rural Municipality         FH Order       Fire Hazard Order       SABA       Supplied Air Breathing Apparatus         FNIHB       First Nations and Inuit Health Branch – Health Canada       SCBA       Self-Contained Breathing Apparatus	ERP	Emergency Response Plan	RD	Rural District	
ETA       Estimated Time of Arrival       RM       Rural Municipality         FH Order       Fire Hazard Order       SABA       Supplied Air Breathing Apparatus         FNIHB       First Nations and Inuit Health Branch – Health Canada       SCBA       Self-Contained Breathing Apparatus	ESD	Emergency Shut Down	REOC	Regional Emergency Operations Centre	
FH Order         Fire Hazard Order         SABA         Supplied Air Breathing Apparatus           FNIHB         First Nations and Inuit Health Branch – Health Canada         SCBA         Self-Contained Breathing Apparatus	ESDV	Emergency Shut-Down Valve	RHA	Regional Health Authority	
FNIHB         First Nations and Inuit Health Branch – Health Canada         SCBA         Self-Contained Breathing Apparatus	ETA	Estimated Time of Arrival	RM	Rural Municipality	
Canada SCBA Apparatus	FH Order	Fire Hazard Order	SABA	Supplied Air Breathing Apparatus	
	FNIHB		SCBA	0	
FRI         Field Response Leam         SDS         Safety Data Sheet	FRT	Field Response Team	SDS	Safety Data Sheet	
GEOC         Government Emergency Operations Centre         SO2         Sulphur Dioxide	GEOC	Government Emergency Operations Centre	SO2	Sulphur Dioxide	
HVAC         Heating Ventilation Air Conditioning         STARS         Shock Trauma Air Rescue Socie	HVAC	Heating Ventilation Air Conditioning	STARS	Shock Trauma Air Rescue Society	
HVP     High Vapour Pressure     TDG     Transportation of Dangerous Goods	HVP	High Vapour Pressure	TDG		
HVPL         High Vapour Pressure Liquid         WCSS         Western Canadian Spill Service	HVPL	High Vapour Pressure Liquid	WCSS	Western Canadian Spill Service	
H <sub>2</sub> S Hydrogen Sulphide WHMIS Workplace Hazardous Materials Information System	H₂S	Hydrogen Sulphide	WHMIS		
IAP Incident Action Plan	IAP	Incident Action Plan			



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### **SECTION 10.** Phone List



NEBC Emergency Response Plan	ARC RESOURCES LTD.







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#### **10.2 ARC Field Phone List**

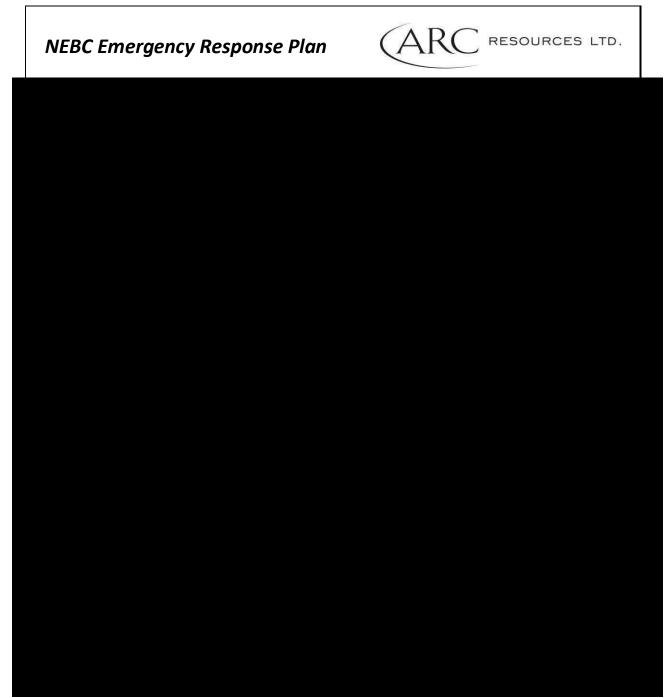
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If additional resources are needed during an emergency, ARC operators from nearby production fields will be called in to assist. Service providers and safety companies are also available to assist during an emergency.

The above-mentioned names and positions may change depending on where and when the emergency takes place and what kind of emergency it is.

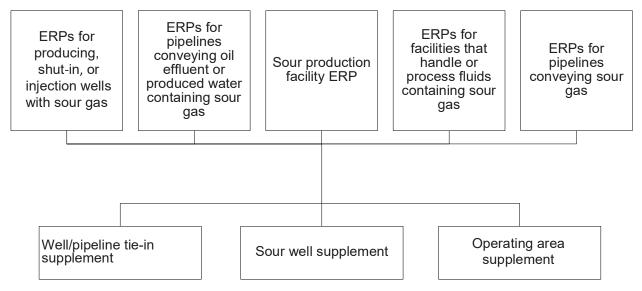
(ARC RESOURCES LTD.

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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.

Well type	Operation	Surface development within the EPZ	No surface development within the EPZ
Critical Sour	Drilling and or	Yes	Yes
Noncritical sour	Completion	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

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ARC

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 completions. 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

	Sour Well EPZ falls entirely within the sour operations EPZ		
	Surface development within the well EPZ		No surface development within the well EPZ
Critical sour well workover, well servicing, or testing	Supplement required		Supplement required
	Wellhead on	Wellhead off	Wellhead on/off
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:

- Let 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

	Critical sour wells		Noncritical sour wells	
Procedures	Surface development	No surface development	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	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 penetrate the critical zone.*	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 emergency is over.	Yes	No	Yes	No

#### Notification and consultation requirements

Situation	Notification and consultation requirements
Prior to entering the first sour zone and prior to nonconsecutive completion operations on a sour well	<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.
Wellhead-off workovers	<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
Delayed completion operations	<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.
End of drilling and/or completion operations	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 H2S 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:

- ield response personnel with assigned roles and responsibilities in the ERP, and
- Let 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:

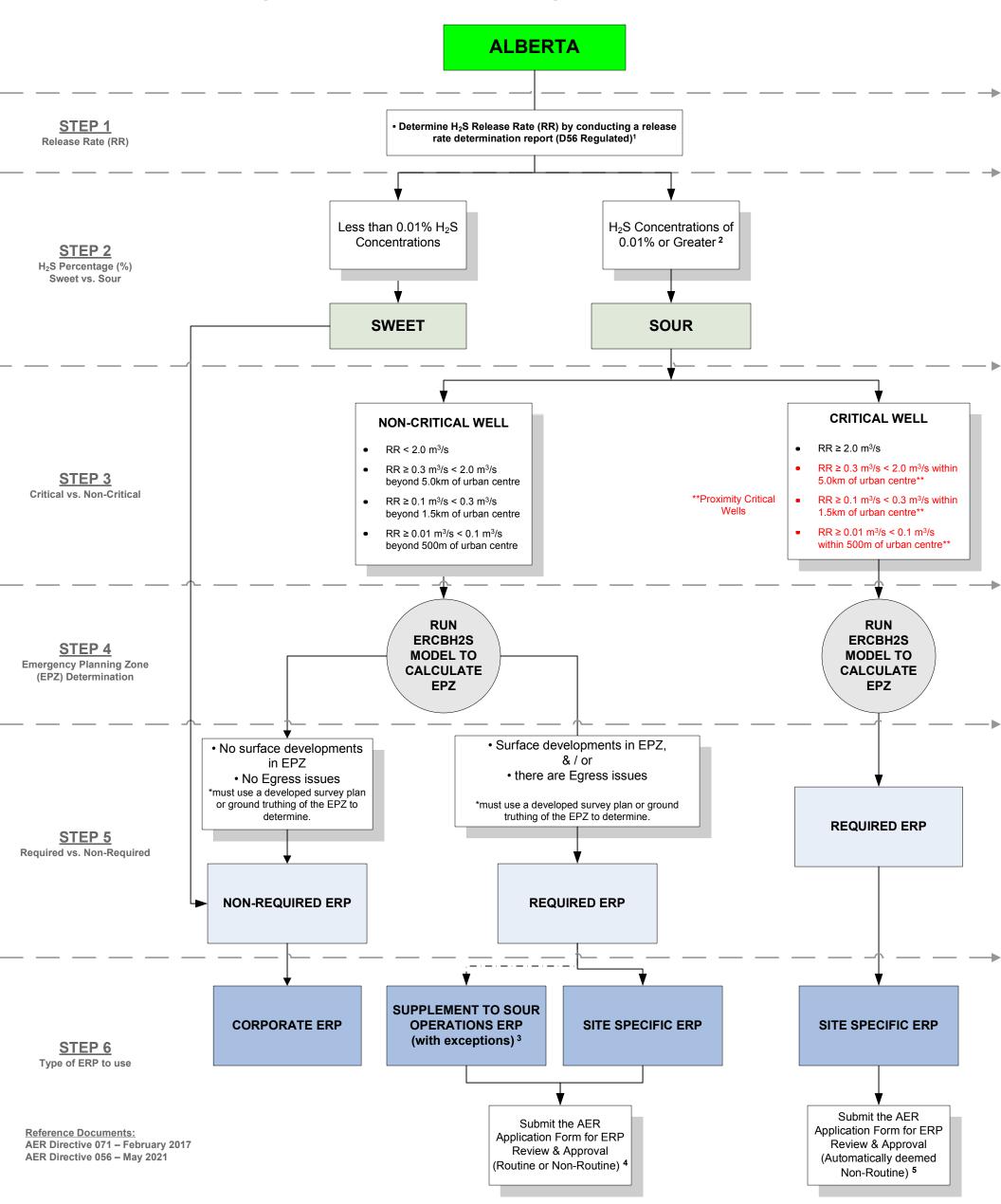
- □ the rig has been released,
- □ the wellbore is isolated with casing and cement and the well is not perforated, or
- □ the wellhead is on.

## NEBC Emergency Response Plan



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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**

INTERNAL DRILLING EMERGENCY NOTIFICATION FLOWCHART





#### INTERNAL COMPLETIONS EMERGENCY NOTIFICATION FLOWCHART

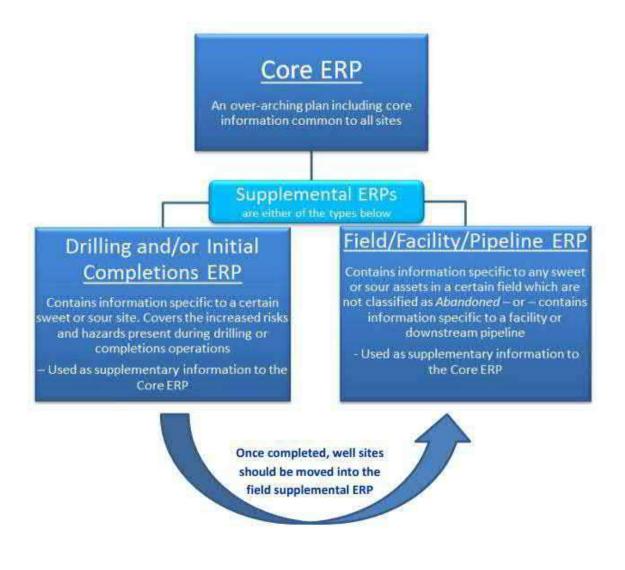
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## SECTION 11. DRILLING & COMPLETIONS – BRITISH COLUMBIA

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## **SECTION 11. DRILLING & COMPLETIONS – BRITISH COLUMBIA**

## **11.16 BCOGC 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 Core 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.

- U 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 Oil and Gas Commission (Commission) 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 BCOGC Pre-Penetration Requirements**

#### BCOGC REQUIREMENTS

The BCOGC 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 BCOGC 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 SPECIAL SOUR ZONE 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. **NEBC Emergency Response Plan** 



#### **11.19** Stakeholder Notifications

#### Prior to commencement of sour drilling and / or completion operations:

- Provide (via fax/email) OGC 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 OGC Notification of a Drilling/Initial Completions ERP Review Meeting – Form M-2

INC CHILS COMMISSION	FORM M-2 OGC NOTIFICATION OF A DRILLING/INITIAL COMPLETIONS ERP REVIEW MEETING OGC requires notification at least 2 business days prior to meeting Meeting must be held before entering the sour zone
Rev 2015-12-10	Email to EMP(a) bcogc.ca
- 10	NOTIFICATION INFORMATION
	Review Meeting
	etion ERP Review Meeting
Revision- Pro	wide date of original notification:
	MEETING INFORMATION
Name of Licensee:	
Date of notification:	
Name & number of p sending notification:	
Contractor conductin Meeting (if applicabl	
Name and phone #	
of on-site contact:	
Date of Meeting:	
Time of Meeting:	(Fort St. John Local Time)
Location of Meeting:	
	WELL INFORMATION
WA# :	
Name of Well:	
Rig Name:	Or Rigless
The well is on	Crown Land OR Private Land
	Howing that are within the HPZ: ngs (including egress) Major Waterways Numbered Highways Places of Business (including egress)
	ERP meeting from Fort St. John: (please attach on separate page if more space is required)
Travel time from For	t St. John:
List any radio channe	els required on roads to site:
1	OFFICE USE ONLY
Attended Me	eting
Did not Atten	
Name of person who	attended meeting :
	acted to confirm attendance:
Date contacted:	
	led or rescheduled please email us at the above address ASAP to

\*If meeting is cancelled or rescheduled please email us at the above address ASAP to prevent unnecessary travel.

Updated: 8-March-2016 Effective: 1-April-2016

## **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	BCOGC IN ATTENDANCE: YES NO		

#### ATTENDANCE SHEET

Name	Position	Company

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## NEBC Emergency Response Plan

	Item	Yes	No	N/A	Comments
1	Was there a sign in sheet for participants?			1	
2	Did everyone have an ERP or some form of it?				
3	Do all ERP's have the same date?	1		100	
4	Discussed notification to public, tenure holders, non-resident landowners and users when entering sour zone				
5	Participants have a good understanding of their ERP				
6	Performed a survey of transients in the area such as other drilling rigs, logging, pipelining, surveying, seismic, farmers, four wheelers, camping, etc.				
7	Reviewed directions to site in manual	10	1	1	
8	Confirmed accuracy of map by driving the EPZ				
9	Reviewed road radio channels in manual	121	1	100	
10	Well H2S	100		10	
11	Maximum Potential Release Rate	1		1	
12	Size of HPZ				
13	Discussed on-site hazards	10		1	
14	Discussed use of a hazard assessment form	1			
15	Discussed where hazard procedures are referenced in the ERP				
16	Discussed Muster Areas				
17	Discussed locations of wind sock				
18	Discussed correct response priorities 1. Responder Safety, 2. Public Safety, 3. Control of Incident				
19	Reviewed how to use matrix for classifying incidents				
20	Reviewed incident reporting procedures				
21	Reviewed confirmation, downgrading and standing down emergency				

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	Item	Yes	No	N/A	Comments
22	Reviewed Sheltering Procedures				
23	Reviewed Evacuation Procedures	6			
24	Reviewed Evacuation Centre Procedures	0			
25	Reviewed Ignition Procedures	0			
26	Reviewed Person with Authority to Ignite	0			
27	Reviewed Air Monitoring Procedures	0			
28	Reviewed the use of public statements for Evacuation and Sheltering				
29	Reviewed locating transients (helicopter) and transient activity in area				
30	Discussed NOTAM orders		5		
31	Reviewed HPZ information	6	5		
32	Reviewed how to determine HPZ for non H2S hazards				
33	Reviewed the map and how to read it	6	6	2	
34	Verified map has correct information	5			
35	Reviewed road block locations (pre-mark on ground)				
36	Discussed closure orders for different types of roads				
37	Reviewed major road and dead end roads				
38	Reviewed information regarding public in HPZ (special needs, etc.)				
39	Reviewed tenure holders, other permit holders, and known transients information				
40	Discussed transient activity in area	6	2		
41	Discussed confidentiality of ERP and public information				
42	Reviewed communication and back up methods and any barriers for the area.				
43	Checked communication between field staff and ICP & EOC				
44	Discussed location of ICP and alternate ICP				
45	Discussed location of EOC				
46	Discussed Evacuation Center	5	10		

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## NEBC Emergency Response Plan

	Item	Yes	No	N/A	Comments
47	Discussed location of staging area	2			
48	Discussed location and number of communication and backup equipment				
49	Discussed location and number of SCBA or SABA				
50	Discussed location and number of ignition equipment				
51	Discussed location and number of roadblock equipment				
52	Discussed number of vehicles for roving, roadblocks, evacuation needs, etc.				
53	Discussed location and number of H2S detection devices				
54	Confirmed staff ability to use equipment		5		
55	Reviewed the ICS & EOC System	1	6		
56	Confirmed fillable ICS wall chart or paper chart				
57	Reviewed Chain of Command	1	6		
58	Reviewed Span of Control	2	5		
59	Assigned roles to participants and made them aware of their specific response role				
60	Reviewed role checklist (flag their role checklist)				
61	Reviewed forms and who will collect them		6		
62	Confirmed internal contact names & phone numbers	8			
63	Confirmed external resource list		t o		
64	Reviewed location of list of roles and responsibilities of government agencies				
65	Discussed which government agencies are required to be contacted during emergency				
66	Discussed media procedures				
67	Discussed releasing news releases in consultation with OGC				
68	Discussed how to downgrade/stand down an incident				
69	Discussed calling public back and checking homes for hazards				
70	Post Incident Report to be filed with OGC within 60 days for level 1, 2, 3 incidents				

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NEBC Emergency Response Plan

Meeting N	lotes:
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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.



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## H2Safety

# Hazard Assessment



ARC Resources British Columbia Field Operations

March 2022

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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.

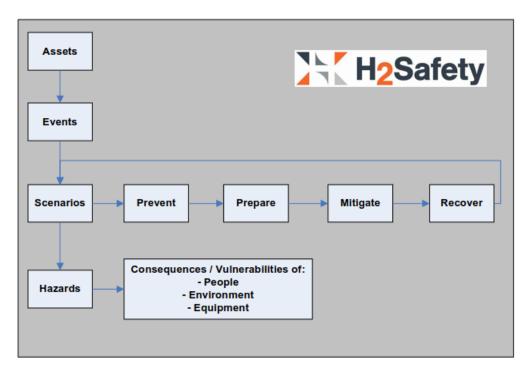
Utilizing best practices in the field of emergency management and with consideration of CSA Z246.2-18 Emergency Preparedness and Response for Petroleum and Natural Gas Industry Systems, this hazard assessment process will permit ARC Resources to deliver an effective and timely response protocol for each identified consequential emergency event in order to protect the public, the environment and assets.

This document also intends to meet the following regulations:

- BC Oil & Gas Commission Emergency Management Manual; November 2021; Version 2.3
- 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
Fire	<ul> <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	- Repair / Replace damaged equipment
Container Rupture	<ul> <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> <li>Incident investigation</li> <li>Recover Product</li> <li>Environmental and/or wildlife cleanup and rehabilitation</li> </ul>
Loading / unloading incident	<ul> <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> <li>Incident investigation</li> <li>Environmental and/or wildlife cleanup and rehabilitation</li> </ul>
Physical Container Damage	<ul> <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> <li>Incident investigation</li> <li>Recover Product</li> <li>Repair / Replace equipment</li> </ul>

Emergency Scenario	Preventative Measures	Preparation Measures	Response Actions	Recovery Actions
Container Degradation	<ul> <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> <li>Incident investigation</li> <li>Recover Product</li> <li>Repair / Replace equipment</li> </ul>
Environmental Impacts (freezing, excess heat, etc)	<ul> <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> <li>Incident investigation</li> <li>Recover Product</li> <li>Environmental and/or wildlife cleanup and rehabilitation</li> </ul>
Pipe System Failure	<ul> <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> <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
Company Employees	<ul> <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>
Other Workers in the Area	<ul> <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>
General Public	<ul> <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>
Environment	<ul> <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>
Equipment	<ul> <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
Thermal Radiation	5.00	kW / m <sup>2</sup>	2 <sup>nd</sup> degree burns within 60 seconds
Overpressure	3.50	Psi	Serious injury likely
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 Oil & Gas Commission Emergency Management Manual; November 2021; Version 2.3
- Alberta Energy Regulator (AER) ERCBH2S Dispersion Model
- Transport Canada 2016 Emergency Response Guidebook
- ALOHA Dispersion Model

#### **3.1 Deactivated Pipelines**

In accordance with the BCOGC 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:

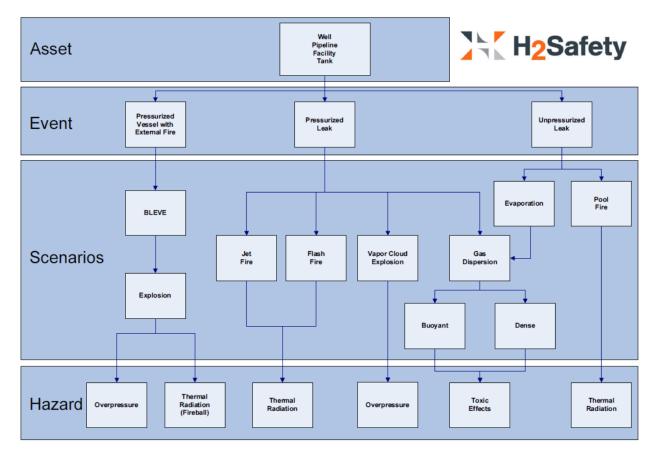
Operating companies deactivating piping shall

- 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
Natural Gas	<ul> <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>	<ul> <li>Hydrogen sulphide gas and hydrocarbon vapours may:</li> <li>Cause irritation of eyes, nose and throat, dizziness and drowsiness.</li> <li>At higher concentrations, sever irrigation 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 sever irritation.</li> </ul>
Carbon Dioxide	<ul> <li>Vapours from liquefied gas are initially heavier than air and spread along ground.</li> </ul>	<ul> <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>
Hydrogen Sulphide	<ul> <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> <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
Oil or Condensate	<ul> <li>Colourless/straw coloured liquid, hydrocarbon and rotten eggs odour.</li> <li>Material will ignite at normal temperatures.</li> </ul>	<ul> <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>
Nitrogen	- Containers may explode when heated. Ruptured cylinders may rocket.	<ul> <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>
Compressed Air	- High pressure air	- Possible burns, abrasions and skin irritation.
Steam	- High pressure, high temperature air/water	- Possible burns and skin irritation.
Emissions	- Carbon monoxide	<ul> <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>
	- Sulphur Dioxide	<ul> <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
Produced Water	<ul><li>Clear to dirty grey liquid.</li><li>Flammable liquid and vapour.</li></ul>	<ul> <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>
Diesel	<ul> <li>Bright, oily liquid; clear to yellow in colour with mild petroleum-like odour.</li> <li>Flammable liquid and vapour.</li> </ul>	<ul> <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>
Gasoline	<ul> <li>Clear to slightly yellow or green liquid with Gasoline odour.</li> <li>Extremely flammable liquid and vapour.</li> </ul>	<ul> <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>
Lube Oil	- Yellow liquid with petroleum oil like odour.	<ul> <li>May cause skin and eye irritation.</li> <li>Repeated or long term exposure may cause dizziness or drowsiness.</li> </ul>
Propane	<ul> <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> <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>
Corrosion Inhibitor	<ul> <li>Black liquid.</li> <li>Highly flammable liquid and vapour.</li> </ul>	<ul> <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
Scale Inhibitor	<ul><li>Colourless liquid.</li><li>Flammable liquid and vapour.</li></ul>	<ul> <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>
Paraffin Inhibitor	<ul> <li>Clear liquid.</li> <li>Hydrocarbon-like odour.</li> <li>Flammable liquid and vapour.</li> </ul>	<ul> <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>
Biocide	<ul> <li>Colourless liquid.</li> <li>Pungent odour.</li> <li>Flammable liquid and vapour.</li> </ul>	<ul> <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>
Demulsifier / Emulsion Breaker	<ul> <li>Clear amber liquid.</li> <li>Highly flammable liquid and vapour.</li> <li>Hydrocarbon-like odour.</li> </ul>	<ul> <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>
Ethylene Glycol	- Clear, colourless, viscous liquid.	<ul> <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
Natural Gas Liquids (NGL)	<ul> <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> <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>
Liquefied Petroleum Gas (LPG)	<ul> <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> <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>
Methanol	<ul> <li>Clear, colourless liquid.</li> <li>Alcohol-like odour.</li> <li>Highly flammable in liquid and vapour.</li> </ul>	<ul> <li>Toxic if swallowed.</li> <li>Toxic in contact with skin.</li> <li>Toxic if inhaled.</li> <li>Causes damage to organs.</li> </ul>
Jet Fuel (Jet B or Avgas)	<ul> <li>Clear to straw-coloured liquid.</li> <li>Highly flammable liquid and vapour.</li> <li>Gasoline-like odour.</li> </ul>	<ul> <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>
Amine (MEA)	<ul> <li>Clear, colourless liquid.</li> <li>Amine-like odour.</li> <li>Combustible at high temperatures.</li> </ul>	<ul> <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	
H2S Scavenger	<ul><li>Clear liquid.</li><li>Soluble in Water.</li></ul>	<ul> <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>	
Other	- 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.		

ARC RESOURCES 24 HOUR # 1-403-292-0434	SAFETY EQUIPMENT, continued	LEAD AGENCIES & PRIORITY CONTACTS Note: All numbers, unless otherwise indicated, are 24 hours.
		Note: If the incident involves pipelines that cross the Alberta and British Columbia border, notify the Canada Ener Regulater (CER) / Transportation Safety Board (TSB) under the Federal Agencies section. BRITISH COLUMBIA AGENCIES
		BC Oil & Gas Commission (OGC) - Incident Reporting Line 800-663-34 Admin: 250-794-52
		Emergency Management BC (EMBC) 800-663-34
		*In the event of an emergency, EMBC will notify the OGC, Ministry of Environment, Environment and Climate Char Canada, Ministry of Forests, Lands and Natural Resource Operations, Health Authority, Transportation of Dangero Goods and any affected municipalities.
FACILITY & FIELD CONTACTS	AREA USERS & TIE-INS Note: All numbers, unless otherwise indicated, are 24 hours.	Peace River Regional District - Dawson Creek 800-670-77
		Northern Health Authority
		WORKSAFE BC - Fort St. John Daytime Reporting Bus: 888-621-72
		Technical Safety BC 866-566-72
		BC Ministry of Transportation & Infrastructure South Peace Area, Dawson Creek Admin: 250-784-23
		BC Ministry of Forest, Lands & Natural Resource Operations Forest Fire Reporting 800-663-55 From Cell Phone *55 Peace Forest District Admin: 250-784-12
OPERATIONS SUMMARY		BC Ministry of Environment and Climate Change Strategy 800-663-34 Peace Region Admin: 250-787-34
OPERATIONS SUMMART		
		ALBERTA AGENCIES Alberta Energy Regulator (AER) 800-222-651
		Grande Prairie / High Level Field Centre Wildfire Reporting 310-FIRE(34 * One call number for regulatory agency, Alberta Environment, Spill Reporting & Sustainable Resource Developm (Lands, Fish, Forest, Wildlife) and Environment and Climate Change Canada.
		Saddle Hills County Admin: 780-864-37
losest Urban Centre	EMERGENCY SERVICES Note: All numbers, unless otherwise indicated, are 24 hours.	
The Farming Community of Rolla, BC is located approximately 1 km west of the CER Pipelines EPZ and has a population of +/- 119.	**If there is no 911 service available due to the remote location, please call th	Alberta Health Services - Z5 North 844-755-17
The City of Dawson Creek is located approximately 15 km southwest of the CER Pipelines EPZ and has a population of +/- 12,178.	Ambulance BC Ambulance Service	Alberta Emergency Management - Northwest AEMA 866-618-23
ydrology There are numerous water bodies within the CER Pipelines EPZ including Rolla	Air Ambulance (STARS)	200-014-0301         Alberta Boilers Safety Association (ABSA)         780-437-91
Creek, Pouce Coupe River, Coleman Creek, Doe Creek and Saskatoon Creek.		Alberta Safety Services - Electrical Branch Admin: 866-421-69
No highways run through the CER Pipelines EPZ. te Access	Hospitals Dawson Creek and District Hospital	Alberta Ministry of Transportation           250-782-8501         Peace Region - Grande Prairie District         Admin: 780-538-61
Refer to the following pages for access maps and directions.	Fort St. John Hospital & Peace Villa BC Drug and Poison Information Centre	250-262-5200         Alberta Occupational Health and Safety (OHS)         866-415-86
	BC Hydro	888-769-3766 Workers' Compensation Board (WCB) Admin: 780-498-39
SAFETY EQUIPMENT		866-436-7847         Alberta Environmental and Dangerous Good Emergencies (EDGE)         800-272-96           ww.bconecall.ca         NATIONAL AGENCIES         NATIONAL AGENCIES
	Utility Safety Partners AB "Click Before You Dig" www Fire Departments	800-242-3447       Canada Energy Regulator (CER)       Pipeline Emergency (TSB): 819-997-78         911       All other Emergencies: 403-299-27
	Dawson Creek Pouce Coupe	250-782-9898 Online Reporting System https://apps.cer-rec.gc.ca/
	Taylor Fire Rescue	250-789-3392 CANDIEC 013-390-00
	There is NO fire coverage from any local fire department. Fires must be handled by ARC Re partners, or contract oilfield fire fighting services. Local fire departments will only respond to mo and medical emergencies unless specifically dispatched by EMBC or the Local Authority.	tor vehicle accidents From Cell Phone *( Information 613-992-46
	RCMP Dawson Creek Spirit River	911         Ore cost           250-784-3700         Emergency Response Assistance Canada (ERAC)         800-265-02           780-864-3533         Image: cost of cost o
	Reception Centres Days Inn	250-782-8887 Environment and Climate Change Canada
	640 - 122 Avenue, Dawson Creek, BC	250-702-0007 Meteorological Services 604-664-93
	Holiday Inn Express 12217 - 4 Street, Dawson Creek, BC Bonanza Community Hall Admin:	250-782-7700 Air Traffic Control NAV Canada* 866-992-74
	Bonanza Community Hall Admin: 12407 Twp 801, Bonanza, AB Gordondale Community Hall SE-07-79-10 W6M, Bonanza, AB	: 780-353-3771 Transport Canada <sup>**</sup> 877-992-66 * If flight information or a NOTAM advisory is required, contact the NAV Canada Flight Information Centre (FIC ** If a NOTAM is required for airspace closure, contact the Transport Canada Aviation Operations Centre (AVC

### SURFACE DEVELOPMENTS Note: Red font indicates a sensitive resident

**PIPELINES** 

CER

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

Mobile Air Monitoring* Firemaster Oilfield Service Trojan Safety Services - C Safety Boss - Fort St. Joh *Due to response time, dispatch mo approximately 2 hours from Fort St.	877-342-3473 780-567-3440 800-882-4967 ne is expected to be				
Oilfield Fire Fighting / Safety Contractors Safety Boss - Fort St. John Trojan Safety Services - Grande Prairie, Fort St. John Bravo Target Safety - Grande Prairie Firemaster Oilfield Services Inc Grande Prairie			800-882-4967 877-785-9558 866-513-3779 877-342-3473		
Well Control Specialists Capstone Blow Out Recovery - Airdrie Safety Boss Inc Fort St. John Firemaster Oilfield Services Inc Grande Prairie Boots and Coots - Texas			866-347-3911 800-882-4967 877-342-3473 800-256-9688		
Ignition Services Safety Boss Inc Fort St. John Firemaster Oilfield Services Inc Grande Prairie HSE Integrated Ltd Grande Prairie			800-882-4967 877-342-3473 888-346-8260		
Emergency Response Management H <sub>2</sub> Safety Services Inc Calgary Toll Free:			403-212-2332 888-216-2332		
Bus Transportation Diversified Transportation Ltd Dawson Creek Ambitious Hotshot & Piloting Ltd - Fort St. John			780-743-2244 250-263-4639		
Helicopter Companies* Bailey Helicopters - Fort St. John Yellowhead Helicopters Ltd Fort St. John *If required, a helicopter with a loud hailer should be called out			250-785-2518 250-785-2331		
Spill Response Ridgeline Resources* Highmark Environmental - Fort St. John SWAT Consulting Inc Grande Prairie *Ridgeline Resources is the primary spill response provider for ARC.			866-574-7928 250-261-6994 866-610-7928		
WCSS - Coop 9 Regional Custodian:	Clean Harbors	Bus:	866-541-8888 250-785-4577		
Equipment Location Clean Harbors Surface Rentals 6715 - 85th Avenue Fort St. John, BC	Equipment Summary 52' OSCAR Trailer (semi-truck) 40' Boom Cache Sea Can (winch tractor/trailer) 20' Wildlife Sea Can (winch tractor/trailer) Single Engine Barge (1-ton truck w/ 2-5/16" ball hitch & electric brakes) Work Boat (1/2-ton truck w/ 2" ball hitch) Drum Skimmer w/ Power Pak (1/2-ton truck) 400' Shallow Water Boom (1/2-ton truck)				
Coop Custodian:					
Equipment Location 4850 - 46 Avenue Fort Nelson, BC	4850 - 46 Avenue 20' ISRU Sea Can (winch tractor/trailer)				
More Support Service information on next page.					

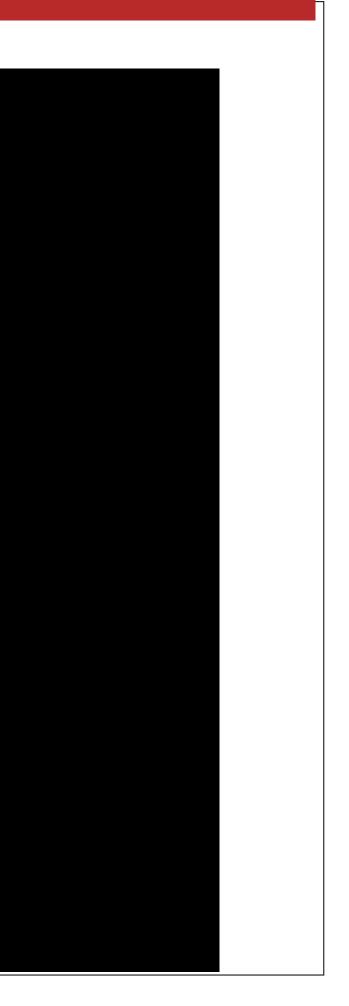
SUPPORT SERVICES, continued

Note: All numbers, unless otherwise indicated, are 24 hours. WCSS - Coop 5 866-541-8888 Regional Custodian: Clean Harbors Bus: 780-532-4331 **Equipment Location** 9601 - 156 Ave Grande Prairie, AB Equipment Summary 52' OSCAR Trailer (semi-tractor) 16' Winter OSCAR Trailer (3/4-ton truck w/ 2-5/16" ball hitch) Work Boats (2)(1/2-ton truck w/ 2" ball hitch) 14' Wildlife Trailer (1/2-ton truck w/ 2-5/16" ball hitch) 24 Hr: 587-343-5824 Coop Custodian: ARC Resources Equipment Summary Equipment Location Archie Warehouse 20' ISRU Sea Can (winch tractor/trailer) 07-04-64-05 W6M Directions From Grande Prairie: Departing from the intersection of 68 Avenue and 108 Street (Hwy 40), travel 78 km south, turn left onto Archieway Road and travel .25 km through Security. Turn right at first exit into Warehouse parking lot. From Grande Cache: Departing from Highway 40 and Shand Avenue, travel 104.5 km north, turn right on Archieway Road and travel .25 km through Security. Turn right at first exit into Warehouse parking lot. Pembina Pipelines 780-524-3938 Coop Custodian: (Ask for Foreman on-call) Equipment Location Pembina Valleyview Equipment Summary 20' ISRU Sea Can (winch tractor/trailer) Pump Station 12-10-69-22 W5M Directions 12 km south of Valleyview, on Highway 43. Coop Custodian: Energy Transfer Canada 24 Hr: 780-622-6274 Equipment Location Equipment Summary 20' ISRU Sea Can (9' 6" tall) (Winch Truck & Step-deck Fox Creek Energy Transfer Canada Kaybob Amalgamated Gas Plant Trailer) Directions Turn south at the Petro Canada Station in Fox Creek. Travel 7 km. Enter south gate. Coop Custodian: Performance Vac & Tank GP 24 Hr: 780-827-5353 Equipment Location Equipment Summary Grande Cache 97 Street & Hoppe Ave 20' ISRU Sea Can (winch tractor/trailer) Directions Northbound on Hwy 40 (100 Street in town) turn right (east) on Hoppe Avenue. Travel 1 km to 97 Street, turn left (north). Sea-Can is 200 meters north on right (east) side of road. \*See website for more info (http://www.wcss.ab.ca)

#### **Dawson / Pouce CER Pipelines Site Access**

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#### DAWSON/POUCE CER PIPELINES NORTHEAST BRITISH COLUMBIA ERP

## NORTHEAST BC CER REGULATED PIPELINES

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#### EMERGENCY CONTACT INFORMATION

ARC

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			
	24 Hr Incident Line	819-997-7887	
Transportation Safety Board of Canada (TSB)	Facsimile	403-292-5503	
	Email	pipelinenotifications@tsb.gc.ca	
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): <u>https://apps.cer-one.gc.ca/ers/home/index</u> are <u>required</u> 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.			
BC Oil & Gas Commission (OGC)	24 Hr	800-663-3456	
Alberta Energy Regulator (AER)	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.			
Canada = National Energy Gord Office national de l'énergie			

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#### CER DEFINITION OF AN EMERGENCY

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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;
- 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.

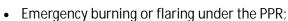
Examples of situations where this might be the case include but are not limited to:

- 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);



- Hazard identification under the PPR;
- Suspension of operations under the PPR;

MULTIPLE INCIDENT TYPES, continued

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- 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 (<u>www.tsb.gc.ca/eng/incidents-occurrence/index.asp</u>).

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	Section 0. Plan Holder Information (Page 5)		
Company 24/7 Emergency Number Section 12. Site Specific Dawson / Pouce CER Pipel			
Area Map of CER Regulated Facilities	Section 12. Site Specific Dawson / Pouce CER Pipelines		
TSB Roles & Responsibilities	Section 3. Government Agency Roles Federal Roles Chart		
CER Roles & Responsibilities	Section 3. Government Agency Roles Federal Roles Chart		
Safety data sheets (SDS)			
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

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1. EMERGENCY MANAGEMENT EXPECTATIONS

ARC

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. RESOURCES LTD.

#### Extended Emergencies

ARC

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.

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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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face Development #/Quadrant Business / Primary Resident Name Phone #s # of Res - School Age - Preschool Type Pets / Livestock							
	face	Development #/Quadran	t Business / Primary Resident Name	Phone #s	# of Res - School Age - Preschool	Туре	Pets / Livestock





