PACIFIC CANBRIAM ENERGY LIMITED

CORE

EMERGENCY RESPONSE PLAN

24 HOUR EMERGENCY LINE
1.877.269.2877

BCER 24 HOUR INCIDENT REPORTING LINE:
1.800.663.3456

AUGUST 11, 2024

CLASSIFICATION AND CHARACTERISTICS OF DANGEROUS GOODS

Any spill or release that goes off-lease that has caused, is causing, or may cause an adverse effect, must immediately be reported to Emergency Management BC (EMCR) – 1.800.663.3456 and CANUTEC – 1.888.226.8832

Class	Division	Characteristics of Dangerous Goods	Quantity	Packing Group
1 Explosives (Sections 2.9 – 2.12)	1.1	A substance or article with a mass explosion hazard	Any quantity	II – Hazardous Substances
	1.2	A substance or article with a projection hazard but not a mass explosion hazard		
	1.3	A Substance or article which has a fire hazard and either a minor blast hazard or a minor projection hazard or both, but does not have a mass explosion hazard		
	1.4	A substance or article which presents no significant hazard beyond the package in the event of ignition or initiation during transport		
	1.5	A very insensitive substance with a mass explosion hazard		
	1.6	Extremely insensitive article with no mass explosion hazard		
2 Gases (Sections 2.13 – 2.17)	2.1	A flammable gas which is easily ignited and burns	Any quantity	Not Applicable
	2.2	A non-flammable, non-toxic, non-corrosive gas		
	2.3	A toxic gas		
3 Flammable Liquids (Sections 2.18 – 2.19)	*	A flammable liquid with a closed-cup flash point less than or equal to 60.0°C	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
4 Flammable Solids (Sections 2.20 – 2..22)	4.1	A flammable solid which is readily combustible and may cause fire through friction or from heat retained from manufacturing	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	4.2	A spontaneously combustible substance that ignites when exposed to air		
	4.3	A water-reactive substance which emits flammable gas when it comes into contact with water		
5 Oxidizing Substances, Organic Peroxides (Sections 2.23 – 2.25)	5.1	An oxidizing substance which may yield oxygen and contribute to the combustion of other material	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	5.2	An organic peroxide which releases oxygen readily and may be liable to explosive decomposition, or sensitive to heat, shock or friction		
6 Toxic and Infectious Substances (Sections 2.26 – 2.36)	6.1	A toxic substance that is liable to cause harm to human health	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	6.2	An infectious substance	Any quantity	A or B
7 Radioactive Materials (Sections 2.37 – 2.39)	None	Radioactive materials as defined in the Packaging and Transport of Nuclear Substance Regulations	A level of ionizing radiation greater than the level established in section 39 of the "Packaging and Transport of Nuclear Substance Regulations 2015"	Not Applicable
8 Corrosive Substances (Sections 2.40 – 2.42)	None	Solids or liquids such as acids or alkalis materials that cause destruction of the skin or corrode metals	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
9 Miscellaneous Products, Substances or Organisms (Sections 2.43 – 2.45)	None	A regulated substance that cannot be assigned to any other class. It includes genetically modified micro-organisms, marine pollutants and substances transported at elevated temperatures	30 L or 30 kg	II – Hazardous Substances or III – Moderately Hazardous Substances, or without packing group

WHAT TO DO AT THE SCENE OF AN EMERGENCY

Protect Life
Protect the Environment
Protect Property
Preserve Evidence

- **Do not panic. Assess the situation by determining the problem, the extent of the situation and the response action required.**
- **Evacuate and call for help. Sound the alarm and notify your immediate supervisor.**
- **Call emergency services, as required.**
- **Administer First Aid, if applicable.**
- **Depending on the nature of the emergency, begin corrective actions to bring the emergency under control.**
- **The Incident Commander will provide all information to the corporate Emergency Operations Centre (EOC).**
- **Declare the "All Clear" message once the emergency has been completely resolved.**

When REPORTING AN EMERGENCY be sure to provide the following information in a calm, collected tone:

1. **Your name and return telephone number(s)**
2. **Your present and future location**
3. **The present problem**
   - **Injuries**
   - **Damage to property**
   - **Damage to the environment**
   - **Other critical data**
4. **Your next steps**
5. **The present weather at your location.**
6. **What you need assistance with**

PACIFIC CANBRIAM ENERGY 24 HOUR EMERGENCY LINE: 877.269.2877

PACIFIC CANBRIAM CONTACTS

NAME	TITLE	OFFICE	CELL
Nauman Rasheed	Chief Operating Officer	403.817.9041 Ext. 2141	403.899.0339
Jeff Pakish	Manager, Production & Facilities	403.817.9048 Ext. 2148	403.512.1293
Steve Bernard	Manager, Drilling and Completions	403.300.2434 Ext. 2434	430.519.8442
Zitin Lamba	Manager, Operations	403.817.9052 Ext. 2152	403.618.6166
Jeleena Cawley	HSE Specialist	250.785.8322 Ext. 1 → Ext 2	250.948.8386

PROVINCIAL EMERGENCY CONTACTS

NAME	FUNCTION	NUMBER
BC Energy Regulator (BCER)	Incident Reporting Line	800.663.3456
	24 Hour Line	250.794.5200
Emergency Management & Climate Readiness (EMCR)	24 Hour Emergency Number	800.663.3456
BC Ministry of Environment & Climate Change Strategy	Environmental Emergencies	800.663.3456
BC Ministry of Transportation and Infrastructure	Northern Regional Office	250.565.6185
BC 1 Call	Province Wide	800.474.6886
BC Wildfires	Province Wide	800.663.5555 From Cell: *5555
BC Drug and Poison Information Centre	Province Wide	604.682.5050 800.567.8911
HealthLink BC	Province Wide	811
Service BC	Within BC	800.663.7867
Technical Safety BC	To report an incident or safety hazard	866.566.7233
Transport Canada Dangerous Goods Reporting	CANUTEC Toll Free	888.CAN.UTEC (888.226.8832)
	CANUTEC	613.996.6666 From Cell: *666
Transportation Safety Board (TSB)	Rail Occurrence Hotline	819.997.7887
	Pipeline Occurrence Hotline	819.994.3741
WorkSafeBC	To report a serious incident or fatality	Toll-free 24/7: 888.621.7233

EMERGENCY MANAGEMENT CONSULTANT

Behr Integrated Solutions	Calgary	403.444.6940

Refer to the *Emergency Contact Numbers Section* for additional contact information for Pacific Canbriam's BC Operations.

BCER INCIDENT CLASSIFICATION MATRIX

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

TABLE 1: CONSEQUENCE RANKING

RANK	CONSEQUENCE (any one of the following)
4	☐ Major on site equipment or infrastructure loss ☐ Major act of violence, sabotage, or terrorism which impacts permit holder assets ☐ Reportable liquid spill beyond site, uncontained and affecting environment ☐ Gas release beyond site affecting public safety
3	☐ Threats of violence, sabotage, or terrorism ☐ Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property ☐ HAZMAT worker exposure exceeding allowable limits ☐ Major on site equipment failure
2	☐ Major on site equipment damage ☐ A security breach that has potential to impact people, property or the environment ☐ Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property
1	☐ Moderate on site equipment damage ☐ A security breach that impacts oil and gas assets ☐ Reportable liquid spill or gas release on location ☐ **Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations
0	☐ 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

RISK SCORE	ASSESSMENT RESULT
MINOR (1-2)	**Notification Only;** permit holder **must** notify the Regulator online within 24 hours using the Form A: Minor Incident Notification Form. In addition to Form A, spills must also be reported to EMCR.
MODERATE (3-4)	**Level-1 Emergency;** immediate notification (call EMCR)
MAJOR (5-6)	**Level-2 Emergency;** immediate notification (call EMCR)
SERIOUS (7-8)	**Level-3 Emergency;** immediate notification (call EMCR)

CONSEQUENCE _____ **+ PROBABILITY** _____ **= RISK SCORE** _____ **(this must be completed)**

SPILL REPORTING CRITERIA

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

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

Please refer to the BC Environmental Management Act; Spill Reporting Regulation, Schedule "Reporting Levels for Certain Substances" for determining reportable spillage amounts of other substances.

PROBABILITY

CONSEQUENCE		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
4	☐ Major on site equipment or infrastructure loss ☐ Major act of violence, sabotage, or terrorism which impacts permit holder assets ☐ Reportable liquid spill beyond site, uncontained and affecting environment ☐ Gas release beyond site affecting public safety	LEVEL 3	LEVEL 3	LEVEL 2	LEVEL 2	LEVEL 1
3	☐ Threats of violence, sabotage, or terrorism ☐ Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property ☐ HAZMAT worker exposure exceeding allowable limits ☐ Major on site equipment failure	LEVEL 3	LEVEL 2	LEVEL 2	LEVEL 1	LEVEL 1
2	☐ Major on site equipment damage ☐ A security breach that has potential to impact people, property or the environment ☐ Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property	LEVEL 2	LEVEL 2	LEVEL 1	LEVEL 1	MINOR NOTIFICATION FORM
1	☐ Moderate on site equipment damage ☐ A security breach that impacts oil and gas assets ☐ Reportable liquid spill or gas release on location ☐ **Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations	LEVEL 2	LEVEL 1	LEVEL 1	MINOR NOTIFICATION FORM	MINOR NOTIFICATION FORM
0	☐ No consequential impacts	LEVEL 1	LEVEL 1	MINOR NOTIFICATION FORM	MINOR NOTIFICATION FORM	NO NOTIFICATION REQUIRED

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

OTHER REPORTABLE INCIDENTS

The Regulator'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 Regulator 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^3 or greater
  - casing pressure 85% of MA
  - 50% out of hole when kicked
  - well taking fluid (LC)
  - associated spill
  - general situation deterioration, i.e. leaks, equipment failure, unable to circulate, etc.
- 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.

BRITISH COLUMBIA NOTIFICATION MATRIX

British Columbia

Notification Requirements for Key Government Agencies

INCIDENT TYPE	AGENCY OR RESOURCE																
	Initial Responders			Lead Agencies					Supporting Agencies & Other Government Contacts								Support Services
	Ambulance Service	Fire Department	RCMP ②	BCER ③	Local Authority ④	EMCR ①	HealthLink BC	CER	WorkSafeBC	Technical Safety BC	Ministry of Transportation	Ministry of Environment	Environment & Climate Change Canada	CANUTEC	ERAC	DFO	WCSS ⑦
Sour Gas / HVP Release (Uncontrolled)		✓	✓	✓	✓	✓	✓	✓*	✓3,4	✓	✓5	✓	✓6				
Chlorine Gas Release		✓	✓	✓	✓	✓	✓		✓3,4	✓	✓5	✓	✓6	✓7			
Sweet Combustible Gas Release		✓1	✓	✓	✓	✓	✓	✓*	✓3,4		✓5		✓6	✓7	✓8		
Spills - Unrefined Products**		✓1	✓	✓	✓	✓	✓2	✓*	✓3,4	✓	✓5	✓	✓6	✓7		✓9	✓
Spills - Refined Products**		✓1	✓	✓	✓	✓	✓2	✓*	✓3,4	✓	✓5	✓	✓6	✓7	✓8	✓9	✓
Serious Injury or Death (Including Vehicle Accidents)	✓		✓	✓		✓		✓*	✓								
Missing Person			✓														
Fire / Explosion	✓	✓1	✓	✓	✓	✓	✓2	✓*	✓	✓	✓			✓			
Pressure Vessel or Piping Incident				✓	✓	✓	✓2	✓*	✓3,4	✓		✓		✓	✓8	✓9	✓
Electrical Incident				✓		✓			✓3,4	✓							
Motor Vehicle Incident (No Injuries)			✓						✓		✓5						
Security Incident			✓	✓		✓		✓*	✓3,4								
On-Site Incident Involving E2 Regulated Substance		✓1	✓	✓		✓			✓3,4				✓	✓7	✓8		✓

✓ Mandatory contact ✓ Contact consideration based on emergency event details.

* CER is a mandatory contact only for emergencies involving CER regulated sites and inter-provincial pipelines.

** Refer to the Classifications and Characteristics of Dangerous Goods chart in the Immediate Actions Section

1) Contact the local fire department if there is potential for secondary fires resulting from the ignition of spilled liquids or escaping gases.

2) Contact HealthLinkBC if the incident has the potential to impact public health (eg. contaminated drinking water).

3) Contact WorkSafe BC when: an injury or accident results in death, an injury or accident results in death, an injury results in a worker being admitted to a hospital for more than (2) days, 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 craned derrick or hoist or, there is a collapse or failure of any component of a building or structure necessary for its structural integrity.

4) Contact WorkSafeBC 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.

5) Contact Ministry of Transportation or the RCMP if the emergency affects a highway designated.

6) Environment and Climate Change Canada (ECCC) will be notified by EMCR 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.

7) In most cases the Canadian Transport Emergency Centre (CANUTEC) will be notified by EMCR. CANUTEC can also provide guidance on handling procedures for toxic material releases.

8) Emergency Response Assistance Canada (ERAC) 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.

9) Contact the Fisheries and Oceans Canada (DFO) to report an oil spill that occurs in or around fresh and/or marine waters.

Legend:					
TSBC – Technical Safety BC	EMCR – Emergency Management and Climate Readiness	BCER – BC Energy Regulator	CER – Canada Energy Regulator	ECCC – Environment and Climate Change Canada	DFO – Fisheries and Oceans Canada
ERAC – Emergency Response Assistance Canada	WSBC – WorkSafeBC	WCSS – Western Canadian Spill Services	MOT – Ministry of Transportation	MOE – Ministry of Environment	

Information Page

Emergency Response Plan (ERP) Name	Pacific Canbriam Energy Limited Core Emergency Response Plan (ERP)	
ERP Manual	Version 1.0 of the Pacific Canbriam Energy Limited Core ERP was completed in August 2022 and submitted to the British Columbia Energy Regulator for approval.	
Distribution and Maintenance	Pacific Canbriam Energy Limited 2100 215 2 Street SW Calgary, AB T2P 1M4	
Administrator	Behr Integrated Solutions 750 600 6 Avenue SW Calgary, AB T2P 0S5	Phone: 403.444.6940 https://behrintegrated.com
Manual Revisions	Version 1.0 – Distributed August 2022 Version 1.1 – Distributed August 2023 Version 1.2 – Distributed August 2024	
Next Scheduled Revision Date	August 10, 2025	
Map Revision Date	Maps finalized on various dates. Refer to the Assets & Equipment Section.	

Disclaimer

This Emergency Response Plan has been designed to provide a series of guidelines for responding to emergency situations. This plan identifies, defines, and provides recommended actions for dealing with incidents that could impact the facility or facilities identified within the plan. This plan provides a logical and responsible approach to identifying and responding to incidents.

Verification of the information contained in this plan is the sole responsibility of the client. Behr Integrated Solutions does not accept any liability arising from the implementation or use of this plan.

This plan was prepared by:

Behr Integrated Solutions
750 600 6 Avenue SW
Calgary, AB T2P 0S5
Office: 403.444.6940

Table of Contents

Emergency Contact Numbers

Incident Management Team Facilities				
Pacific Canbriam Energy Limited 24 Hour Emergency Line				**1.877.269.2877**
Facility	**Location**	**Address**	**Phone**	**Fax**
Primary ICP	Altares b-24-H Field Office	b-24-H / 094-B-08	Conference Rm: 250.785.8322 Ext. 2 → Ext. 3 Office: 250.785.8322 Ext. 2 → Ext. 2 Control Room: 250.785.8322 Ext. 2 → Ext. 1	
	Altares b-72-A Field Office	b-72-A / 094-B-08	Conference Rm: 250.785.8322 Ext. 3 → Ext. 2 Control Room: 250.785.8322 Ext. 3 → Ext. 3	
Secondary ICP	Fort St. John Field Office	1 10628 Peck Lane Fort St. John, BC V1J 4H9	Office: 250.785.8322 Conference Rm: 250.785.8322 Ext. 1 → Ext. 5	
Primary EOC	Calgary Office	2100 215 2 Street SW Calgary, AB T2P 1M4	Office: 403.269.2874 Polycom: 403.718.8569 Phone #1: 403.294.9444 Phone #2: 403.294.9445	403.269.7637

Name	Title	Possible Response Role	Business	Cellular
Corporate & Field				
See following insert for a list of Pacific Canbriam emergency contacts.				
Contractors				
Behr Integrated Solutions	Emergency Management Consultant		403.444.6940	

Fort St. John / Altares			Rev 06.14.24 by JS
#1 - 10628 Peck Lane Fort St. John, BC V1J 6P3			
Name		**Office**	**Local Extension**
FSJ OFFICE			
FSJ Office		250.785.8322	
Jeleena Cawley (HSE Coordinator)	250.948.8386	250.785.8322 ext 1 --> ext 2	3101
Andrew York (HSE Advisor)	604.999.1427		
Jon Rogers (HSE Advisor)	780.933.1592		
Jaden Schafer (Alysia Smith mat leave)	250.261.9765	250.785.8322 ext 1 --> ext 1	3100
FSJ Conf. Room		250.785.8322 ext 1 --> ext 5	3105
Dale Lynn Plotnikow (Sr. Surface Land Representative)	250.261.1661	250.785.8322 --> ext 1	3109
Cory Cooper (Sr. Community Relations Representative)	250.262.7790	250.785.8322 --> ext 1	3110
SUPERINTENDENTS			
Steve Gonwick	250.793.8000	250.785.8322 ext 4--> ext 2	3424
Cole Tymchuk	780.712.1984	250.785.8322 ext 4 --> ext 3	3407
ALTARES b-24-H PLANT			
b-24-H Control Room		250.785.8322 ext 2 --> ext 1	3200
b-24-H Field Office		250.785.8322 ext 2 --> ext 2	3201
b-24-H Conference Room		250.785.8322 ext 2 --> ext 3	3203
b-24-H Camp/On Call		250.785.8322 ext 2 --> ext 4	3250
ALTARES b-72-A Plant			
b-72-A Camp/On Call		250.785.8322 ext 3--> ext 1	3450
b-72-A Conference Room		250.785.8322 ext 3 --> ext 2	3403
b-72-A Control Room		250.785.8322 ext 3 --> ext 3	3401
ALTARES b-72-A Plant Operations			
Lyndon Toews (Plant Lead)	250.981.8199	250.785.8322 ext 4--> ext 1	3421
Trevor Bickerstaff (Plant Lead)	780.522.7304	250.785.8322 ext 4 --> ext 4	3427
Neil Schilling (Field Lead)	250.401.1085	250.785.8322 ext 4--> ext 3	3426
Ryan Sephton (Field Lead)	604.556.4090	250.785.8322 ext 4 --> ext 3	3426
Corey Reschke (Waterhub)	250.783.0603	250.785.8322	3410
	Operations Workstation	250.785.8322 ext 4 --> ext 5	3425
ALTARES b-72-A Maintenance			
Jake Zepeda	587.966.2675		
Trevor Ebbert	250.948.8381	250.785.8322 ext 4--> ext 6	3428
Chris Bouwsema	780.515.0423	250.785.8322 ext 4--> ext 6	3428
Richell Malan (OMC)		250.785.8322 --> ext 1	3108
ALTARES b-73-A Camp			
b-73-A Camp	780.940.2434	250.785.8322--> ext 8	3409
c-62-A WATER PLANT			
c-62-A Water Hub		250.785.8322--> ext 4	3413
Tyler Boring	778.204.0146	Brett Howard	250.783.8583
Graham Brooks	250.261.4544	Colby Chartier	403.660.4590
John Ashley	250.488.2876	Dylan Pritchard	403.505.3551
Emery Brouuillette	403.877.7152		
PLANT OPERATORS			
Ray Barber	250.793.2502	Clinton Gunderson	780.712.9696
Barry Beattie	250.783.3464	Dylan Hudson	780.782.3442
Trevor Bickerstaff	780.522.7304	Erik Jensen	250.793.2364
Matt Bishop	778.204.7258	Dave Nikirk	250.947.5724
Parker Olsen	250.329.6653	Darcy Turnbull	250.263.7779
Steve Code	250.806.0442	Kyle Roley	780.318.0421
Dustin Colombo	604.831.2386	Daniel Rouble	250.329.6038
Brad Dixon	250.793.1737	Lee Kelly	204.781.8527
Rob Fuhriman	250.264.7919	Joe Berthiaume	604.223.7998
Brenton Metzner	604.414.9886	Greg Allan	306.821.3596
FIELD OPERATORS			
		Ryan Sephton	604.556.4090
Zach Bennett	250.255.2466	Red Sherwood	403.702.1992
Kyler Roberge	780.340.2568	Chris Siemens	250.783.0779
Dave Dragan	250.263.3299	Brett Stuber	403.620.4208
Mike Elmquist	403.846.6967	Kody Tricker	250.556.9460
Jeff Holmberg	780.999.5956		
MAINTENANCE / E&I			
Jason Waldorf	250.263.1246	Ryan Miller	778.808.6467
Dwayne Dancy	250.794.6193	Mitchell Parenteau	250.262.8956
Brian Dixon	250.329.6834	Kalem Taylor	250.255.2476
Bryan Grennier	250.261.1345	Mike Taylor	250.793.5557
Morgan Taylor	250-500-2655	Jake Crow	250-816-9985
Geoff Wald	403-763-7449	Brian Potter	250-329-6704
Colin Szoo	250-793-8742		
WAREHOUSE			
Bryan Ibarra		250.785.8322 --> ext 6	422
Terry Stedel	250.263.1039	250.785.8322 --> ext 6	422
SERVICES			
Enbridge	403.699.1700	Metering Station - 169	b-24-H Plant
Enbridge	403.699.1700	Metering Station - 170	Farrell Plant
NorthRiver Midstream Gas Control	250.262.3446	RP 25	Kobes b-24-A
Pembina	780.400.4659		
TC Energy Gas Control	403.920.2402	Meter # 5207	b-72-A
KM 46 Kobes Creek Camp	780.740.4739	Rodney Swarath	

Fort St. John / Altares		Rev 02.12.24 by JS
Name		**Local Extension**
FSJ OFFICE		
FSJ Office	250.785.8322	
DRILLING & COMPLETIONS & CIVIL CONSTRUCTION & ABANDONMENTS & FACILITIES AND PIPELINES		
Bob Banack	D&C OPS Lead	250.793.8710
COMPLETIONS		
Jake Zacharias	Comp Superintendent	780.814.4005
Rob Leduc	Comp Superintendent	780.512.9289
Bob Duchak	On Site Supervisor	403.304.0541
Carey Bazar	On Site Supervisor	780.518.3104
Clark Wills	On Site Supervisor	780.706.6832
Dan Burr	On Site Supervisor	780.933.2877
Wayne Peters	On Site Supervisor	780.933.0256
Bo Marr	On Site Supervisor	403.877.5532
Dylan Cyr	On Site Supervisor	780.728.7294
Mark Klassen	On Site Supervisor	780.832.1958
DRILLING		
Neil Darling	Drilling Superintendent	403.540.2237
Shawn D'Andrea	Drilling Superintendent	403.808.7433
Shane Jensen	On Site Supervisor	403.350.1678
David Fequet	On Site Supervisor	780.267.2265
Noelan Chapman	On Site Supervisor	780.989.6778
Bill Samuels	On Site Supervisor	403.844.1223
Nathan Darling	On Site Supervisor	403.862.8721
Stacey Winters	On Site Supervisor	780.518.7809
Shawn Evens	On Site Supervisor	250.262.7286
CIVIL CONSTRUCTION		
Kevin Hall	Civil Superintendent	403.968.3015
John Gibos	On Site Supervisor	250.262.9754
ABANDONMENTS		
Rodger Field	Abd Superintendent	403.771.9465
Chris Derksen	On Site Supervisor	403-877-8840
FACILITIES & PIPELINES		
Mike McKeigue	Facilities Supervisor	250.263.8987
Desi Waldorf	Facilities Supervisor	250.261.0572
Rockne Patterson	Facilities Supervisor	250.793.2800

PACIFIC CANBRIAM ENERGY	Suite 2100, 215 - 2nd Street SW, Calgary, AB T2P 1M4	(Main) 403.269.2874	(Fax) 403.269.7637	Revised June 18, 2024
NAME	TITLE	ext.	CELL	E-MAIL
Alison Mosca (2155)	Supply Chain Administrator	403.300.2291; ext. 2291	n/a	alison_mosca@pacific-canbriam.ca
Andrea Langfeldt (2005B)	Sr. Marketing Analyst	403.718.8570; ext. 2570	403.922.1676	andrea_langfeldt@pacific-canbriam.ca
Andrew Hamilton (2184)	Project Development Manager **(PECCL)**	403.718.8563; ext.2563	*403.681.0699*	andrew_hamilton@pacificenergycorp.com
Angie Tyler (2038B)	Contract Completions Engineer	n/a	*403.826.2803*	angietyler@attainconsulting.org
Anna Gagnon (2180)	Legal, Summer Intern	n/a	n/a	anna_gagnon@pacific-canbriam.ca
Anton Siyatskiy (2032)	Sr. Reservoir Engineer	403.718.3614; ext.2614	n/a	anton_siyatskiy@pacific-canbriam.ca
April Maynes (2141)	Corporate Executive Assistant / Office Manager	403.817.9050, ext. 2150	403.305.9662	april_maynes@pacific-canbriam.ca
Ashley Hallett (2133)	Controller	403.817.9042; ext. 2142	403.975.9414	ashley_hallett@pacific-canbriam.ca
Ashley Preston (2156)	Contract Supply Chain Specialist	403.300.2611; ext. 2611	*n/a*	ashley_preston@pacific-canbriam.ca
Bernadette Resnick (2174)	Datagration Consultant	n/a	*n/a*	bernadette_resnick@pacific-canbriam.ca
Bill Stait (2182)	VP, Commercial	403.718.8564; ext. 2564	403.801.6314	bill_stait@pacific-canbriam.ca
Blair Hayward (2053)	Sr. Drilling & Completions Engineering Technologist	403.718.8560; ext. 2560	403.816.3211	blair_hayward@pacific-canbriam.ca
Blair Kennedy (2041)	Contract Reservoir Engineer			blair_kennedy@pacific-canbriam.ca
Bob Banack (2035)	Completions Superintendent	n/a	*250.793.8710*	bob_banack@pacific-canbriam.ca
Bob Keller (2031.D)	Field Measurement Consultant	n/a	*n/a*	bob_keller@pacific-canbriam.ca
Brett Wickerson (2140)	Manager, Tax **PECL (CANADA)**	403.817.9062; ext. 2162	*403.616.2763*	brett_wickerson@pacificenergycorp.com
Calvin Chiew (2139)	Senior Indirect Tax Analyst	403.300.2292 ext. 2292	*n/a*	calvin_chiew@pacific-canbriam.ca
Camila Medina (2034)	Reservoir Engineering (E.I.T.)	403.718.3607; ext. 2607	*n/a*	camila_medina@pacific-canbriam.ca
Chris King (2025)	Manager, Indigenous Engagement & Community Relations	403.817.9055; ext. 2155	403.815.9453	chris_king@pacific-canbriam.ca
Chris Wong (2151)	VP, Finance	403.718.3622 ext. 2622	403.869.5579	chris_wong@pacific-canbriam.ca
Clayton Bell (2068)	Contract Project Manager; Production & Facilities	n/a	*403.689.3412*	clayton_bell@pacific-canbriam.ca
Conrad Smith (2052)	Lead, Drilling & Completions Engineering	403.718.3620; ext. 2620	*403.608.2667*	conrad_smith@pacific-canbriam.ca
Courtney Dixon (2134)	Manager, Financial Reporting	403.718.8567; ext. 2567	*403.703.1863*	courtney_dixon@pacific-canbriam.ca
Curtis Yellowega (2072)	Sr. Water Engineering Technologist	403.718.3603; ext. 2603	403.899.2939	curtis_yellowega@pacific-canbriam.ca
Dave Bouckhout (2183)	VP, Commercial Upstream **PECL (CANADA)**	403.718.8559; ext. 2559	*403.561.2472*	david_bouckhout@pacificenergycorp.com
Dave Kelly (2045)	Manager, Geology	403.817.9044; ext. 2144	403.669.6541	dave_kelly@pacific-canbriam.ca
Debra Winney (2113)	Accounts Payable Administrator	403.718.3601; ext. 2601	*n/a*	debra_winney@pacific-canbriam.ca
Dominique Holy (2043)	Sr. Geophysicist/ Earth Modeler	403.817.9043; ext. 2143	403.701.2651	dominique_holy@pacific-canbriam.ca
Donald Prenoslo (2039)	Geologist	403.718.3619; ext. 2619	403.875.3109	donald_prenoslo@pacific-canbriam.ca
Donna Phillips (2019)	EVP, Corporate Development	403.718.8552; ext. 2552	403.813.2069	donna_phillips@pacific-canbriam.ca
Dyane Zalasky (2153)	Manager, Supply Chain & Vendor Relations	403.718.3606; ext. 2606	*403.550.9500*	dyane_zalasky@pacific-canbriam.ca
Erin O'Donnell (2024)	Sr. Surface Land Consultant	n/a	*403.519.9715*	erin_odonnell@pacific-canbriam.ca
Gil Woo (2138)	Head of Internal Audit - **PECL (CANADA)**	403.300.2430; ext. 2430	*403.891.4873*	gilbert_woo@pacificenergycorp.com
Gladys Luk (2112)	Contract Accounts Payable Analyst	403.817.9146; ext. 2146	*n/a*	gladys_luk@pacific-canbriam.ca
Harry Bariana (2070)	Production Engineer	403.817.9064; ext. 2164	*587.297.3966*	harry_bariana@pacific-canbriam.ca
Hoa Huynh (2076)	Sr. Marketing Accountant	403.817.9060; ext. 2160	*n/a*	hoa_huynh@pacific-canbriam.ca
Hugo Martinez (2030)	Manager, Reservoir Engineering	403.718.8573; ext. 2573	403.899.0233	hugo_martinez@pacific-canbriam.ca
Jason Zurkan (2065)	Sr. Environmental Coordinator	403.817.9612; ext.2612	*403.866.6155*	jason_zurkan@pacific-canbriam.ca
Jeff Butlin (2029)	Sr. Staff Subsurface Technologist	403.718.3613; ext. 2613	*403.370.6930*	jeff_butlin@pacific-canbriam.ca
Jeff Pakish (2068)	Manager, Production & Facilities	403.817.9048; ext. 2148	403.512.1293	jeff_pakish@pacific-canbriam.ca
Jeffrey Horton (2028)	Operations Analyst	403.718.8574; ext. 2574	n/a	jeffrey_horton@pacific-canbriam.ca
Jenn Elamad (2024)	Land Administrator Consultant	n/a	*250.204.7847*	jenn_elamad@pacific-canbriam.ca
Jennifer Reschke (2114)	Supervisor, Accounts Payable	403.718.3605; ext. 2605	403.899.3001	jennifer_reschke@pacific-canbriam.ca
Jonathon Anderson (2079)	Facilities Engineer	403.930.6732; ext. 2732	403 875 5334	jonathon_anderson@pacific-canbriam.ca
Jordana Boyd (2011)	Sr. Land Contracts Analyst	403.718.8554; ext. 2554	*n/a*	jordana_boyd@pacific-canbriam.ca
Justyna Puhl (2049)	Drilling & Completions Technician	403.817.9063; ext. 2063	*403.540.1640*	justyna_puhl@pacific-canbriam.ca
Keely O'Neil (2012)	Manager, Land	403.718.8561; ext. 2561	403.899.2860	keely_oneil@pacific-canbriam.ca
Kene Ilochonwu (2164)	Sr. Legal Counsel **(WLNG)**	403.718.3616; ext. 2616	*403.408.7682*	kene_ilochonwu@wlng.ca
Kevin Hall (2050)	Construction Superintendent	403.718.3602; ext. 2602	*403.968.3015*	kevin_hall@pacific-canbriam.ca
Kevin Matieshin (2038A)	Sr. Operations Consultant	n/a	*403.999.2694*	kevin_matieshin@pacific-canbriam.ca
Korede Sofowora (2003)	Corporate Planning Analyst	403.300.2429; ext. 2429	*n/a*	korede_sofowora@pacific-canbriam.ca
Kurtis Magnusson (2135)	Sr. Financial Reporting Analyst	403.718.8565; ext. 2565	*n/a*	kurtis_magnusson@pacific-canbriam.ca
Larry Cole (2117)	Chief Financial Officer	403.718.8551; ext. 2551	403.819.2612	larry_cole@pacific-canbriam.ca
Laszlo Timar (2160)	IT Coordinator	403.817.9058; ext. 2158	403.819.2618	laszlo_timar@pacific-canbriam.ca
Lauren Forrest (2026)	Sustainability Analyst	403.718.3617; ext. 2617	*403.852.5551*	lauren_forrest@pacific-canbriam.ca
Lisa Dickson (2018)	Administrative Assistant	403.817.9049; ext.2149	n/a	lisa_dickson@pacific-canbriam.ca
Lisa Folster (2009)	Sr. Marketing Representative	403.718.3618; ext. 2618	403.899.0290	lisa_folster@pacific-canbriam.ca
Lorne Olsen (2014)	Production Accountant	403.930.6733; ext. 2733	n/a	lorne_olsen@pacific-canbriam.ca
Lynn Bangs (2005B)	Marketing Representative Consultant	n/a	*403.338.1662*	lynn_bangs@pacific-canbriam.ca
Magdalena Matracki (2017)	Senior Communications Specialist	403.300.2431; ext. 2431	*n/a*	magdalena_matracki@pacific-canbriam.ca
Majd Sinjar (2031A)	Geology Summer Student	*n/a*	*n/a*	majd_sinjar@pacific-canbriam.ca
Mark English (2005A)	Director, Marketing	403.718.8568; ext. 2568	403.899.9629	mark_english@pacific-canbriam.ca
May Ly - Tran (2136)	Financial Reporting Accountant	403.718.3609; ext. 2609	*403.671.3931*	may_ly-tran@pacific-canbriam.ca
Micah Libin (2120)	VP, Commercial LNG - **PECL (CANADA)**	n/a	*403.618.9009*	micah_libin@wlng.ca
Monica Cormier (2006)	Land, Summer Student	n/a	n/a	monica_cormier@pacific-canbriam.ca
Munish Kumar (2058)	Sr. Process Engineer	403.300.2436; ext 2436	*587.432.4573*	munish_kumar@pacific-canbriam.ca
Nauman Rasheed (2020)	Chief Operating Officer	403.817.9041; ext. 2141	403.899.0339	nauman_rasheed@pacific-canbriam.ca
Neil Darling (2031C)	Drilling Superintendent Consultant (Ramdar)	n/a	*403.540.2237*	neil_darling@pacific-canbriam.ca
Nellie Gotch (2077)	Sr. Facilities Engineer	403.718.3604; ext. 2604	403.803.0360	nellie_gotch@pacific-canbriam.ca
Paul Myers (2131)	President	403.718.8550; ext. 2550	403.899.9663	paul_myers@pacific-canbriam.ca
RECEPTION (2100)	Ashley One - Receptionist	403.269.2874; ext. 2101	*n/a*	reception@pacific-canbriam.ca
Robert Bercha (2047)	VP, Subsurface	403.718.8556; ext. 2556	403.899.9881	robert_bercha@pacific-canbriam.ca
Rodger Field (2016A)	Sr. Abandonment Superintendant	403.817.9063; ext 2163	*n/a*	rodger_field@pacific-canbriam.ca
Ron Bailey (2103)	EVP - **PECL (CANADA)**	403.718.8553; ext. 2553	*403.970.5707*	ron_bailey@pacificenergycorp.com
Sean Brady (2004)	VP, Corporate Planning	403.817.9045; ext. 2145	403.861.3890	sean_brady@pacific-canbriam.ca
Shelley Xu (2056)	Operations Engineer	403.300.2435; ext. 2435	*780.972.0565*	shelley_xu@pacific-canbriam.ca
Shelly Lausberg (2189)	Sr. HR. Buisness Partner	403.718.3624; ext. 2624	*n/a*	shelly_lausberg@pacific-canbriam.ca
Sherry Roen (2191)	Manager, HR	403.817.9059; ext. 2159	403.899.0296	sherry_roen@pacific-canbriam.ca
Shafi Sarwary	Sr. Technical Analyst	403.718.2557; ext 2731		shafiullah_sarwary@pacific-canbriam.ca
Steve Bernard (2048)	Drilling & Completions Manager	403.300.2434; ext. 2434	*403.519.8442*	steve_bernard@pacific-canbriam.ca
Tana Situ (2069)	Emissions Reduction Engineer	403.817.9057; ext. 2157	*n/a*	tana_situ@pacific-canbriam.ca
Tanya Suitor (2015)	Manager, Production Accounting	403.817.9056; ext. 2156	*403.333.3448*	tanya_suitor@pacific-canbriam.ca
Thayer Ramahi (2159)	Manager, Information Technology	403.817.9040; ext. 2140	403.863.6829	thayer_ramahi@pacific-canbriam.ca
Todd McRae (2167)	VP, Legal - **PECL (CANADA)**	403.718.8558; ext. 2558	*403.510.6451*	todd_mcrae@pacificenergycorp.com
Trevor Ference (2165)	Sr. Legal Counsel **(WLNG)**	403 718 8571; ext. 2571	587.837.8628	trevor_ference@pacificenergycorp.com
Victor Eziyi (2057)	Reliability Engineer	403.300.2437; ext. 2437	*403.831.2049*	victor_eziyi@pacific-canbriam.ca
Victoria Cao (2157)	Contract Buyer	403.930.6731; ext. 2557	*n/a*	victoria_cao@pacific-canbriam.ca
Viktor Pejic (2031B)	Geophysics, Summer Student	*n/a*	*n/a*	viktor_pejic@pacific-canbiam.ca
Vincent Wei (2036)	Reservoir Engineering (E.I.T.)	403.718.3608; ext. 2608	*n/a*	vincent_wei@pacific-canbriam.ca
Zitin Lamba (2063)	Operations Manager	403.817.9052; ext. 2152	*403.618.6166*	zitin_lamba@pacific-canbriam.ca
Altares Boardroom (2143)	403.817.9054, ext. 154	**Farrell Boardroom** (2042)	403.300.2425	**CCC Building Security**
Baldonnel Boardroom (2110)	403.718.8569; ext. 569	**Ground Birch Boardroom** (2059)	403.300.2426	**587.475.9785**
Emergency Command Centre (desk phone in Altares)	403.718.8562; ext. 562	**Lower Montney Boardroom** (2002)	403.300.2427	
Montney Boardroom (2108)	403.817.9061; ext. 161	**Kobes Boardroom** (2010)	403.300.2428	**CCC Building Loading Dock**
Nordegg Boardroom (2125)	403.718.3600; ext. 600			**587.475.9822; Ext: 134908**
Visualization Boardroom (2175)	403.817.9047; ext. 147			

Revised 2024.06.18 (JS)

Personal #'s italicized

External Contacts – Government

Agency/Department	Function / Location	Contact Number
British Columbia Energy Regulator		
Incident Reporting Line (via EMCR)	Reporting / Regulatory	800.663.3456
BCER 24 Hour Line (Fort St. John)	Reporting / Regulatory	250.794.5200 Fax: 250.794.5390
Local Authority		
Peace River Regional District	24 Hour	800.670.7773
	Dawson Creek Office	250.784.3200
	Fort St. John Branch Office	250.785.8084
Health Authority		
Northern Health Authority and Health Emergency Management BC (HEMBC)	Environmental Public Health	24 Hour: 855.554.3622
First Nations Health Authority – Fort St. John Office	Business Hours	250.787.7681
	After Hours *Calls received after 10:00 pm will be responded to the following day at 6:00 am.*	844.666.0711
HealthLink BC	Health Advice	811
Drug and Poison Information Centre (DPIC)	Poison and Drug Information	604.682.5050 800.567.8911
Additional Government Contacts		
BC Ministry of Environment & Climate Change Strategy	Environmental Emergencies	800.663.3456
	Report Poachers & Polluters	877.952.RAPP (877.952.7277)
	Peace Region Office (Fort St. John)	250.787.3411
BC Ministry of Forests	Wildfire Reporting	800.663.5555 From Cell: *5555
BC Ministry of Transportation & Infrastructure	Northern Regional Office	250.565.6185
	Peace District – Fort St. John Office	250.787.3237
	Service Area 21 – South Peace Contractor: Argo Road Maintenance (South Peace) Inc.	800.663.7623
	Service Area 22 – North Peace Contractor: Dawson Road Maintenance Ltd.	800.842.4122

External Contacts – Government		
Agency/Department	**Function / Location**	**Contact Number**
Additional Government Contacts		
BC Office of the Fire Commissioner	Region 5 (Northern)	888.988.9488
BC 1 Call	Call Before You Dig!	800.474.6886
Canada Energy Regulator (CER)	Pipeline Emergency All Other Emergencies	819.997.7887 403.299.2773
Emergency Management & Climate Readiness (EMCR)	Emergency	800.663.3456
	North East Region	250.612.4172
Environment & Climate Change Canada (ECCC)	Customer Service	800.668.6767
Fisheries and Oceans Canada (DFO)	Report Marine Pollution	800.889.8852
NAV Canada	Flight Information Centre (FIC)	866.541.4101
Service BC (*Formerly Enquiry BC*)	Contact Centre	800.663.7867
Technical Safety BC	Report Safety Incident or Hazard	866.566.7233
Transport Canada	CANUTEC Toll Free	888.CAN.UTEC (888.226.8832)
	CANUTEC	613.996.6666 From Cell: *666
Transportation Safety Board (TSB)	Rail Occurrence Hotline	819.997.7887
	Pipeline Occurrence Hotline	819.994.3741
WorkSafeBC	Report Serious Incident or Fatality	888.621.7233

External Contacts – Emergency Service Providers		
Agency/Department	**Main**	**Other**
RCMP		
Dawson Creek RCMP	Emergency: 911	Non Emergency: 250.784.3700
Fort St. John RCMP	Emergency: 911	Non Emergency: 250.787.8140
Hudson's Hope RCMP	Emergency: 911	Non Emergency: 250.783.5241
Fire Department		
NOTE: The areas in this ERP are NOT covered by a fire department. Any wellsite fire or secondary fire must be handled by contract oilfield firefighting services. The following Municipal Fire Departments will ONLY respond to motor vehicle accidents and medical emergencies.		
Chetwynd Volunteer Fire Department	Emergency: 911	Non Emergency: 250.788.2424
Hudson's Hope Fire & Rescue Service	Emergency: 911	Non Emergency: 250.783.9901
Air Ambulance		
STARS	Emergency: 888.888.4567	
BC Emergency Health Services (BCEHS)	911	800.461.9911 / 250.374.5937
Ground Ambulance		
BC Ambulance Service (BCEHS)	911	
Where 911 is not available	800.461.9911	
Cell / SAT / Outside BC	250.374.5937	
Hospitals		
Chetwynd Hospital and Health Centre	250.788.2236	Fax: 250.788.7247
Dawson Creek & District Hospital	250.782.8501	Fax: 250.795.6201
Fort St. John Hospital and Peace Villa	250.262.5200	Fax: 250.261.7650
Hudson's Hope Health Centre	250.783.9991	Fax: 250.783.9125
Reception Centres		
Ramada by Wyndham Northern Grand Hotel & Conference Centre 9830 100 Ave, Fort St. John, BC	250.787.0521	
Stillwater Inn & Suites 9504 Canyon Drive, Hudson's Hope, BC	250.783.5400	

External Contacts – Western Canadian Spill Services (WCSS)		
WCSS 24 Hour Emergency Line		**1.866.541.8888**
See website for more information (www.wcss.ab.ca).		
Contact	**Contact Phone**	**Location**
WCSS Coop 9		
North River Midstream Carl Reimer	24 Hr: 250.262.3446 Bus: 250.262.3456	North River Midstream 13217 Westcoast Frontage Charlie Lake, BC V0C 1H0 Mile 53 Alaska Hwy
	Equipment: ▪ 52′ OSCAR Trailer (semi-truck) ▪ 40′ Boom Cache Sea Can (winch tractor/trailer) ▪ 20′ Wildlife Sea Can (winch tractor/trailer) ▪ Work Boat (1/2-ton truck w/ 2″ ball hitch) ▪ Drum Skimmer w/ Power Pak (1/2-ton truck) ▪ Single Engine Barge (1-ton truck w/ 2-5/16″ ball hitch & electric brakes) ▪ 400′ Shallow Water Boom (1/2-ton truck)	
Troyer Ventures Ltd.	24 Hr: 250.774.5332	4850 46 Avenue Fort Nelson, BC V0C 1R0
	Equipment: ▪ 20’ ISRU Sea Can (winch truck & trailer) ▪ Work Boats (2) (1/2-ton truck w/ 2″ ball hitch)	

External Contacts – Industry Support

The following contact information/companies are listed for convenience only.

Contact	Location	Main	Other
Air Quality Monitoring			
Firemaster Oilfield Services	Grande Prairie	403.342.7500	780.539.4400
HSE Integrated Ltd.	Grande Prairie	780.532.2088	888.346.8260
Safety Boss	Fort St. John	250.785.2721	800.882.4967
Trojan Safety Services	Fort St. John	250.785.9557	
Aviation Support			
Bailey Helicopters	Fort St. John	250.785.2518	877.822.2245
Canadian Helicopters	Fort St. John Grande Prairie	250.787.0431 780.532.2047	780.429.6900
Taiga Helicopters	Chetwynd	780.778.3674 877.242.4211	
Qwest Helicopters	Fort Nelson	250.774.5302	
Yellowhead Helicopters	Fort St. John	250.785.2331	
Communications Equipment Providers			
Earth Communications	Fort Nelson	877.560.3276	
Petron Communications	Fort St. John	250.785.3333	
T&T Communications	Fort St. John	250.785.0310	
Industry Fire Fighting			
Firemaster Oilfield Services	Grande Prairie	403.342.7500	780.539.4400
HSE Integrated Ltd.	Grande Prairie	780.532.2088	888.346.8260
Superior Fire Control Ltd.	Grande Prairie	877.882.0035	780.882.0070
Trojan Safety Services	Fort St. John	250.785.9557	

External Contacts – Industry Support

The following contact information/companies are listed for convenience only.

Contact	Location	Main	Other
Safety Services and Equipment Providers			
Firemaster Oilfield Services	Grande Prairie	403.342.7500	780.539.4400
HSE Integrated Ltd.	Grande Prairie	780.532.2088	888.346.8260
Safety Boss	Fort St. John	250.785.2721	800.882.4967
Trojan Safety Services	Fort St. John	250.785.9557	
United Safety	Fort St. John	800.432.1809	250.261.5515

Legislation

This Emergency Response Plan has been developed using the following legislation, regulations, directives, guidelines, and plans:

Municipal
- Government Emergency Planning Regulation
- Municipal Bylaws

Provincial
- The BC Energy Regulator Emergency Management Regulation – September 1, 2021
- The BC Energy Regulator Emergency Management Manual – November 2023
- The BC Energy Regulator Emergency Response Plan Regulations - 2004
- The British Columbia Oil and Gas Handbook - 2003
- Canadian Association for Petroleum Producers, Emergency Response Planning: Shelter-In-Place Instructions (May 2006).

Federal
- Canadian Association for Petroleum Producers – Shelter-In-Place Instructions – May 24, 2006
- CSA Standards – CAN/CSA-Z246-1– Security Management for Petroleum and Natural Gas Industry Systems – February 2021
- CSA Standards – CAN/CSA-Z246-2 – Emergency Preparedness and Response for Petroleum and Natural Gas Industry Systems – December 2023
- CSA Standards – CAN/CSA Z1600-17 – Emergency and Continuity Management Program – 2022
- Environment & Climate Change Canada – Canadian Environmental Protection Act – Environmental Emergency (E2) Regulations – Schedule 8 – February 25, 2019

Please refer to the above-named regulations and publications for clarification and guidance to achieve compliance.

This ERP has been prepared in accordance with Canadian Association of Petroleum Producers – CPA-IPAC Guidelines for the Preparation of Public Safety Emergency Response Plan for Sour Gas, Drilling, Completions and Servicing, September 1991.

Emergency Response Plan
Acknowledgement Form

I hereby acknowledge that I have received a copy of the Pacific Canbriam Energy Limited – Core Emergency Response Plan.

As a manual holder I understand that:

- I may receive periodic updates which I am responsible for incorporating into this Emergency Response Plan ensuring the document contains the most recently collected data.
- This manual contains confidential information and should be stored in a secure location at all times.
- I must notify Behr Integrated Solutions / Pacific Canbriam Energy Limited if this manual becomes damaged or lost.
- This manual will be returned to Behr Integrated Solutions if replaced or no longer valid.

To confirm your receipt of this manual, please complete the following information and return a signed copy of this letter by email to **erp.acknowledgement@behrintegrated.com**.

Name *(Please Print)*	Manual Number
Signature	Date

Emergency Response Plan
Document Status and Revision Form

This form is used to track any revisions made to this manual. All revisions are to be documented and provided to all manual holders.

Next Annual Review Date:		August 10, 2025			
Current Annual Review Date:		August 10, 2024			
ERP Revision Number	Distribution Date	Revised Sections	Annual Update Y or N	Date Inserted into ERP YYYY-MM-DD	Inserted By
--	Prior to 2022	Revision records have been archived.			
1.0	2022-08-11	Restructure of entire ERP document. All sections reviewed.	Y		
1.1	2023-04-14	Added Spills, Wildfire, and Civil Unrest information to Section 1.0. Updated all instances of OGC to BCER and EMBC to EMCR	N		
1.1	2023-08-11	Reviewed and updated all sections.	Y		
1.2	2024-08-10	All sections reviewed. Updated Front Insert, Notification Matrix, Information Page, Table of Contents, Emergency Contact Numbers, Corporate Governance, Immediate Actions, Levels of Emergency, Roles & Responsibilities, Government Involvement, Mutual Aid, Drills & Exercises, Forms, Glossary.	Y		

Emergency Response Plan
Management of Change Request Form

Item 1. _____

Section Number: _____

Page Number: _____

Description of Change: _____

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Requested By: _____ Date: _____

Item 2. _____

Section Number: _____

Page Number: _____

Description of Change: _____

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Requested By: _____ Date: _____

BEHR OFFICE USE

Received By: _____ Date: _____

Emergency Response Plan
Manual Distribution List

Manual No.	Recipient	Title	Location
Corporate – Confidential			
1	Paul Myers	President	2100 215 2 Street SW Calgary, AB T2P 1M4
2	Jeff Pakish	Manager, Production & Facilities	2100 215 2 Street SW Calgary, AB T2P 1M4
3	Steve Bernard	Manager, Drilling and Completions	2100 215 2 Street SW Calgary, AB T2P 1M4
4	Spare	Calgary Head Office	2100 215 2 Street SW Calgary, AB T2P 1M4
5	Nauman Rasheed	Chief Operating Officer	2100 215 2 Street SW Calgary, AB T2P 1M4
6	Zitin Lamba	Operations Manager	2100 215 2 Street SW Calgary, AB T2P 1M4
7	Spare	Calgary Head Office	2100 215 2 Street SW Calgary, AB T2P 1M4
8	Spare	Calgary Head Office	2100 215 2 Street SW Calgary, AB T2P 1M4
9	Spare	Calgary Head Office	2100 215 2 Street SW Calgary, AB T2P 1M4
Field Manuals – Confidential			
10	Drilling & Completions	b-72-A Warehouse	1 10628 Peck Lane Fort St. John, BC V1J 4H9
11	Drilling & Completions	b-72-A Warehouse	1 10628 Peck Lane Fort St. John, BC V1J 4H9
12	Drilling & Completions	b-72-A Warehouse	1 10628 Peck Lane Fort St. John, BC V1J 4H9
13	Drilling & Completions	b-72-A Warehouse	1 10628 Peck Lane Fort St. John, BC V1J 4H9
14	Drilling & Completions	b-72-A Warehouse	1 10628 Peck Lane Fort St. John, BC V1J 4H9
15	Drilling & Completions	b-72-A Warehouse	1 10628 Peck Lane Fort St. John, BC V1J 4H9
16	Jeleena Cawley	HSE Specialist	1 10628 Peck Lane Fort St. John, BC V1J 4H9
17	Spare	Fort St. John Office	1 10628 Peck Lane Fort St. John, BC V1J 4H9
18	Spare	Fort St. John Office	1 10628 Peck Lane Fort St. John, BC V1J 4H9
19	Steve Gonwick	Operations, Altares b-72-A Plant	1 10628 Peck Lane Fort St. John, BC V1J 4H9
20	Lyndon Toews	Operations, Altares b-72-A Plant	1 10628 Peck Lane Fort St. John, BC V1J 4H9
21	Control Room	b-24-H Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9

A **BOLD, RED,** manual number indicates the manual contains confidential data collected during the Public Involvement Process

Manual No.	Recipient	Title	Location
Field Manuals – Confidential (continued)			
22	Control Room	b-24-H Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9
23	Control Room	b-24-H Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9
24	Control Room	b-24-H Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9
25	Control Room	b-72-A Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9
26	Control Room	b-72-A Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9
27	Control Room	b-72-A Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9
28	Control Room	b-72-A Altares Control Room	1 10628 Peck Lane Fort St. John, BC V1J 4H9
29	Spare	Kobes Field Office	1 10628 Peck Lane Fort St. John, BC V1J 4H9
External Manuals			
30	BC Energy Regulator (BCER)	Security and Emergency Management Branch	Bag 2 Fort St. John, BC V1J 2B0
31 PDF	BC Energy Regulator (BCER)	Security and Emergency Management Branch	SFTP Site
32 PDF	Emergency Management & Climate Readiness (EMCR)	Manager	3235 Westwood Drive Prince George, BC V2N 1S4
33 PDF	WorkSafeBC	Regional Prevention Manager	Budd.phillips@worksafebc.com
34 PDF	Peace River Regional District	Protective Services Manager	prrd.dc@prrd.bc.ca
35	Hudson's Hope RCMP	NCO in Charge	10317 Gething Street Hudson's Hope, BC V0C 1V0
36	Halfway River First Nations	Fire Chief and the Manager of Emergency Services	PO Box 59, Wonowon, BC, V0C 2N0
Contractors			
Master	Behr Integrated Solutions	Emergency Management Consultants	750 600 6 Avenue SW Calgary, AB T2P 0S5

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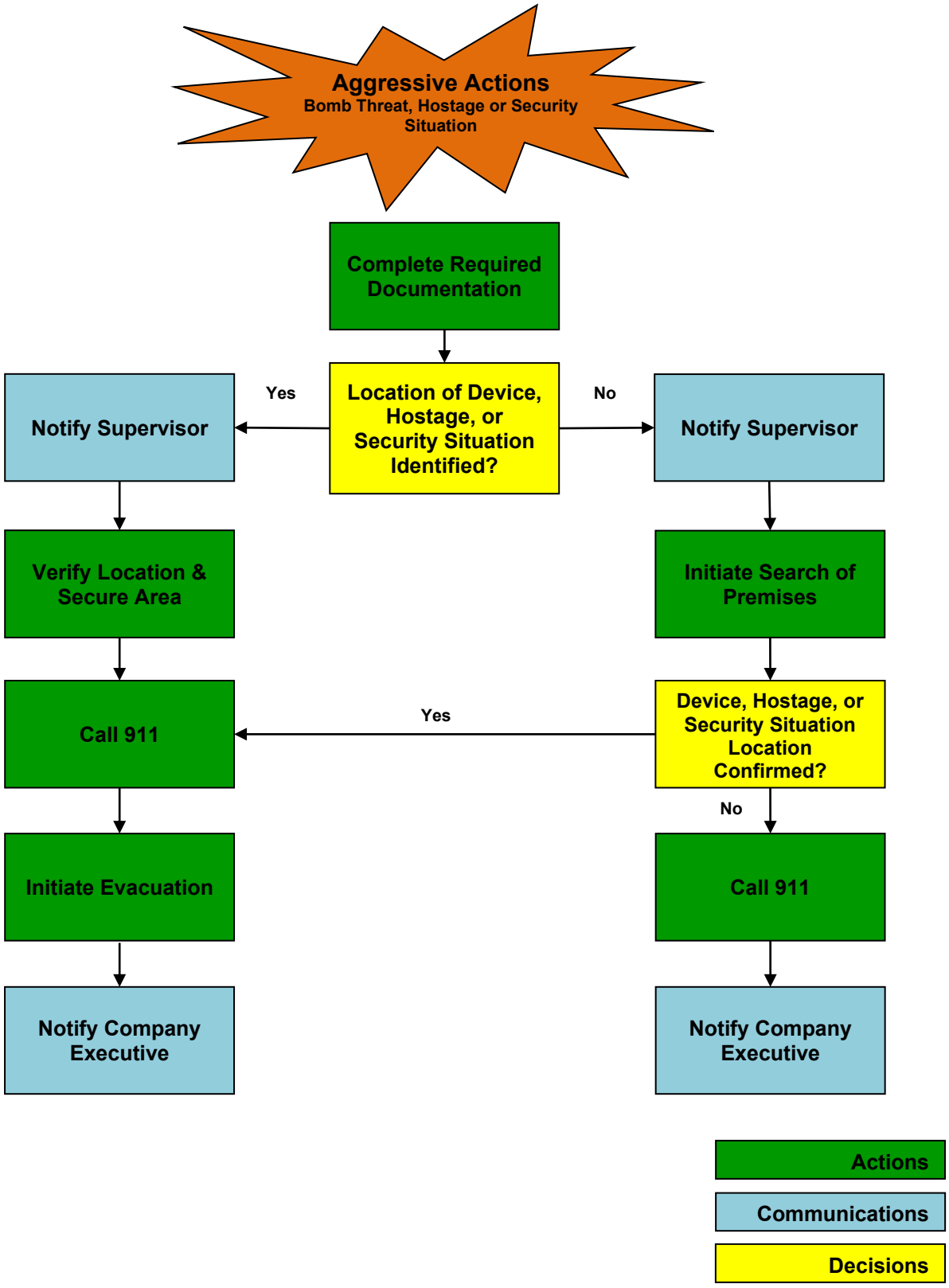
1.0 Immediate Actions

This section provides a brief description of response specific procedures to ensure all responders have an understanding of response activities.

Response steps outlined in this section are guidelines and may not meet the specific needs for all response situations. Depending on the scope of emergency more than one response specific procedure may need to be utilized.

1.1 Aggressive Actions - Bomb Threat, Hostage, or Security Situation



1.1 Aggressive Actions – including a Bomb Threat, Hostage or Security Situation

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- If a threat is received over the phone, log the conversation. Make note of the caller's demeanor, accent and / or instructions.
- Contact emergency services, as needed. (911, where available)
- Initiate a search for the device and confirm the location **or** confirm the location of the hostage situation.
- Update emergency services. (911, where available)
- Contact immediate supervisor and provide all available information.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Account for personnel on site.
- Sound the evacuation alarm and begin evacuation procedures, if required.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate government agencies, when required.
- Notify next of kin in consultation with the RCMP, if required.

LIAISON OFFICER:
- Maintain contact with required government agencies, including the RCMP.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.

SITE CONTROL GROUP SUPERVISOR:
- Direct / implement control procedures on site to minimize impact.
- Assist emergency services as required.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

ROVER / EVAC UNIT LEADER:
- Evacuate personnel from hazard area, if required.

ROADBLOCK UNIT LEADER:
- Secure the scene.
- Ensure evidence is documented and secured for investigation.
- Meet incoming investigative crews at the main entrance and direct them to the scene.

RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees, if required.
- If activated, receive evacuees at the reception centre.

Civil Unrest

Pacific Canbriam's goal during times of civil unrest is to keep employees, property and assets safe.

Civil unrest will usually take the form of an organized public demonstration (protest) of disapproval or display disagreement with an idea or course of action. The mission of a protest is to disrupt activities into and out of a facility / property.

There are 3 general types of civil unrest that may take place, however all 3 may be encountered in a single event as the situation escalates / de-escalates.

- Peaceful, Non-Obstructive Protest: Generally, peaceful protests should not be interrupted. Protestors should not be obstructed or provoked, and efforts should be made to conduct business as normally as possible.
- Non-Violent, Disruptive Protest: A protest event that interferes with the normal company operations or obstructs access to any property, equipment or assets.
- Violent, Disruptive Protest (Rioting, Vandalism): A protest in which threat of physical harm to persons, damage and / or unauthorized entry into property, equipment or assets is occurring or appears imminent.

Pre-emptive Civil Unrest Planning

- Gather intelligence by monitoring media reports, social media, internet, and other sources on potential civil unrest.
- Employees should share any suspicious activity with Pacific Canbriam.
- Pacific Canbriam should evaluate seriousness of activity and alert RCMP / Police and employees.
- Check that security / surveillance systems in place are working properly.
- Train employees on safety procedures when encountering protestors.
- Train select personnel to deal and speak with the Protest Leader(s) and RCMP / Police. Having predetermined Company Representatives helps to keep information consistent and accurate when reporting the incident to all involved.
- When prompted, the following statement can be provided to protestors:

"If you would like to speak with someone about your concerns, I can contact them for you. However this facility is private property and trespassers must leave our property immediately."

Civil Unrest Safety Procedures

In many cases a public demonstration is peaceful and non-obstructive, and should not be disrupted unless one or more of the following conditions exists:

- Interference of normal company operations.
- Obstructing access to any property, equipment or assets.
- Threat of physical harm to persons or damage to property, equipment or assets.
- Unauthorized entry into or occupation of any property, equipment or assets.

If personnel encounter a protest on-site:

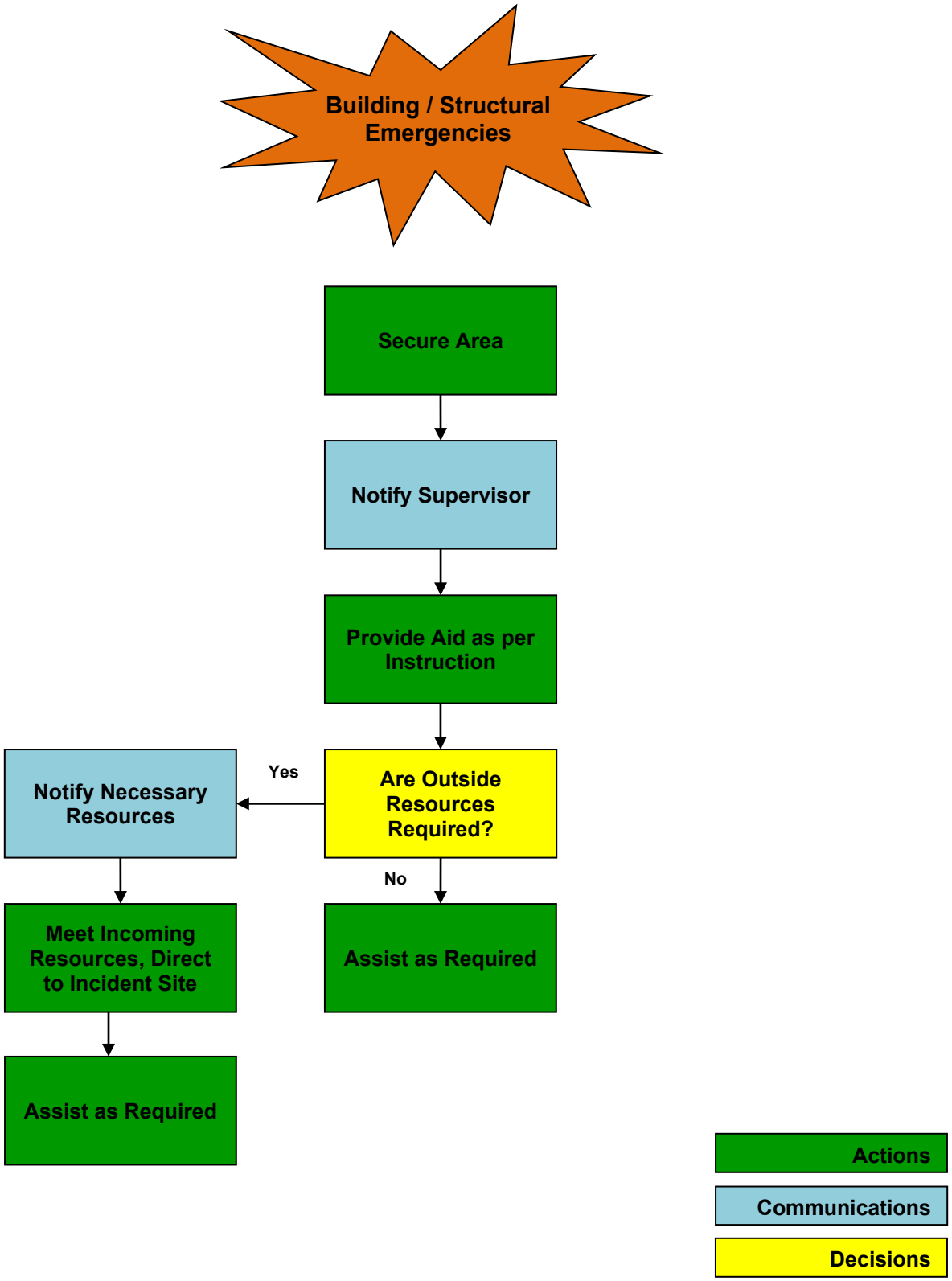
- Report Protest Activities
  - Report protest activities to Control Room / Supervisors and provide an initial assessment including location, area potentially affected and other hazards.
  - Pacific Canbriam will notify all personnel on-site (employees, contractors, and other company representatives) of protest activities and instruct them to follow safety procedures.
  - Pacific Canbriam will designate a pre-trained Company Representative to speak with Protest Leader(s) and RCMP.
  - Contact RCMP / Police and await further instructions.
- Be Safe
  - Stay calm and do not react aggressively either physically or verbally with protestors.
  - Report any injuries to Control Room / Supervisors.
- Protect Property and Assets
  - Report any concerns, unauthorized entry, or sabotage to Control Room / Supervisors.
  - If necessary and possible, deny access to facility or company equipment.
  - Keep all company vehicles at a safe distance.
  - Do not only focus on where the people are assembled. The entire facility is at risk and personnel need to be vigilant around and in the facility itself.
- Collect Evidence
  - Record all interactions from a safe distance.
  - Efforts should be made to secure positive identification of protestors in violation to facilitate later testimony, including photographs if deemed advisable.
  - Additionally, efforts should be made to record video of any law enforcement action for future reference.

If personnel encounter a protest while in a vehicle:

- Stay in vehicle and communicate situation to Supervisor.
- If alone, lock vehicle doors, put passenger-side seatbelt through passenger-side interior door handle to help prevent door being opened from the outside.
- Stay calm and do not react aggressively either physically or verbally with protestors.
- If safe, slowly move vehicle and leave area.
- Contact RCMP / Police and await further instructions.

RCMP / Police will speak to both the company representative and lead protester(s). Usually, the RCMP / Police will allow the protest to disrupt the flow into and out of the area but will negotiate a time to allow company vehicles and personnel into and out of the area safely.

1.2 Building / Structural Emergencies



1.2 Building / Structural Emergencies

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Determine need for backup or outside resources.
- Contact emergency services as needed. (911, where available)
- Sound the evacuation alarm and begin evacuation procedures, if required.
- Contact immediate supervisor giving an initial assessment including location, area potentially affected and other hazards.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- Account for personnel on site.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate authorities, when required.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SITE CONTROL GROUP SUPERVISOR:
- Direct / implement control procedures on site to minimize impact.
- Assess the need to stop normal operating activities in order to minimize risk to personnel and equipment, execute if necessary.
- Assess risk of controlling an incident with available personnel and equipment, execute if risk is deemed low.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

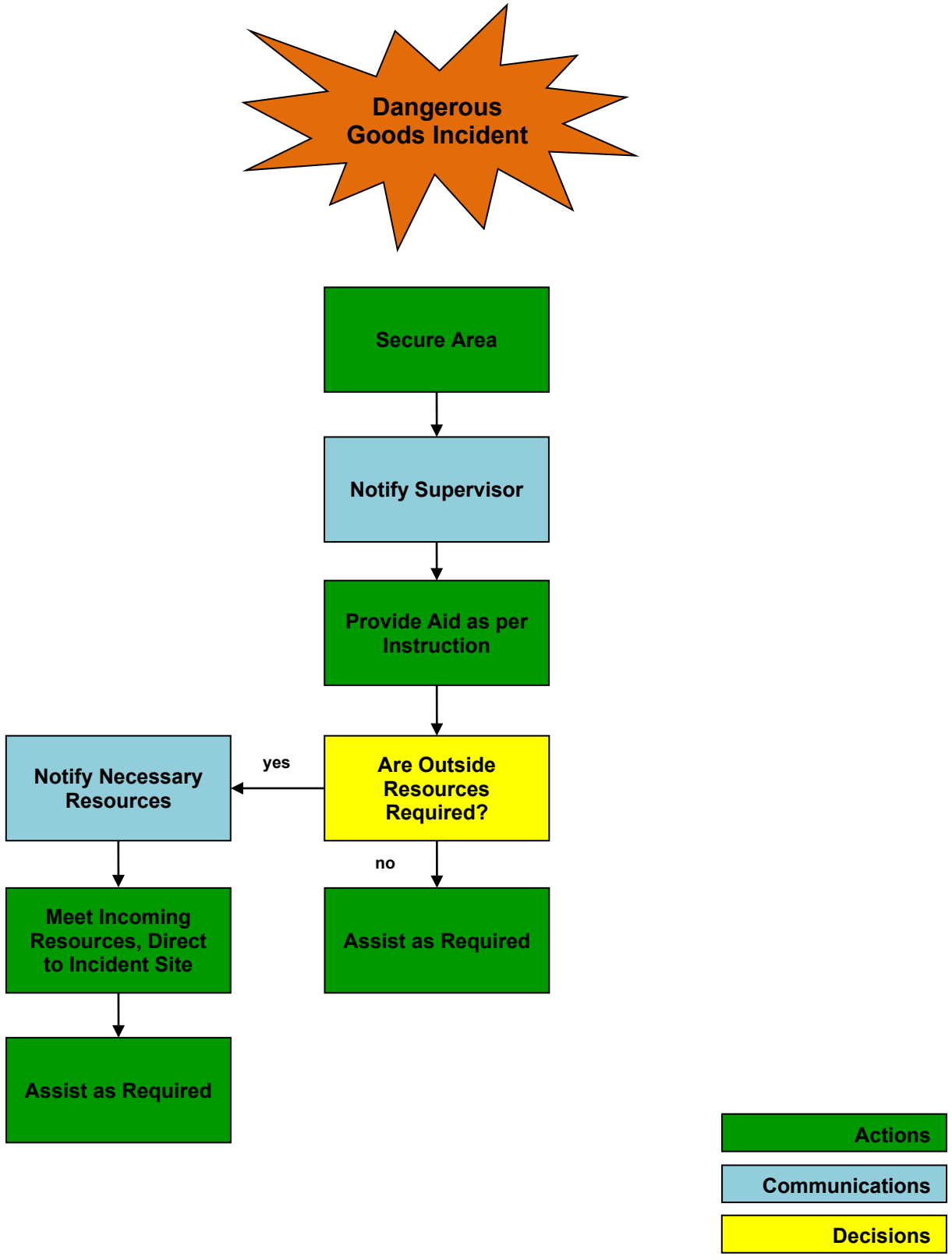
ROVER / EVAC UNIT LEADER:
- Evacuate personnel from hazard area, if required.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place.
- Carry out necessary activities to protect the incident site, such as container stabilization or product transferring.

ROADBLOCK UNIT LEADER:
- Establish and maintain a secure incident scene. Ensure evidence is documented and secured for investigation.

RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees, if required.
- If activated, receive evacuees at the reception centre.

1.3 Dangerous Goods Incident



1.3 Dangerous Goods Incident

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more qualified individual.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Determine the Level of Emergency, notify the appropriate authorities (BCER, EMCR, the Ministry of Transportation and the Ministry of Environment), if required.
- Determine need for backup or outside resources.
- Contact emergency services, as needed. (911, where available)
- Sound the evacuation alarm and begin evacuation procedures, if required.
- Contact immediate supervisor giving an initial assessment including location, area potentially affected and other hazards.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- Account for personnel on site.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate authorities, when required.

LIAISON OFFICER:
- Maintain contact with required government agencies, including the BCER, EMCR, the Ministry of Transportation and the Ministry of Environment.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.

SITE CONTROL GROUP SUPERVISOR:
- Direct / implement control procedures on site to minimize impact.
- Assess the need to stop normal operating activities in order to minimize risk to personnel and equipment, execute if necessary.
- Assess risk of controlling an incident with available personnel and equipment, execute if risk is deemed low.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place.
- Eliminate all sources of ignition.
- Obtain MSDS sheets, as needed.
- Isolate the leak, prevent entry into waterways and sewers.
- Assess the damages, including damages to containers, vehicles, and structures as a result of the incident.
- Carry out activities to reduce or stop leaks such as container stabilization, dyking, storing, transferring and / or disposal.
- Notify the Site Control Group Supervisor if waste disposal services are required.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

AIR MONITORING UNIT LEADER:
- Monitor the hazard area for the presence of H_2S / SO_2 or LEL readings.

ROVER / EVAC UNIT LEADER:
- Evacuate personnel from hazard area, if required.

ROADBLOCK UNIT LEADER:
- Assign members to meet incoming emergency services at the site entrance and escort them to the scene.
- Establish and maintain a secure incident scene. Ensure evidence is documented and secured for investigation.

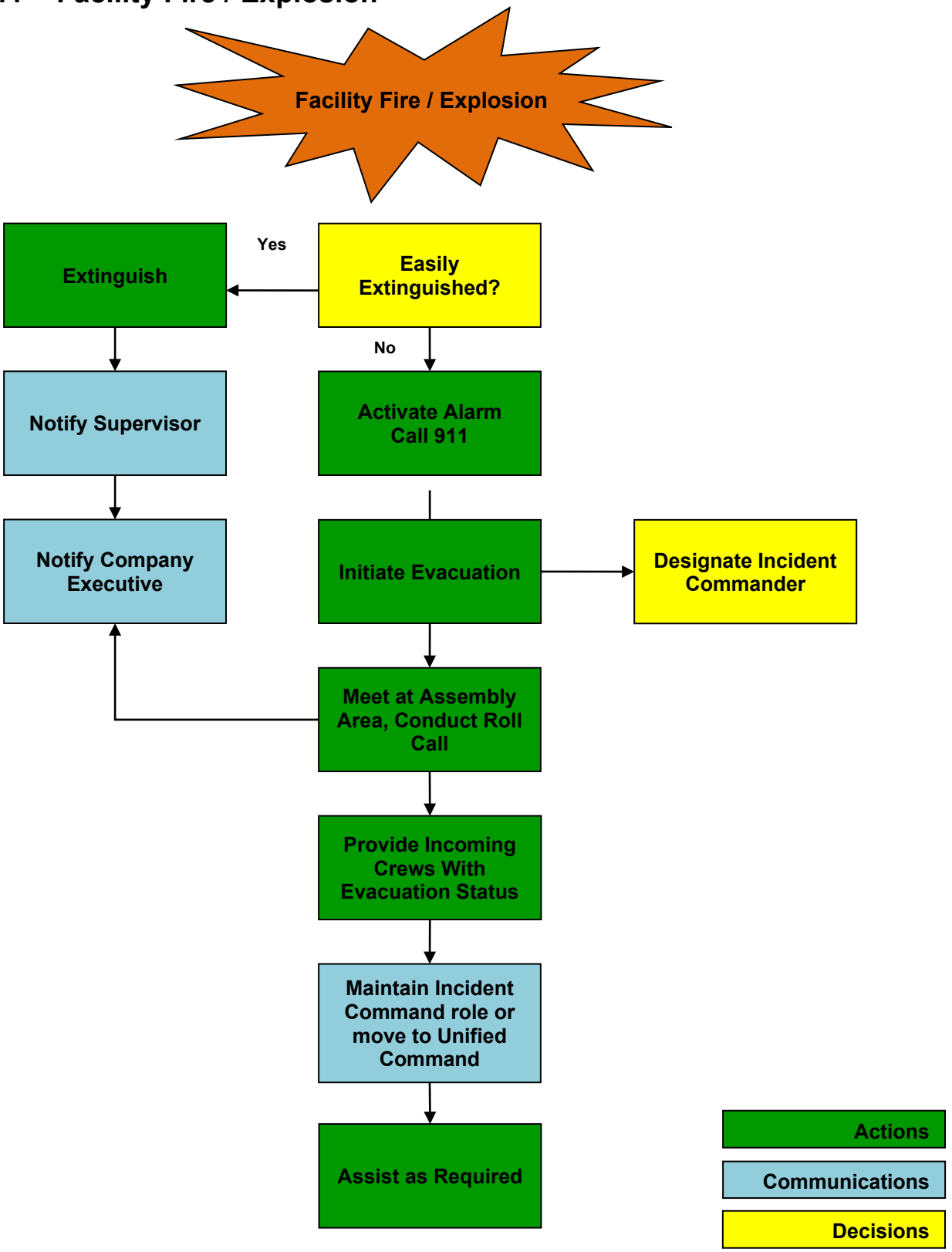
RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees, if required.
- If activated, receive evacuees at the reception centre.

CLASSIFICATION AND CHARACTERISTICS OF DANGEROUS GOODS

Any spill or release that goes off-lease that has caused, is causing, or may cause an adverse effect, must immediately be reported to the local police, Emergency Management & Climate Readiness (EMCR) – 1.800.663.3456 and CANUTEC – 1.888.226.8832

Class	Division	Characteristics of Dangerous Goods	Quantity	Packing Group
1 Explosives (Sections 2.9 – 2.12)	1.1	A substance or article with a mass explosion hazard	Any quantity	II – Hazardous Substances
	1.2	A substance or article with a projection hazard but not a mass explosion hazard		
	1.3	A Substance or article which has a fire hazard and either a minor blast hazard or a minor projection hazard or both, but does not have a mass explosion hazard		
	1.4	A substance or article which presents no significant hazard beyond the package in the event of ignition or initiation during transport		
	1.5	A very insensitive substance with a mass explosion hazard		
	1.6	Extremely insensitive article with no mass explosion hazard		
2 Gases (Sections 2.13 – 2.17)	2.1	A flammable gas which is easily ignited and burns	Any quantity	Not Applicable
	2.2	A non-flammable, non-toxic, non-corrosive gas		
	2.3	A toxic gas		
3 Flammable Liquids (Sections 2.18 – 2.19)	*	A flammable liquid with a closed-cup flash point less than or equal to 60.0°C	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
4 Flammable Solids (Sections 2.20 – 2.22)	4.1	A flammable solid which is readily combustible and may cause fire through friction or from heat retained from manufacturing	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	4.2	A spontaneously combustible substance that ignites when exposed to air		
	4.3	A water-reactive substance which emits flammable gas when it comes into contact with water		
5 Oxidizing Substances, Organic Peroxides (Sections 2.23 – 2.25)	5.1	An oxidizing substance which may yield oxygen and contribute to the combustion of other material	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	5.2	An organic peroxide which releases oxygen readily and may be liable to explosive decomposition, or sensitive to heat, shock, or friction		
6 Toxic and Infectious Substances (Sections 2.26 – 2.36)	6.1	A toxic substance that is liable to cause harm to human health	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	6.2	An infectious substance	Any quantity	A or B
7 Radioactive Materials (Sections 2.37 – 2.39)	None	Radioactive materials as defined in the Packaging and Transport of Nuclear Substance Regulations	A level of ionizing radiation greater than the level established in section 39 of the "Packaging and Transport of Nuclear Substance Regulations 2015"	Not Applicable
8 Corrosive Substances (Sections 2.40 – 2.42)	None	Solids or liquids such as acids or alkalis materials that cause destruction of the skin or corrode metals	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
9 Miscellaneous Products, Substances or Organisms (Sections 2.43 – 2.45)	None	A regulated substance that cannot be assigned to any other class. It includes genetically modified micro-organisms, marine pollutants and substances transported at elevated temperatures	30 L or 30 kg	II – Hazardous Substances or III – Moderately Hazardous Substances, or without packing group

1.4 Facility Fire / Explosion



1.4 Facility Fire / Explosion

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Determine the Level of Emergency. Notify the BCER and appropriate agencies, if required.
- Determine need for backup or outside resources.
- Contact emergency services as needed. (911, where available)
- Sound the evacuation alarm and begin evacuation procedures, if required.
- Contact immediate supervisor giving an initial assessment including location, area potentially affected and other hazards.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- Account for personnel on site.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate authorities, when required.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- **Request or administer first aid as necessary.**

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SITE CONTROL GROUP SUPERVISOR:
- Ensure backup is present or en route before attempting to contain or control the fire.
- Implement control procedures to minimize impact.
- Assess the need to stop normal operating activities in order to minimize risk to personnel and equipment, execute if necessary.
- Assess risk of controlling an incident with available personnel and equipment, execute if risk is deemed low.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

AIR MONITORING UNIT LEADER:
- Monitor the hazard area for the presence of H_2S / SO_2 or LEL readings.

ROVER / EVAC UNIT LEADERS:
- Evacuate personnel from hazard area.

ROADBLOCK UNIT LEADER:
- Establish and maintain a secure incident scene. Ensure evidence is documented and secured for investigation.

RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees, if required.
- If activated, receive evacuees at the reception centre.

Boiling Liquid Expanding Vapour Explosion (BLEVE)
BLEVE is a process whereby the flammable liquid in a vessel is heated through an outside source. The added heat causes the liquid to vaporize and the pressure to rise in the vessel. When the pressure reaches the release pressure of the vessel's pressure safety valve (PSV) the valve will lift and return the pressure in the tank to a safe level and then close. If the external heated source cannot be eliminated, this process will continue. When the liquid level in the tank drops below the level of the flame impingement, the vessel will begin to weaken and will eventually result in a catastrophic failure or BLEVE.

Tank Fires
When an LPG tank is involved in fire, there are important conditions which must be considered.

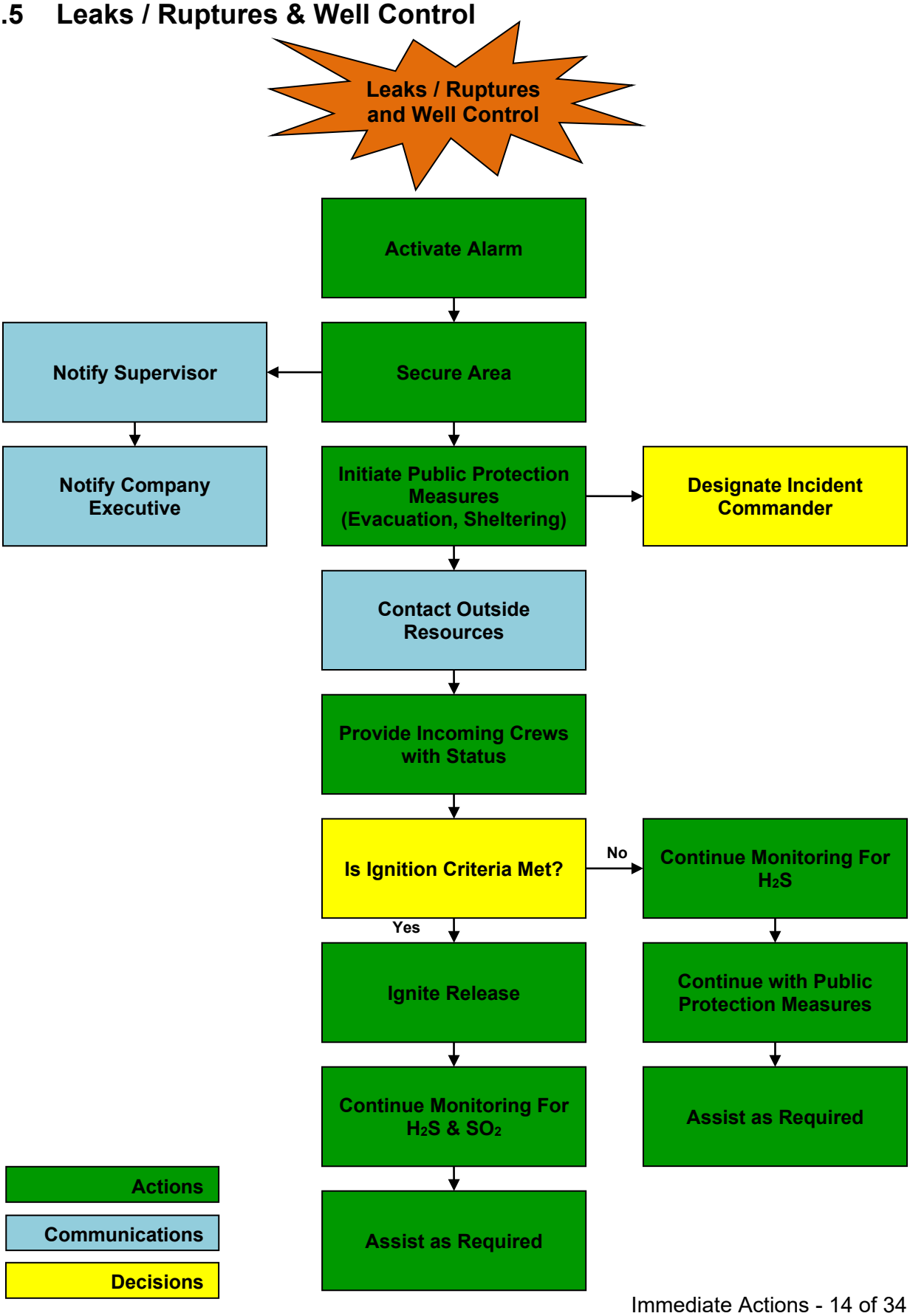
- Do the flames contact the tank shell itself? If not, there is no immediate risk of fire at the tank. Generally, radiant heat alone will not overheat the shell of the tank.
- Fight fire from the maximum distance possible or use unmanned hose holders or monitor nozzles.
- If the flames actually contact or impinge on the tank shell itself, determine the liquid level in the tank from the frost line. If the flames impinge below the liquid level, there will be a pressure build-up of vapours and the relief valve will operate with possible ignition. It will be necessary to cool the tank shell above the liquid level to reduce internal pressure and reset the valve. Also cool the tank at the point of flame impingement to reduce the possibility of tank shell failure.
- Cool container by flooding them with large quantities of water until well after fire is out.
- If the flames heat the shell above the liquid level in the tank a serious condition can develop quickly.
- Flames impinging above the liquid level will cause the shell to overheat and bulge.
- Do not direct water at the source of the leak or at safety devices, icing may occur.

Note: Leave the area immediately if you hear a rising sound from the venting safety devices or see discoloration of the tank.

Water Application

- The ideal method of applying water is to fan a long solid stream on top of the surface of the tank from the opposite side while staying at a safe distance. It is highly important that the streams of water are applied back and forth on the entire top surface of the vessel to gain uniform cooling.
- Begin cooling as early as possible and fan straight streams of water back and forth over the tank.
- Approach the tank from the sides and not the ends. Be aware that when a BLEVE occurs, sections of the tank can fly in any direction.

1.5 Leaks / Ruptures & Well Control



1.5 Leaks / Ruptures and Well Control

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Determine the Level of Emergency. Notify the BCER and appropriate agencies, if required.
- Determine need for backup or outside resources.
- Contact emergency services, as needed. (911, where available)
- Sound the evacuation alarm and begin evacuation procedures up wind of the hazard, if required
- Contact immediate supervisor giving an initial assessment including location, area potentially affected and other hazards.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- Account for personnel on site.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate authorities, when required.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SITE CONTROL GROUP SUPERVISOR:
- Direct / implement control procedures on site to minimize impact.
- Assess the need to stop normal operating activities in order to minimize risk to personnel and equipment, execute if necessary.
- Assess risk of controlling an incident with available personnel and equipment, execute if risk is deemed low.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place.
- Eliminate all sources of ignition.
- Obtain MSDS sheets, as needed.
- If gasses are involved, prevent the spreading of vapours through sewers and confined areas. Isolate area until gas has dispersed.
- If liquids are involved, prevent entry into waterways and sewers.
- For pipeline leaks, isolate the leak and dissipate the pressure, consider all possibilities of trapped pressure.
- Carry out activities to reduce or stop leaks such as container stabilization, dyking, storing, transferring and / or disposal.
- Notify the Site Control Group Supervisor if waste disposal services are required.

IGNITION UNIT LEADER:
- If H_2S is involved and ignition criteria have been met, don appropriate PPE and begin ignition procedures.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

AIR MONITORING UNIT LEADER:
- Monitor the hazard area for the presence of H_2S / SO_2 or LEL readings.

ROVER / EVAC UNIT LEADER:
- Evacuate personnel from hazard area, if required.

ROADBLOCK UNIT LEADER:
- Establish roadblocks to prevent any unauthorized personnel from entering the incident site.
- Ensure evidence is documented and secured for investigation.

RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees, if required.
- If activated, receive evacuees at the reception centre.

Characteristics and Dangers of H_2S

- Found in decaying organic matter, natural oil and gas, silos, and sewers.
- Found as gas at temperatures above -60°C.
- Flammable – burns to form SO_2.
- Odour of rotten eggs at low concentrations – kills all sense of smell at higher concentrations.
- Will tend to disperse more slowly in sheltered or calm, low lying areas.
- Extremely toxic.
- At lower concentrations (20-50 ppm) irritates mucous membranes (eyes, throat, lungs), causes headaches, dizziness, nausea, may cause pulmonary edema (fluid in the lungs) upon prolonged exposure.
- High concentrations (500-1000 ppm) may cause paralysis of the respiratory centre in the brain – breathing stops.
- This gas is dangerous because it kills the sense of smell very quickly.

Hydrogen Sulphide (H_2S) Toxicity Table

Hydrogen sulphide is a colourless, flammable, toxic gas. It affects people differently depending on concentration and length of exposure. Concentrations of H_2S are generally measured in parts per million (ppm), one part per million means one part of gas in one million parts of air. At very low concentrations, it has an offensive odour, (similar to rotten eggs) however, it is undetectable by odour at higher concentrations. A person can be exposed to H_2S concentrations of up to 10 ppm for up to 8 hours without breathing apparatus as per government exposure limits.

General Health Effects of Hydrogen Sulphide (H_2S)	
Concentration (ppm)	**Effects**
0.1 - 0.3	Detectable by odour.
1 - 5	Moderate to strong offensive odour may cause nausea, tearing of the eyes, headaches or loss of sleep upon prolonged exposure. Effects are moderate.
10	Ceiling limit. (WorkSafe BC).
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 eyes within 30 minutes, severe lung irritation, unconsciousness and death within 4 to 8 hours.
1000	Breathing stops within 1 or 2 breaths.

Characteristics and Health Effects of Sulphur Dioxide (SO_2)

- This is a choking gas, unlike H_2S, and one wants to move to an area where the discomfort is not experienced.
- Formed by the combustion of H_2S or sulphur and is non-flammable.
- Found as a gas at temperatures above -10°C.
- Has the odour that occurs when a wooden match is extinguished.
- Highly irritating – dissolves to form sulphuric acid.
- At lower concentrations irritates 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.

SO_2 Toxicity Table

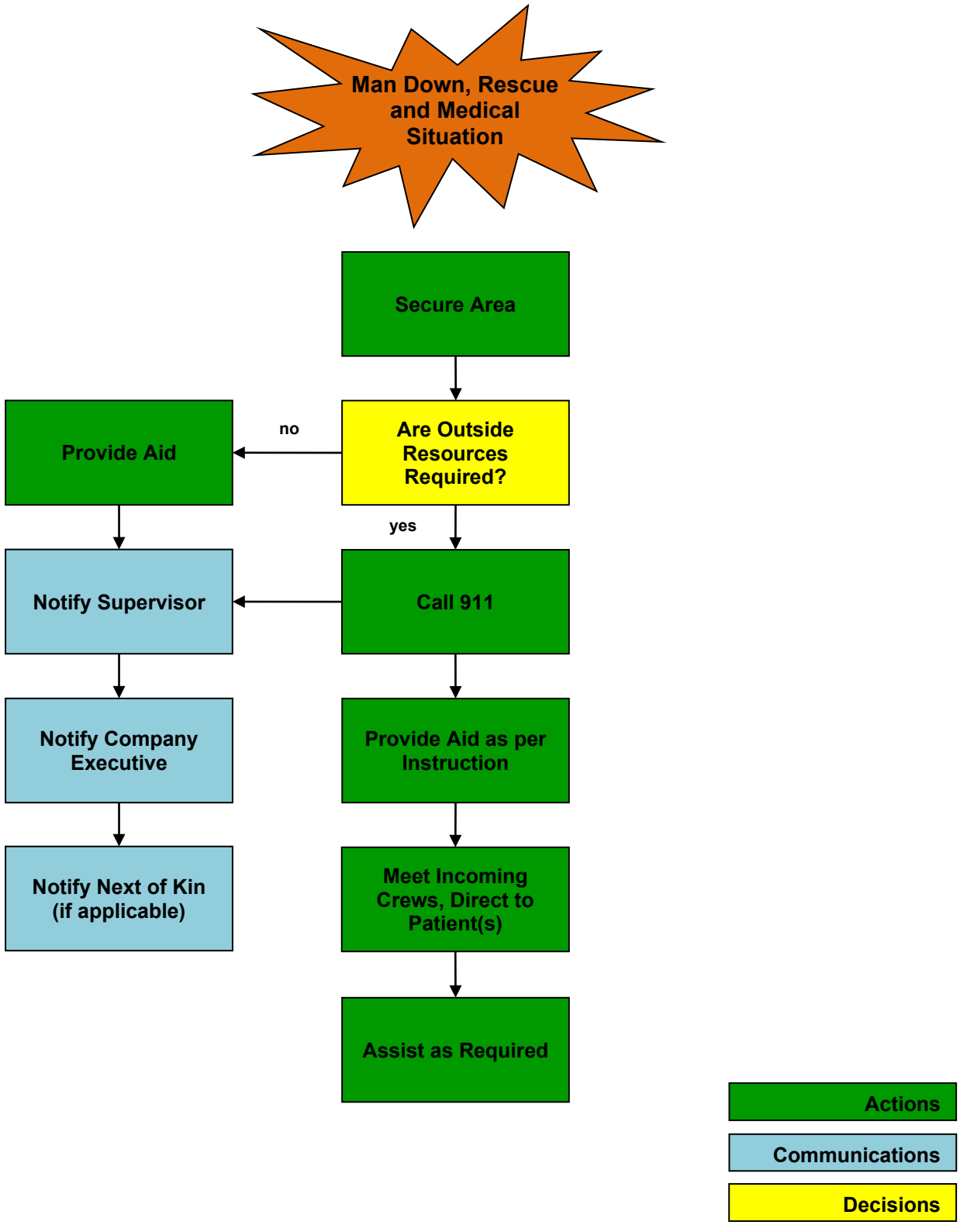
If a release of sour gas occurs and is threatening the safety of the public, the response is to ignite the gas. Burning the sour gas turns the H_2S to SO_2. The heat from the fire will carry the SO_2 and smoke up into the air, where it will disperse. By the time the SO_2 comes back to ground level, the concentrations would normally only be detectable with the use of an electronic gas detection monitor. These levels should be well below provincial environment regulations.

General Health Effects of Sulphur Dioxide (SO_2)	
Concentration (ppm)	**Effects**
0.13	24 hour evacuation level (MWLAP Level B criteria).
0.34	One hour average evacuation level (MWLAP Level B criteria).
2	Eight hour Occupational Exposure Limit (WorkSafeBC).
3 - 5	Odour threshold.
5	15 minute Occupational Exposure Limit (WorkSafeBC).
8 - 12	Throat irritation, coughing, constriction in chest, tearing and smarting of the eyes.
10 - 50	Exposure 5 -15 minutes: increased irritation of the eyes, nose, throat, choking, coughing and in some cases, wheezing as a sign of narrowing of the airways (which increases the resistance of the air-flow).
150	Short–term endurance lost due to severe eye irritation and because of the effects on the membranes of the nose, throat and lungs.
500	Highly dangerous after an exposure of 30-60 minutes.
1000 - 2000	May be fatal with continued exposure.

Characteristics and Dangers of Propane

- Extremely flammable.
- Will be easily ignited by heat, sparks, or flames.
- Will form explosive mixtures with air.
- Vapors from liquefied gas are initially heavier than air and spread along ground.
- Vapors may travel to source of ignition and flash back.
- Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode when heated.
- Ruptured cylinders may rocket.
- Vapors may cause dizziness or asphyxiation without warning.
- May be irritating if inhaled at high concentrations.
- Contact with gas or liquefied gas may cause burns, severe injury and / or frostbite.
- Fire may produce irritating and / or toxic gases.

1.6 Man Down, Rescue and Medical Situation



1.6 Man Down, Rescue and Medical Situation

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- Contact emergency services (911, where available) and have them deployed to site.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Determine need for backup or outside resources.
- Contact immediate supervisor giving an initial assessment of the incident, including severity of injuries, location, resources needed, and first aid treatment provided.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- Account for all other personnel on site.
- Establish an Incident Command Post (ICP), as needed.

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate government agencies, when required.
- Notify next of kin, in consultation with the RCMP, if required.

LIAISON OFFICER:
- Maintain contact with required government agencies. Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

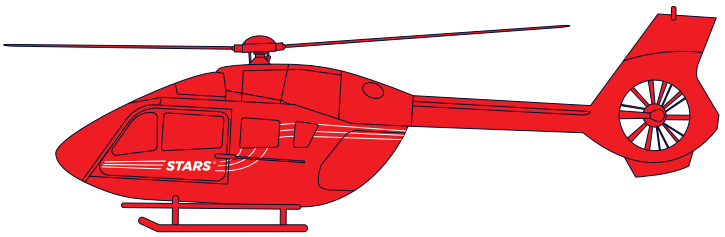
SITE CONTROL GROUP SUPERVISOR:
- Direct control procedures on site to minimize impact.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place, if required.
- Eliminate all sources of ignition.
- Assign members to meet incoming emergency services at the site entrance and escort them to the scene.
- Prepare appropriate landing area if a helicopter is being used for transport.
- Assess the situation to ensure personal and others' safety.
- Administer first aid as necessary.
- Notify the Site Control Group Supervisor of further medical treatment, if required and any additional hazards on site.
- Ensure the required communication equipment is provided to personnel performing a rescue attempt.
- If a risk analysis indicates a rescue attempt is within reasonable risk, don appropriate Personal Protective Equipment (PPE) and rescue victim, moving them to a safe location.

ROADBLOCK UNIT LEADER:
- Establish and maintain a secure incident scene. Work with the Ministry of Transportation and the RCMP if public roads are required to be closed and traffic are routed.
- Ensure evidence is documented and secured for investigation.

LANDING ZONE INFORMATION CARD

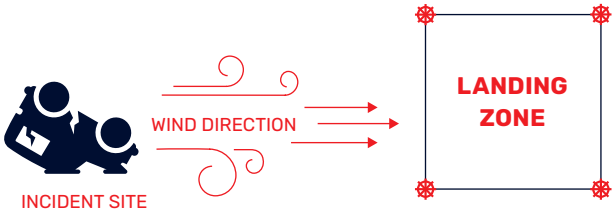


STEP 1

Advise your dispatch centre which channel you will be using to communicate with STARS.

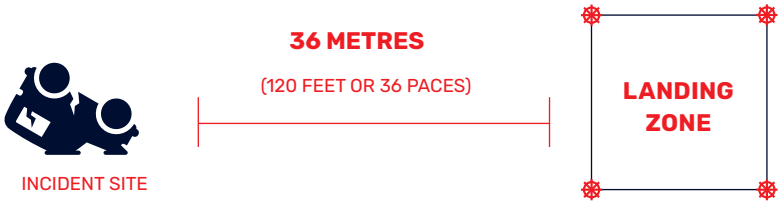
STEP 2

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



STEP 3

Select an area for the landing zone that is a minimum of 36 metres (or 120 feet, or 36 paces) from the incident site.



STEP 4

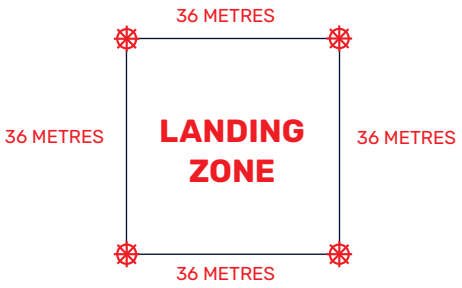
Select a flat, level surface for the landing zone; preferably pavement or concrete, if available.

STEP 5

Ensure the landing zone area is clear of wires, poles, trees and debris.

STEP 6

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



STEP 7

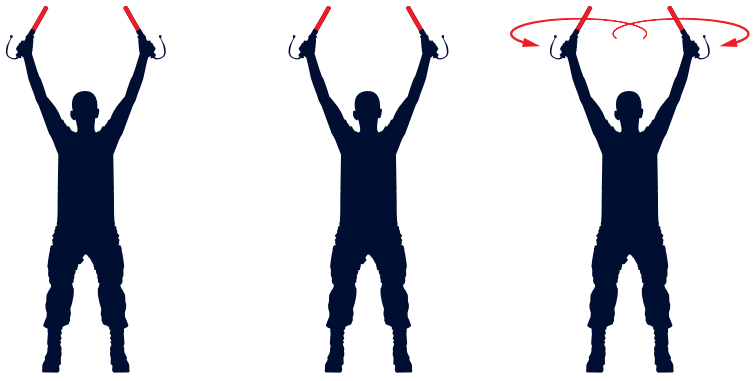
Brief STARS crew via radio or cell phone and stand at the middle of the upwind side of the landing zone with the wind at your back.

Monitor radio frequency to communicate with the STARS team.

As the helicopter approaches, go down on one knee and DO NOT MOVE from your position.

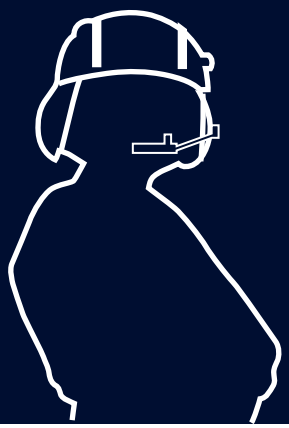
Do not approach the helicopter at any time unless escorted by the STARS crew.

LANDING ZONE HAND SIGNALS



ALL CLEAR TO LAND | ALL CLEAR TO DEPART | ABORT LANDING

LANDING ZONE BRIEFING FOR STARS CREW



STEP 1

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

STEP 2

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

STEP 3

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

STEP 4

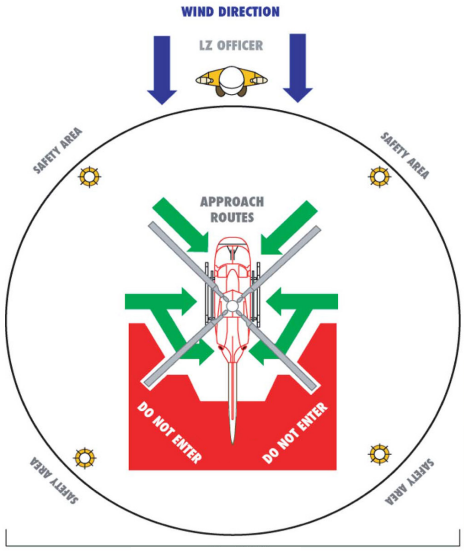
State what marking the corners of the landing zone: LED beacons, heavy pylons or any other bright conspicuous objects easily seen from the air.

STEP 5

Communicate the wind direction and approximate speed.

STEP 6

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



STARS 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, go down on one knee and **DO NOT MOVE** from your position as the helicopter lands.

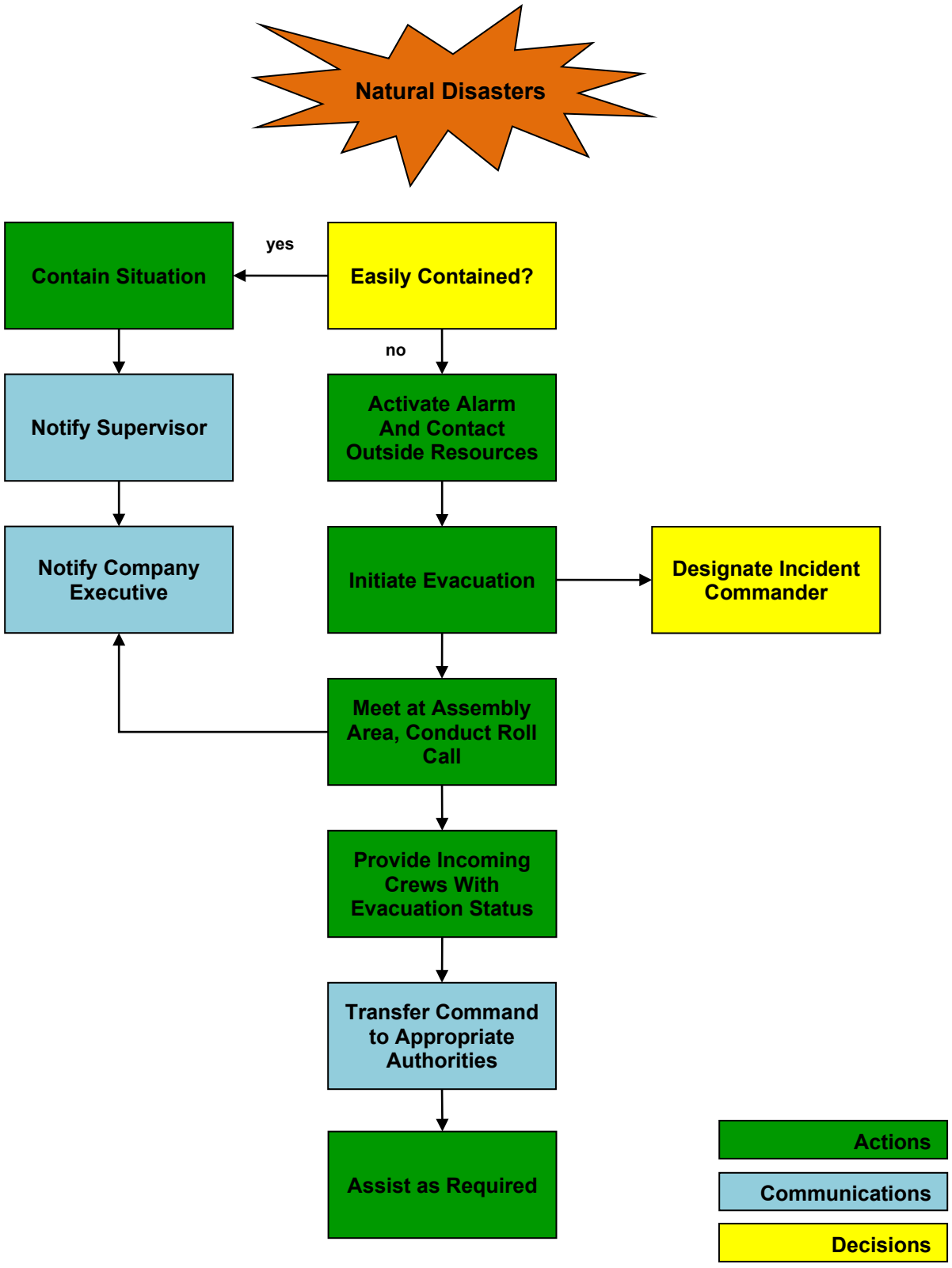
If you have any questions or comments regarding this landing zone information card or would like to watch our landing zone video, please visit **stars.ca**

EMERGENCY LINK CENTRE 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.

SITE # _____ **LOCATION** _____

1.7 Natural Disasters



1.7 Natural Disasters

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more qualified individual.
- Evaluate the situation.
- Determine the Level of Emergency and notify the required government agencies.
- Determine need for backup or outside resources.
- Contact emergency services as needed. (911, where available)
- Provide first aid and medical treatment, if trained to do so.
- Assign roles and responsibilities to Officers and Section Chiefs.
- Sound the evacuation alarm and begin evacuation procedures, if required.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the required government agencies.
- Notify next of kin, in consultation with the RCMP, if required.
- Provide regular updates to the Incident Commander.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.
- Provide regular updates to the Incident Commander.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Provide regular updates to the Incident Commander.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SITE CONTROL GROUP SUPERVISOR:
- Ensure backup is present or en route before attempting to contain or control the incident.
- Implement control procedures to minimize impact.
- Assess the need to stop normal operating activities in order to minimize risk to personnel and equipment, execute if necessary.
- Assess risk of controlling an incident with available personnel and equipment, execute if risk is deemed low.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place.

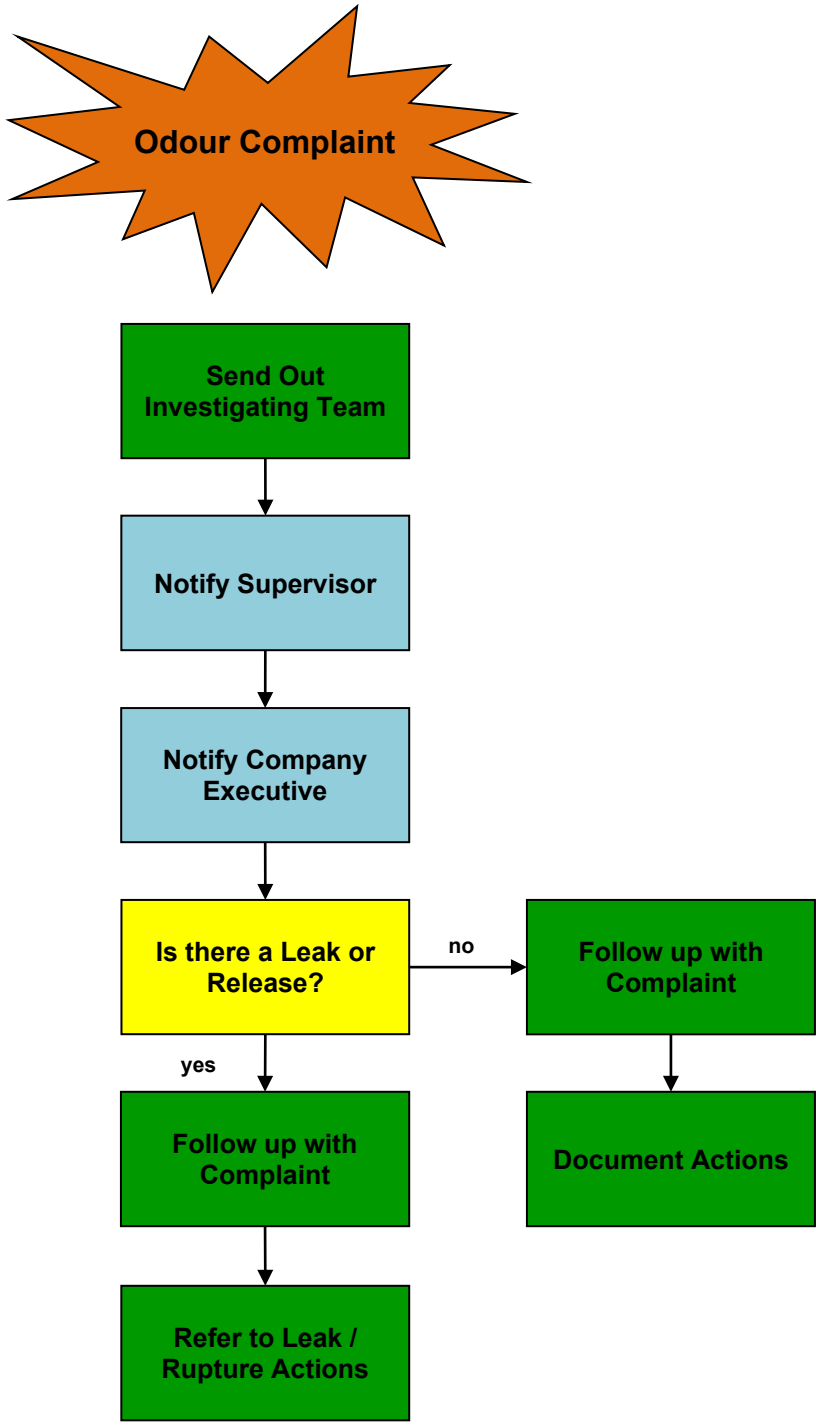
AIR OPERATIONS UNIT LEADER:
- Ensure the members are activated, if required, for air evacuation.

RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees.
- Receive evacuees at the reception centre.

ROVER / EVAC UNIT LEADER:
- Evacuate personnel from hazard area.
- Ensure evacuation routes are clear.

ROADBLOCK UNIT LEADER:
- Establish and maintain roadblocks.
- Direct traffic during the evacuation.
- Direct evacuees to the reception centre, if established.

1.8 Odour Complaint



1.8 Odour Complaint

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- If a member of the public suspects an H_2S release or the presence of SO_2 after ignition, have them take shelter until the source is confirmed.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Direct the Operations Section Chief to dispatch an investigating team to investigate the complaint.
- Contact immediate supervisor and report the complaint.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- If an emergency situation is confirmed by the investigating team, refer to the appropriate Immediate Action.

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate authorities, when required.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.

SITE CONTROL GROUP SUPERVISOR:
- Direct control procedures on site to minimize impact.

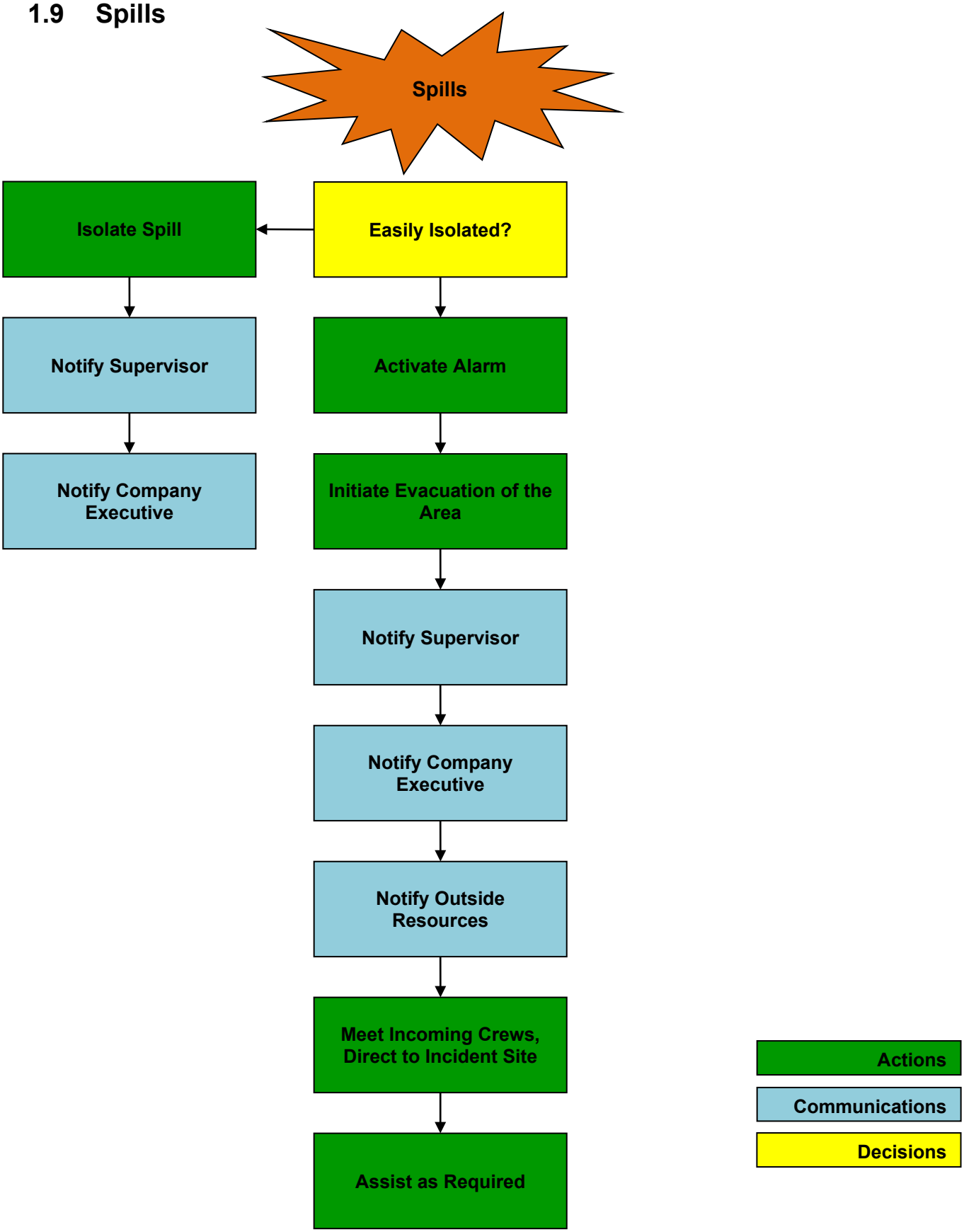
PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

CONTROL UNIT LEADER:
- Travel to the site of the complaint and inspect equipment, ensure equipment is working properly and is not damaged.
- Report any damage or abnormal conditions to the Site Control Group Supervisor.

AIR MONITORING UNIT LEADER:
- Travel to the site of the complaint.
- Monitor the area for the presence of H_2S / SO_2 or LEL readings.
- Report all findings to the Public Safety Group Supervisor.

ROADBLOCK UNIT LEADER:
- Establish roadblocks at the entrance of the complaint site, if required.

1.9 Spills


Spills
Easily Isolated?
Isolate Spill
Notify Supervisor
Notify Company Executive
Activate Alarm
Initiate Evacuation of the Area
Notify Supervisor
Notify Company Executive
Notify Outside Resources
Meet Incoming Crews, Direct to Incident Site
Assist as Required
Actions
Communications
Decisions

1.9 Spills

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Determine the Level of Emergency, notify the appropriate authorities (BCER, EMCR, the Ministry of Transportation and the Ministry of Environment), if required.
- Determine need for backup or outside resources.
- Contact emergency services as needed. (911 where available).
- Contact immediate supervisor giving an initial assessment including location, area potentially affected and other hazards.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- Account for personnel on site.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate authorities, when required.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.
- Request or administer first aid as necessary.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SITE CONTROL GROUP SUPERVISOR:
- Direct / implement control procedures to minimize impact.
- Assess the need to stop normal operating activities in order to minimize risk to personnel and equipment, execute if necessary.
- Assess risk of controlling an incident with available personnel and equipment, execute if risk is deemed low.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

AIR MONITORING UNIT LEADER:
- Monitor the hazard area for the presence of H_2S / SO_2 or LEL readings.

ROVER / EVAC UNIT LEADER:
- Evacuate personnel from hazard area.

ROADBLOCK UNIT LEADER:
- Establish and maintain a secure incident scene. Ensure evidence is documented and secured for investigation.

RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees, if required.
- If activated, receive evacuees at the reception centre.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place.
- Eliminate all sources of ignition.
- Obtain MSDS sheets, as needed.
- If gasses are involved, prevent the spreading of vapours through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed.
- If liquids are involved, prevent entry into waterways, sewers, basements, or confined spaces.
- For pipeline leaks, isolate the leak and dissipate the pressure, consider all possibilities of trapped pressure.
- Assess the damages, including damages to containers, vehicles, and structures as a result of the incident.
- Carry out activities to reduce or stop leaks such as container stabilization, dyking, storing, transferring and / or disposal.
- Notify the Site Control Group Supervisor if waste disposal services are required.

CLASSIFICATION AND CHARACTERISTICS OF DANGEROUS GOODS

Any spill or release that goes off-lease that has caused, is causing, or may cause an adverse effect, must immediately be reported to the local police, Emergency Management & Climate Readiness (EMCR) – 1.800.663.3456 and CANUTEC – 1.888.226.8832

Class	Division	Characteristics of Dangerous Goods	Quantity	Packing Group
1 Explosives (Sections 2.9 – 2.12)	1.1	A substance or article with a mass explosion hazard	Any quantity	II – Hazardous Substances
	1.2	A substance or article with a projection hazard but not a mass explosion hazard		
	1.3	A Substance or article which has a fire hazard and either a minor blast hazard or a minor projection hazard or both, but does not have a mass explosion hazard		
	1.4	A substance or article which presents no significant hazard beyond the package in the event of ignition or initiation during transport		
	1.5	A very insensitive substance with a mass explosion hazard		
	1.6	Extremely insensitive article with no mass explosion hazard		
2 Gases (Sections 2.13 – 2.17)	2.1	A flammable gas which is easily ignited and burns	Any quantity	Not Applicable
	2.2	A non-flammable, non-toxic, non-corrosive gas		
	2.3	A toxic gas		
3 Flammable Liquids (Sections 2.18 – 2.19)	*	A flammable liquid with a closed-cup flash point less than or equal to 60.0°C	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
4 Flammable Solids (Sections 2.20 – 2.22)	4.1	A flammable solid which is readily combustible and may cause fire through friction or from heat retained from manufacturing	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	4.2	A spontaneously combustible substance that ignites when exposed to air		
	4.3	A water-reactive substance which emits flammable gas when it comes into contact with water		
5 Oxidizing Substances, Organic Peroxides (Sections 2.23 – 2.25)	5.1	An oxidizing substance which may yield oxygen and contribute to the combustion of other material	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	5.2	An organic peroxide which releases oxygen readily and may be liable to explosive decomposition, or sensitive to heat, shock, or friction		
6 Toxic and Infectious Substances (Sections 2.26 – 2.36)	6.1	A toxic substance that is liable to cause harm to human health	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
	6.2	An infectious substance	Any quantity	A or B
7 Radioactive Materials (Sections 2.37 – 2.39)	None	Radioactive materials as defined in the Packaging and Transport of Nuclear Substance Regulations	A level of ionizing radiation greater than the level established in section 39 of the "Packaging and Transport of Nuclear Substance Regulations 2015"	Not Applicable
8 Corrosive Substances (Sections 2.40 – 2.42)	None	Solids or liquids such as acids or alkalis materials that cause destruction of the skin or corrode metals	Any quantity (Packing Group I or II) 30 L or 30 kg (Packing Group III)	I – Very Hazardous Substances or II - Hazardous Substances, or III – Moderately Hazardous Substances
9 Miscellaneous Products, Substances or Organisms (Sections 2.43 – 2.45)	None	A regulated substance that cannot be assigned to any other class. It includes genetically modified micro-organisms, marine pollutants and substances transported at elevated temperatures	30 L or 30 kg	II – Hazardous Substances or III – Moderately Hazardous Substances, or without packing group

1.9 Spills

In any incident, the first priority is Life Safety. This includes the protection of the public and the safety of response personnel.

Life Safety will always be the top strategic priority.

Public safety actions begin at the source of the release and are undertaken in a coordinated manner by Pacific Canbriam, the local authority and other responders as needed at the time of the incident.

The types of 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 the agencies are satisfied.

Pacific Canbriam is an active member of the Western Canadian Spill Services (WCSS). Pacific Canbriam is expected to assess the risk that its operation poses to the environment and be prepared to provide effective emergency response capability in the event of a spill in a timely manner. The BCER states that response must be initiated within 6 hours from the time a spill is discovered. On the weekend or during the night response must be initiated within 12 hours from the time of discovery.

1.9.1 Initial Spill Response Actions

- Follow "What to do at the Scene of an Emergency" instructions on the Front Insert at the beginning of this manual.
- Size up considerations for a spill site:
  - Is there a fire or explosion hazard? What is the ignition source?
  - Is there H_2S or other toxin present?
  - Are there any areas deemed hazardous? (Mark with flags).
  - What are the ground and weather conditions? (Snow, gravel, sand etc.)
  - Where is the location of the leak, the type of release and the volume released?
  - How long has the spill been taking place?
  - 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 will be affected? (Farm, 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?
- Relay information to internal company contacts, government agencies and if required, landowner, spill response contractors, and the designated Public Information Officer.

1.9.2 General Control and Containment

- If possible, immediately shut off the source of the spill ensuring your own safety.
- Response in a timely manner is critical.
- Prioritize and set up containment points
- Where possible, prevent a spill from entering a watercourse.
- Use safest and simplest method to get job done within resource and safety capabilities.
  - Isolate and depressurize (ESDs, manual block valves, manual valve isolation).
  - Plug and patch (e.g. fix faulty valve or hole in drum).
  - Absorb or adsorb (e.g. applying adsorbent pads to oil spill).
  - Transfer (e.g. removing product to waste truck or new container).
  - Containerize (e.g. put leaking drum into over-pack drum).
  - Reposition (e.g. upright or roll and chock leaking container).
  - Others (e.g. hot-tap, vent and burn, flaring).
- 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.
- Do not use absorbents on large spills.
- Consider ground disturbance guidelines.
- Determine where bell holes or trenches would be most effective.
- Keep trenches shallow and narrow as possible, to prevent additional clean-up.
- 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.

1.9.3 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.

1.9.4 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.

- 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**
Earth or Sand Dike (All seasons)	Earth or sand at or near the site is used to contain spilled material on flat or sloped surfaces. Sandbags filled with soil or sand are used to contain spill.	Sufficient dry earth, gravel or sand must be available to contain spill. Earth may be frozen. Surface disturbance to remove earth or sand may result in erosion, especially on steep slopes. Work crews and/or earth-moving equipment are required to build dike.
Snow or Ice Dike (Winter only)	Snow or ice at or near the site is used to contain spilled material on flat or sloped surfaces.	Sufficient snow or water must be available to contain spill. Snow or ice dike will melt quickly in warm weather. Contaminated snow or ice may need to be removed or stored for treatment. Work crews and/or earth-moving equipment are required to build snow dike. Water spraying equipment may be required to construct ice dike.
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 must 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 must be available to build sorbent dike.
Trench or Sump (All seasons)	A trench or sump is excavated downslope on sloping terrain to limit surface or subsurface spill movement. Work crews and/or earth-moving equipment are required to build trench or sump, as well as plastic or other impermeable sheeting for a trench liner.	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. Surface disturbance to remove earth or sand may result in erosion or further penetration in sandy soil.

Land Recover 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.
Pumping Spilled Material into Storage	A pump is used to recover spilled material from a dike or trench in areas not accessible by vacuum trucks.	Pumps must 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. Skid tanks, tanker trucks, port-a-tanks, fuel bladders, permanent tanks, or a lined excavated area must be available to provide storage for the recovered material. A work crew and power supply for the pump must also be available.

1.9.5 Spills into a Watercourse

Petroleum products will spread outward from the origin of the spill, eventually achieving a stable thickness on the water. Spills on rivers, creeks, or streams will flow downstream, contaminating riverbanks and vegetation, affecting wildlife, fish and water users in the area of the spill.

The rate of spill movement will depend on the current speed of the water and the time of year. Current may flow faster in the deepest channels in the river and slower in shallower areas, due to varying volumes of water.

Flow in a watercourse will also be faster in the spring, because of snowmelt entering the watercourse from the surrounding area. River currents in summer and fall will be generally slower than in the spring. Wind and wave action will also affect the rate and direction of spill travel.

Spill velocity on a watercourse may be estimated quickly by using a current velocity meter or by timing the movement of a floating object on the watercourse over a set distance.

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

Time Required for Object to Travel 100 meters (seconds)	Surface Current Speed		Boom Angle (degrees)
	(km/hr)	(m/s)	
720	0.5	0.14	60°
360	1.0	0.28	60°
240	1.5	0.42	60°
180	2.0	0.56	45°
143	2.5	0.69	45°
120	3.0	0.83	45°
103	3.5	0.97	15°
90	4.0	1.11	15°
80	4.5	1.25	15°
73	5.0	1.39	15°
60	6.0	1.67	15°

Note: In currents faster than 6.0 km/h, 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 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 Incident Command System Operations personnel will implement appropriate containment actions based on the size of the watercourse and current velocity.

Watercourse Containment Options		
Containment Method	**Technique Description**	**Comments**
Containment Boom (Spring to Fall)	A containment boom is placed in the watercourse to prevent migration of the spilled material down-stream of the containment point.	The watercourse must be accessible to allow containment activities. If water is too shallow, or current is too fast, the containment boom may not be effective in containing the oil. Oil spill containment equipment, work and safety boats, and a work crew must be available to conduct this method.
Diversion Boom (Spring to Fall)	Diversion booms are used in large or swift rivers to divert spilled material to calmer water for containment and recovery. May be used in combination with containment boom.	The watercourse must be accessible to allow boom to be deployed. High current speeds or turbulence may make deployment impossible, or may cause deployed boom to fail, releasing spilled material downstream. Oil spill containment equipment, work and safety boats, and a work crew must be available to conduct this method.
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 must 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 must be replaced in the watercourse when saturated. Used sorbent must 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.

Watercourse Containment Options		
Containment Method	**Technique Description**	**Comments**
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**
Vacuum Truck	A vacuum truck is used to recover free petroleum from water in areas accessible by trucks or heavy equipment.	A vacuum truck and operator are required. Use of this method is subject to 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 conducting recovery activities.
Pumping of Spilled Material into Storage	A pump is used to recover free oil from the watercourse in areas not accessible by vacuum trucks.	Pumps must 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. Technique will generate large volumes of contaminated water that will require storage. Skid tanks, tankers, port-a-tanks, fuel bladders, permanent tanks or a lined excavated area must available to provide storage for the recovered material. A work crew and power supply for the pump must also be available.
Skimmers	Mechanical devices are used to skim oil from water surface or remove oil/water mixture for storage.	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. Drum or disc skimmers will pick up thinner layers of oil on slow moving water. 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.

1.9.6 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 is 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.

Response personnel 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 company Environmental Specialists.

1.9.7 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 a 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 must 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 must 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.

Wetland or Muskeg Containment Options		
Containment Method	**Technique Description**	**Comments**
Pumping of Spilled Material into Storage	A pump is used to recover free oil from wetlands or muskeg.	The wetland or muskeg area must be accessible for equipment. Pumps must be safe for use at the spill site and be compatible with the product to be pumped. 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 must be available. A work crew and power supply for the pump must also be available.
Skimmers	Used to skim oil from water surface or remove oil/water mixture for storage. Drum or disc skimmers will pick up thinner layers of oil on slow moving water.	The wetland or muskeg area must be accessible. Skimmer will need sufficient water depth to float. Debris and aquatic vegetation may clog skimmer, making oil pickup difficult. 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 Flushing	Water is flushed through an area to push oil that is in vegetation or on the water surface toward a collection point for recovery. The method can be used in conjunction with trenches.	The wetland or muskeg area must be accessible for equipment to allow recovery activities to be conducted. The method is not suitable for areas with extensive vegetation or obstructions. Physical damage may be caused to sensitive environmental areas. 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.

1.9.8 Spills on Ice

Spills on ice will tend to spread out from the spill source toward lower-lying areas. Surface depressions, cracks and pockets in the ice will cause the spilled material to pool. A significant volume of some oils can be absorbed into ice.

The presence of oil on or in ice increases solar heating and the rate of melting. Subsequent freezing and melting may eventually cause the oil to migrate throughout the surface of the ice. Openings in the ice may allow the spilled material to migrate into open water or allow the spill to be swept under ice, making response operations more difficult.

The information presented should be used as a guideline only in determining typical load-bearing capacity of ice. The Incident Commander and Incident Command System Operations personnel must 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 + ½ white ice thickness
Example: The spill site has 20 inches of clear ice and 10 inches of white ice 20 inches clear ice + ½ 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 [1]		
Permissible Load	Effective Ice Thickness inches (centimeters)	
	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)

Weight-Bearing Capacity for Stationary Loads and Working on Ice		
Permissible Load	Effective Ice Thickness inches (centimeters)	
	Lake	River
2,200 lbs (1000 kg)	8.0 (20.0)	9.1 (22.8)
4,400 lbs (2000 kg)	12.0 (30.0)	14.0 (35.0)
8,800 lbs (4000 kg)	18.0 (45.0)	21.0 (52.5)
17,600 lbs (8000 kg)	24.0 (60.0)	27.0 (67.5)
50,000 lbs (23,000 kg)	44.0 (110.0)	50.0 (125.0)
99,000 lbs (45,000 kg)	59.0 (147.5)	68.0 (170.0)
150,000 lbs (68,000 kg)	71.0 (177.5)	82.90 (205.0)
240,000 lbs (109,000 kg)	91.0 (227.5)	105.0 (262.5)

Note: These tables are guidelines only for determining the typical load-bearing capacity of ice.

[1] Does not apply to parked loads, or where ice faults are evident.

Temperature may affect the load-bearing capacity of ice on a water body. Air temperatures must 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 must be constant for 3 days
- between 50 and 100 centimetres (20 and 40 inches) of ice: temperature must be constant for 4 days
- over 100 centimetres (40 inches) of ice: temperature must be constant for 5 days

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 Dike (All seasons)	Earth or sand at or near the site is used to contain spilled material on flat or sloped surfaces. Sandbags filled with earth or sand are used to contain spill.	Effective ice thickness must be sufficient to support the weight of manpower and equipment required to build dike. Sufficient dry earth, gravel or sand must be available to contain spill. Earth may be frozen. Surface disturbance to remove earth or sand may result in erosion, especially on steep slopes. Earth or sand placed on ice must be removed before spring break-up. Work crews and/or earth-moving equipment are required to build dike.
Snow or Ice Dike (Winter only)	Snow or ice at or near the site is used to contain spilled material on flat or sloped surfaces.	Effective ice thickness must be sufficient to support the weight of manpower and equipment required to build dike. Sufficient snow or water must be available to contain spill. Snow or ice dike may melt quickly in warm weather. Contaminated snow or ice may need to be removed or stored for treatment. Work crews and/or earth-moving equipment is required to build snow dike. Water spraying equipment may be required to construct and maintain an ice dike.

On-Ice 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 must 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 must be available to build sorbent dike.

On-Ice Cleanup Options		
Clean-up Method	**Technique Description**	**Comments**
Manual Removal by Work Crew and/or Equipment (Winter)	A work crew or earth-moving equipment are used to remove thick oil or contaminated snow and ice.	Effective ice thickness must be sufficient to support the weight of manpower and equipment required. All necessary safety precautions should be undertaken for personnel who work near any open water. Manual removal may be a difficult and time-consuming process. A work crew with hand tools or earth-moving equipment (e.g. backhoe) and operators, as well as ice 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.
Steaming of Ice Surface	Steam is used to melt ice surface to aid in spill clean-up. The technique may be used in association with other clean-up and recovery techniques.	Effective ice thickness must be sufficient to support the weight of manpower and equipment required. All necessary safety precautions should be undertaken for personnel who work near any open water. A work crew with steaming equipment is required to undertake this method.
Sorbents (Spring to Fall)	The method is used in isolated areas to clean up small amounts of oil.	Clean-up is labour-intensive and time-consuming. Limited access to site may make this method difficult or impossible. Sorbents are not very effective on weathered oil or in cold weather. Sorbents may freeze to the surface. Sorbents must be disposed of properly to comply with government regulations. Sufficient sorbent, work crews and storage containers or a lined storage area for contaminated sorbents must be available.

On-Ice Cleanup Options		
Clean-up Method	**Technique Description**	**Comments**
Snow or ice melting	Snow or ice is removed from the clean-up site and melted in heated tanks to allow spilled material to be skimmed off the surface of the melt water. The technique may be used in association with other clean-up and recovery techniques.	Contaminated snow or ice must be removed from 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. In very cold temperatures, sufficient heat may not be available in the tanks to melt ice. A work crew, heating tanks, skimming equipment, transfer vehicles and operators are required. 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.

1.9.9 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 response personnel have calculated the effective ice thickness to ensure it will support the weight of personnel and equipment.

For spills under ice, the Incident Commander and response personnel 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.

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**
Ice Slotting	Ice slots are cut into ice on rivers to collect oil moving under the ice. The technique is best used for rivers with current, as oil will be moved toward slot by current.	Effective ice thickness must be sufficient to support the weight of manpower and equipment required to build slot. All personnel working near any open water must take all required safety precautions. The location of the spill must be confirmed by drilling holes downstream of the spill source before constructing the ice slot. Total containment of spilled petroleum in an ice slot is unlikely, due to material trapped under ice. 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.

1.9.10 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 response personnel, 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 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, response personnel 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.

1.9.11 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.

Since Pacific Canbriam is a member in good standing with WCSS they would request spill points and maps in their areas of operation if it were necessary.

An ideal control point should have:

- quick access to the watercourse in all seasons, using clear ground, a road or a trail
- adequate work space to conduct operations and to store required equipment with minimal need for clearing of brush and vegetation

- sufficient space to deploy containment and recovery equipment quickly with minimal effort or obstructions (i.e. trees, rocks, steep banks, etc.) and minimal environmental impact
- boat launch location(s) for boats assisting in containment and recovery operations.

Selection of control points with public access is preferred.

For control points on private property – landowner approval and necessary permits for emergency access should be obtained in advance.

Designated site specific control points need to be reviewed at least annually. Each control point site should be visited periodically to evaluate suitability and to ensure information is accurate and complete. Old unsuitable control points should be removed and new control points added, as a part of revisions to site specific information, as required. Control point listings should include a site description, site diagram, access description, landowner/occupant phone number, site suitability and any other information related to the site.

1.9.12 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, company Environmental staff, environmental protection agency personnel and any external environmental consultants that are contracted by Pacific Canbriam.

1.9.13 Water Course Spill Containment and Recovery Techniques

Standing Water

Figure 1: Inverted Culvert Technique

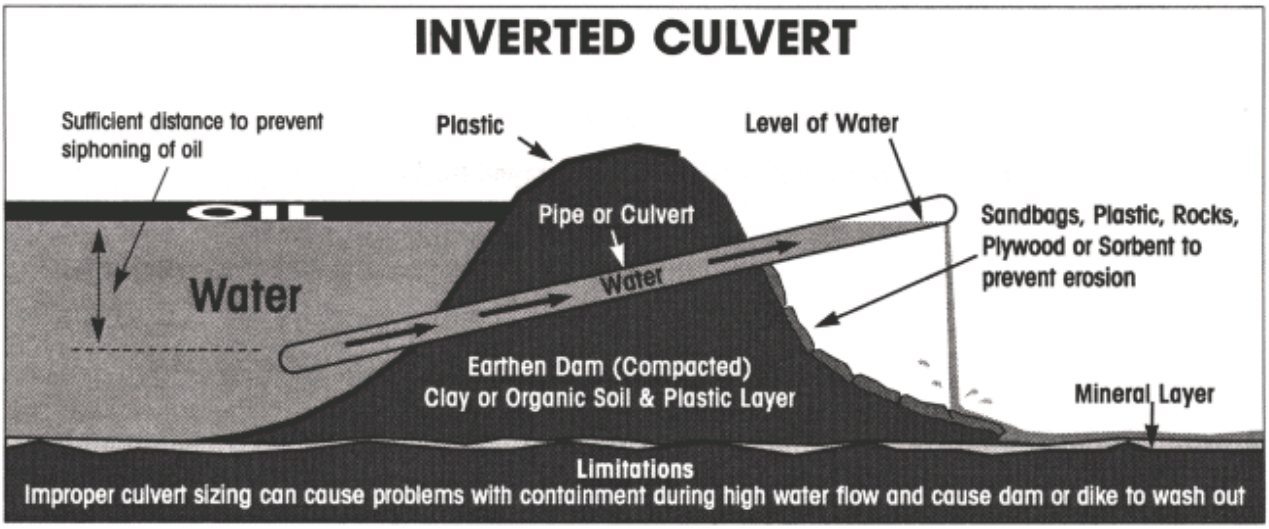
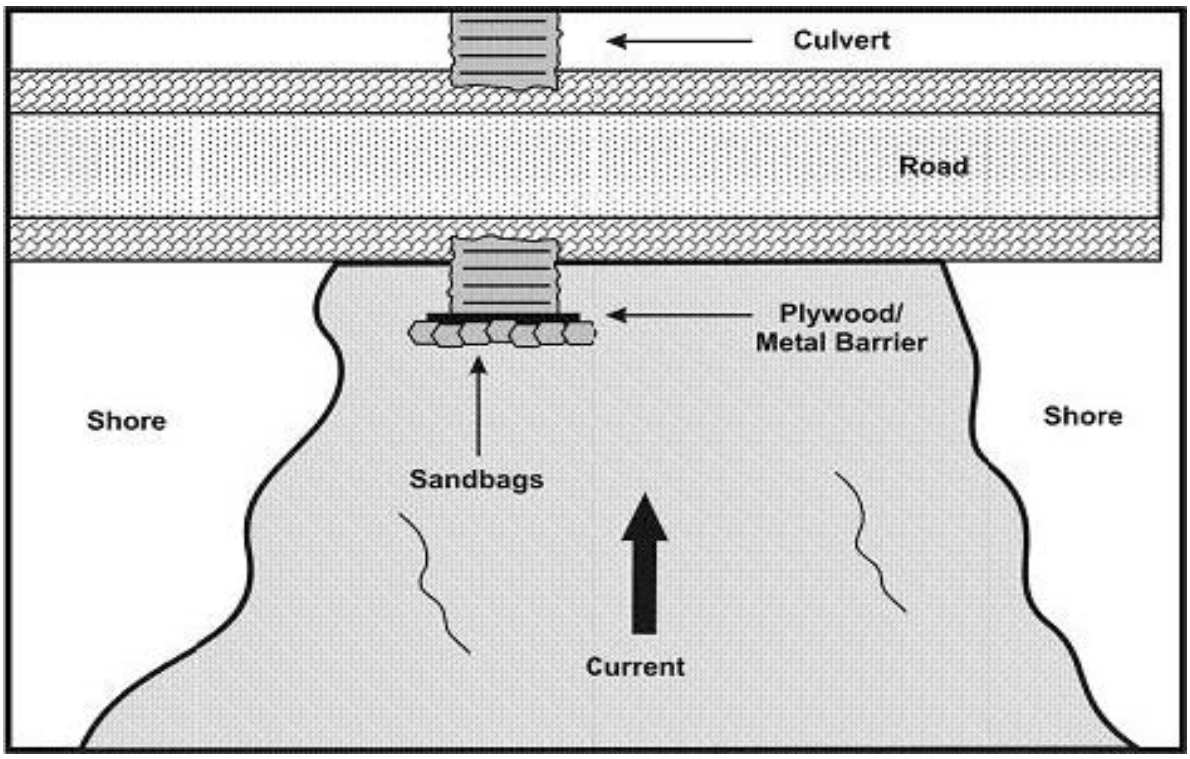


Figure 2: Culvert Blocking



High Volume Flow

Figure 3: Containment Boom

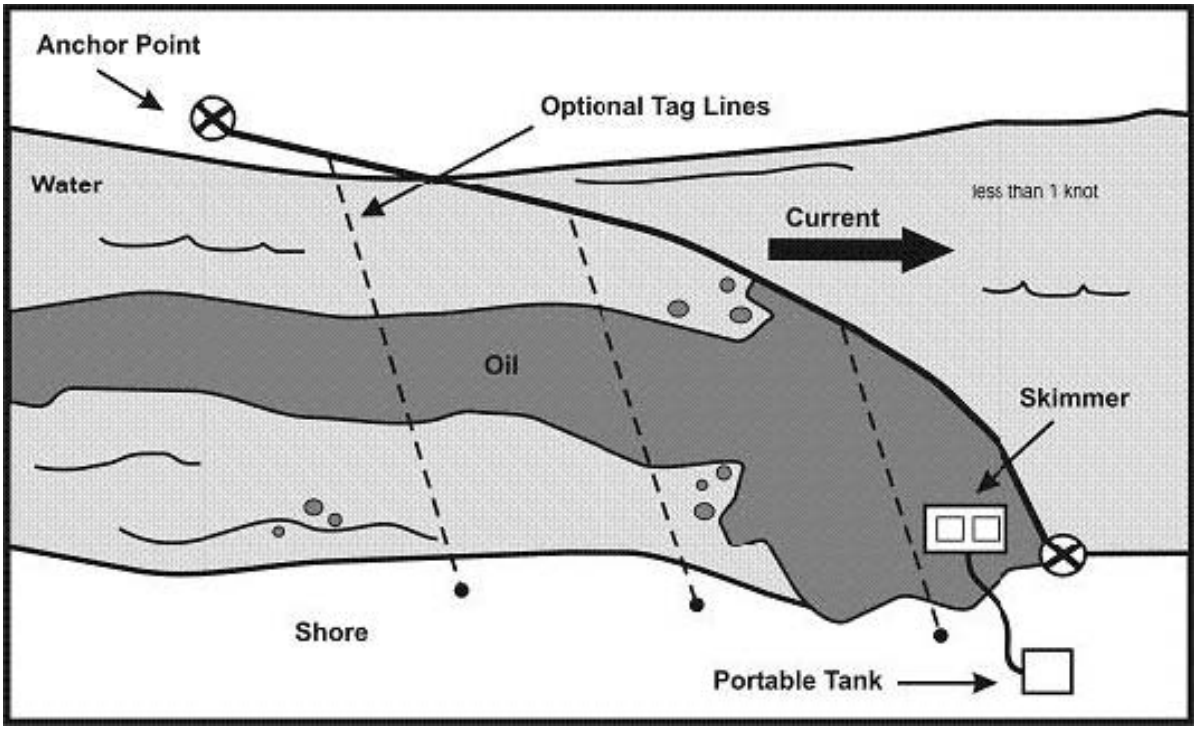


Figure 4: Containment Boom

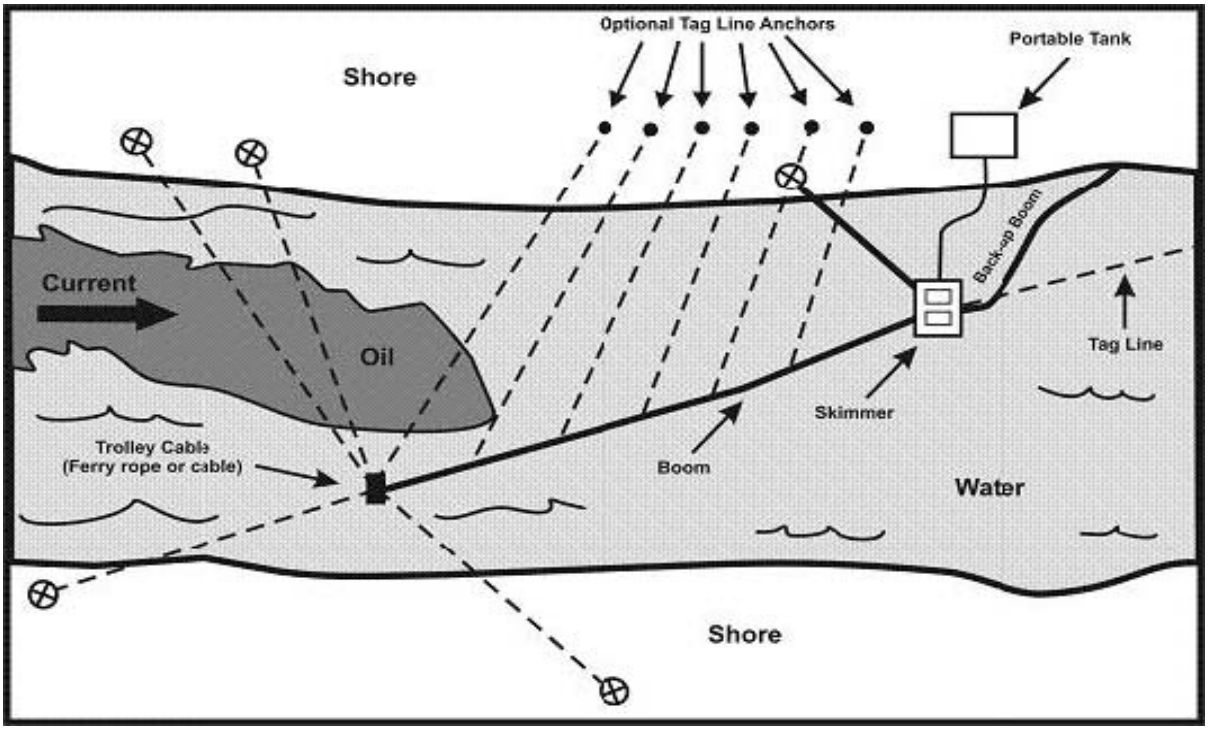


Figure 5: Containment Boom

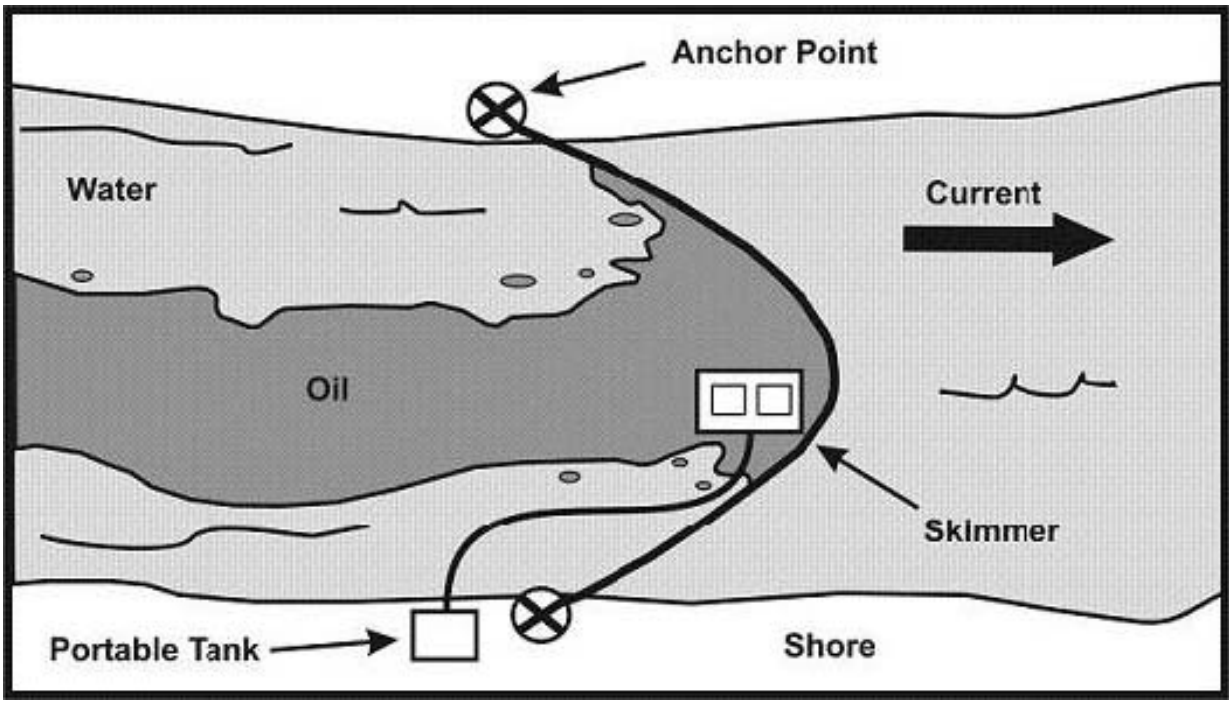


Figure 6: Ice Slotting Strategy

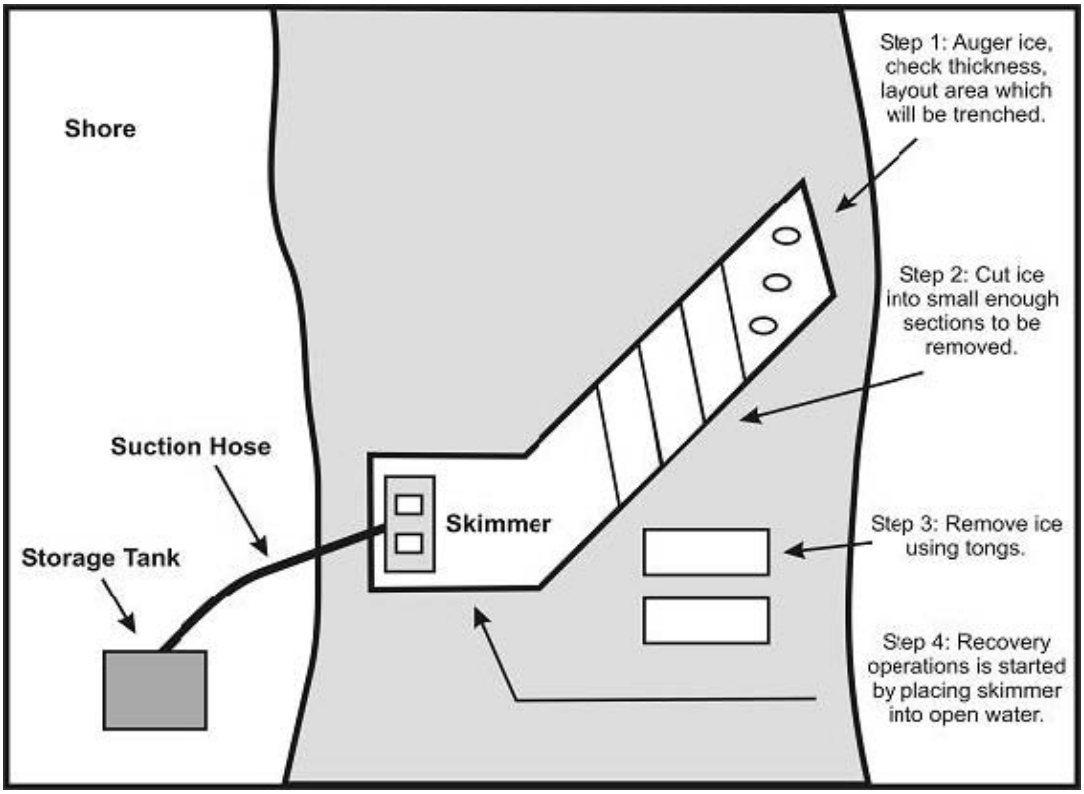
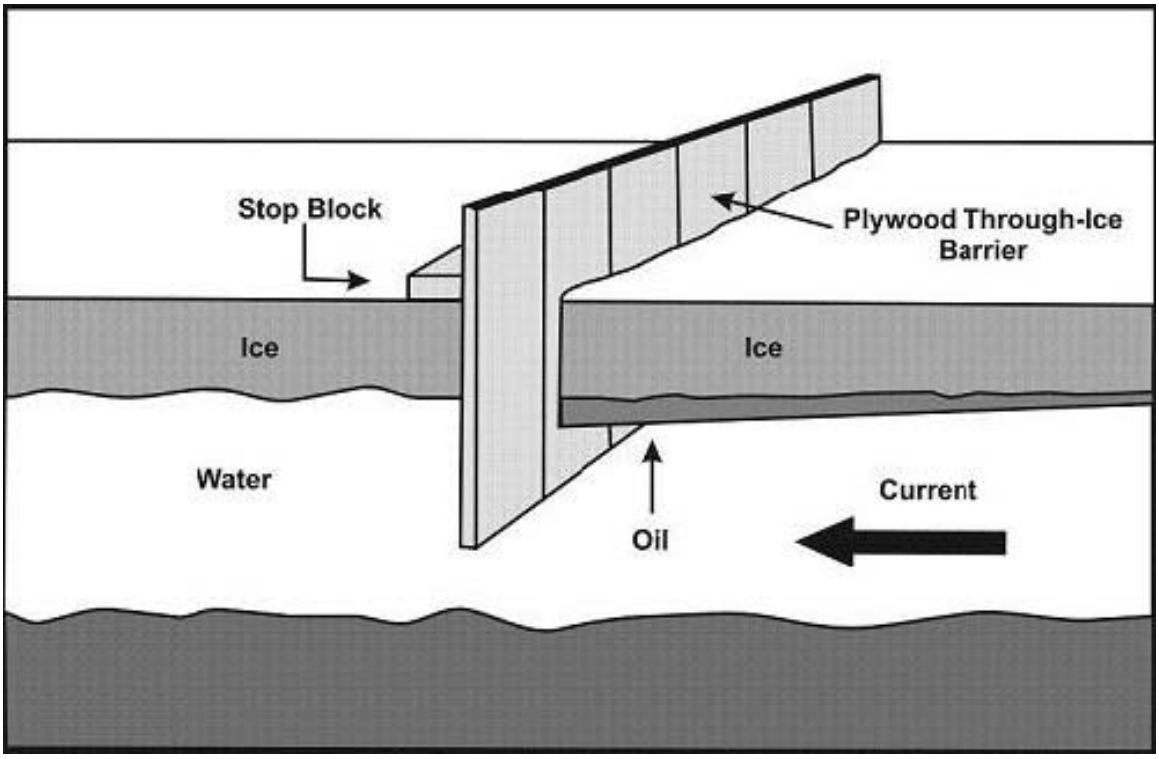
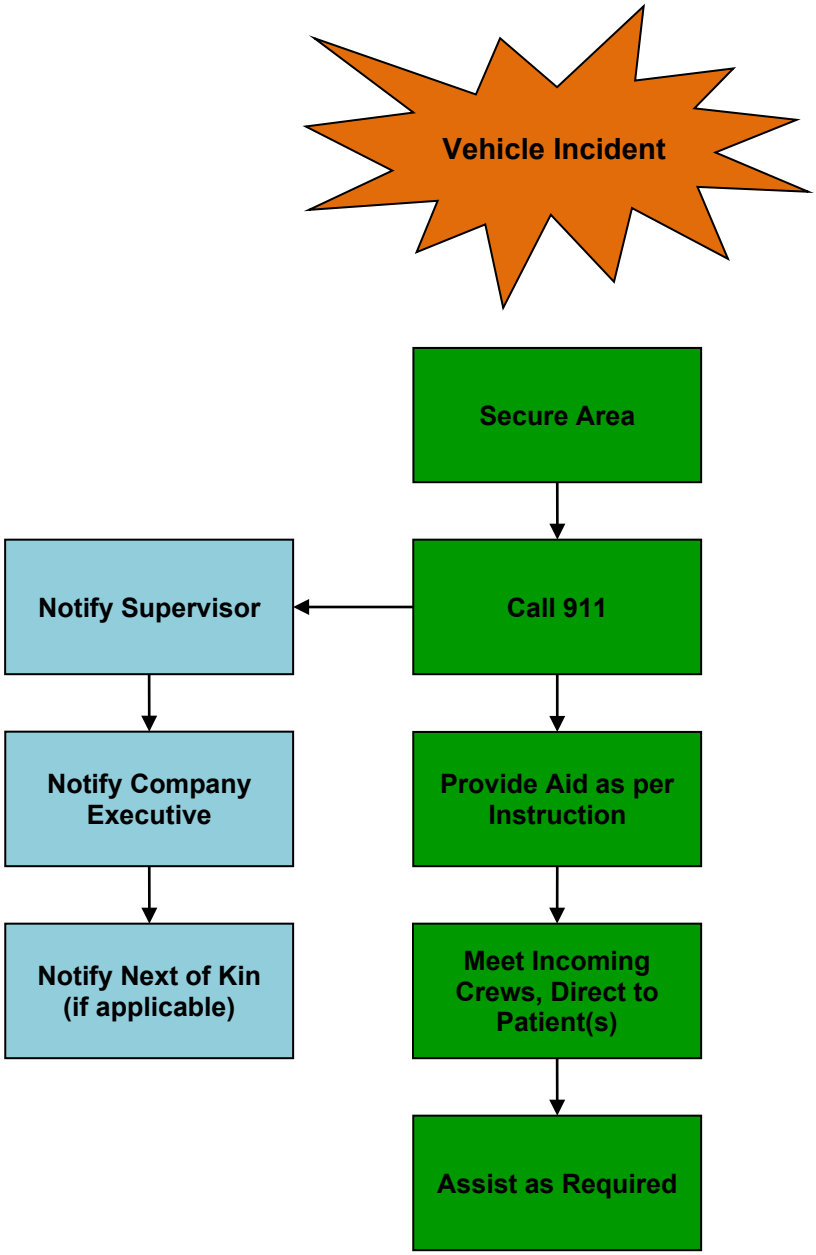


Figure 7: Deflective Board Strategy



1.10 Vehicle Incident



1.10 Vehicle Incident

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- Contact emergency services (911, where available) and have them deployed to site.
- Assign roles and responsibilities to required Officers and Section Chiefs.
- Determine need for backup or outside resources.
- Contact immediate supervisor giving an initial assessment including location, area potentially affected, injuries and other hazards.
- Notify the Emergency Operations Centre (EOC), as required by company policy.
- Account for all other personnel on site.
- Establish an Incident Command Post (ICP), as needed.

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the appropriate government agencies, when required.
- Notify next of kin, in consultation with the RCMP, if required.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Ensure all response personnel are equipped with the appropriate PPE.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SITE CONTROL GROUP SUPERVISOR:
- Direct / implement control procedures on site to minimize impact.

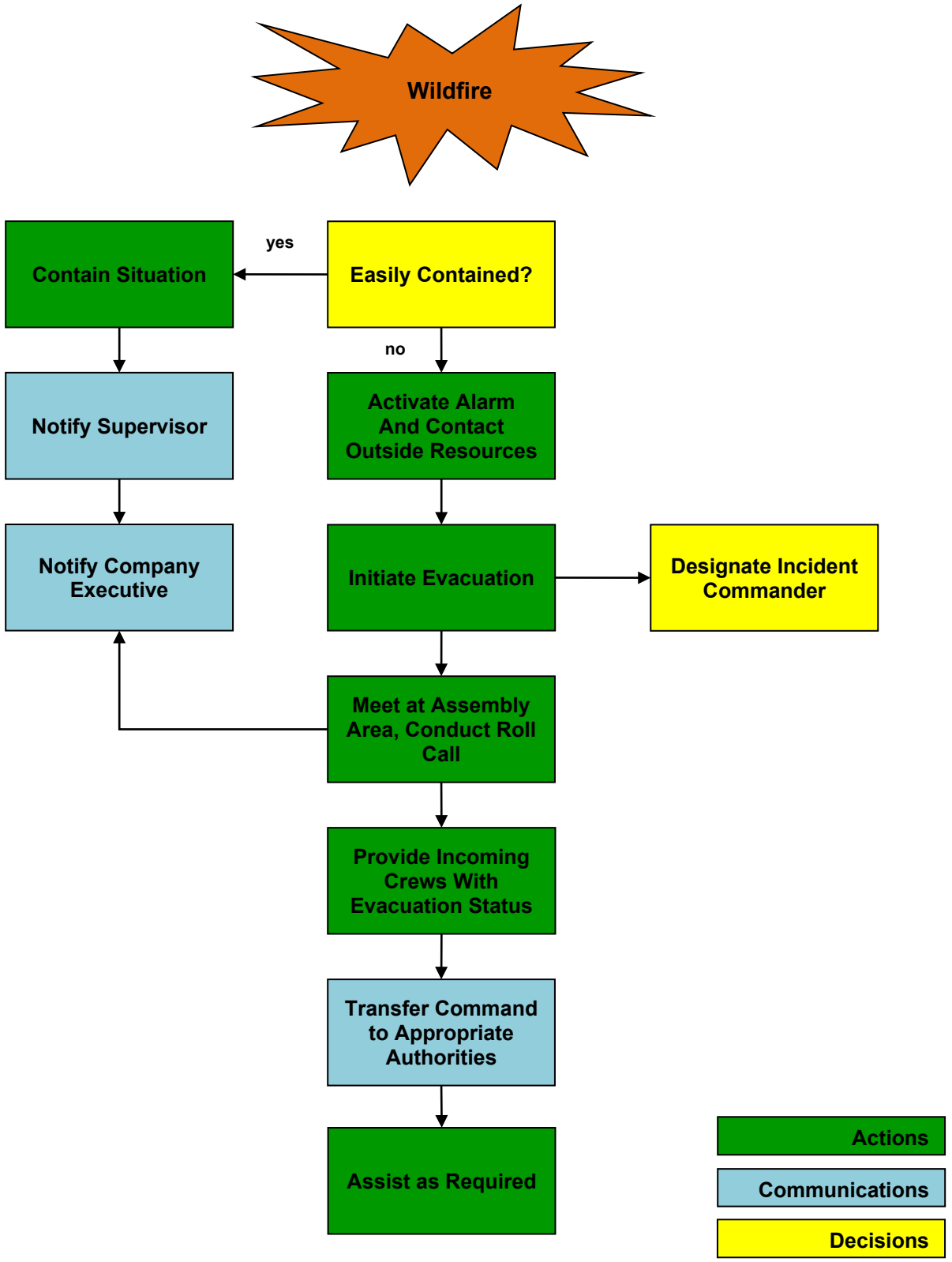
PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place, if required.
- Eliminate all sources of ignition.
- Assign Group members to meet incoming emergency services at the site entrance and escort them to the scene.

ROADBLOCK UNIT LEADER:
- Establish and maintain a secure incident scene.
- Assign team members to meet incoming emergency services at the site entrance and escort them to the scene.
- Work with the provincial Ministry of Transportation and the RCMP if public roads are required to be closed and traffic re-routed.

RECOVERY UNIT LEADER:
- Ensure evidence is documented and secured for investigation.
- Request resources required for the recovery and transport of vehicle(s).

1.11 Wildfire



1.11 Wildfire

INCIDENT COMMANDER:
- Assume the role of Incident Commander until relieved by a more senior company representative.
- Evaluate the situation.
- Determine the Level of Emergency. Notify the BCER and appropriate agencies, if required.
- Determine need for backup or outside resources.
- Contact emergency services as needed. (911, where available)
- Assign roles and responsibilities to Officers and Section Chiefs.
- Sound the evacuation alarm and begin evacuation procedures, if required.
- Establish an Incident Command Post (ICP).

INFORMATION OFFICER:
- Provide timely information to the media, in consultation with the required government agencies.

LIAISON OFFICER:
- Maintain contact with required government agencies.
- Provide regular updates to the Incident Commander.
- Ensure required communication occurs between internal and external people.

OPERATIONS SECTION CHIEF:
- Implement tactical objectives and direct on site resources.

SAFETY OFFICER:
- Assess / monitor safety hazards or unsafe conditions. Develop measures to ensure the safety of response personnel.
- Request or administer first aid as necessary.

STAGING AREA MANAGER:
- If established, ensure the readiness of resources and personnel.

SITE CONTROL GROUP SUPERVISOR:
- Ensure backup is present or en route before attempting to contain or control the fire.
- Implement control procedures to minimize impact.
- Assess the need to stop normal operating activities in order to minimize risk to personnel and equipment, execute if necessary.
- Assess risk of controlling an incident with available personnel and equipment, execute if risk is deemed low.

PUBLIC SAFETY GROUP SUPERVISOR:
- Direct public safety related response activities.

ROVER / EVAC UNIT LEADER:
- Evacuate personnel from hazard area.
- Ensure evacuation routes are clear.

CONTROL UNIT LEADER:
- Ensure appropriate control and containment activities are taking place.

ROADBLOCK UNIT LEADER:
- Establish and maintain roadblocks.
- Direct traffic during the evacuation.
- Direct evacuees to the appropriate reception centre.

AIR OPERATIONS UNIT LEADER:
- Ensure the members are activated, if required, to confirm the location and distance of the fire.

RECEPTION CENTRE UNIT LEADER:
- Establish a reception centre for evacuees.
- Receive evacuees at the reception centre.

Wildfire Egress Actions

The following is a list of actions to be taken by Pacific Canbriam at the following specified distances from company assets and infrastructure.

Report all fires started or are visible from company assets to the BC Wildfire Service at 800.663.5555 or on cellular phone (in BC only) at *5555.

75 km	50 km	25 km
▪ Daily situational awareness via provincial wildfire information (eg: mobile app, webmap).	▪ Daily situational awareness via provincial wildfire information (eg: mobile app, webmap).	▪ Daily situational awareness via provincial wildfire information (apps).
▪ Gather and post Stakeholder Engagement Wildfire Egress map.	▪ Plot wildfires on Stakeholder Engagement Wildfire Egress map.	▪ Plot wildfires on Stakeholder Engagement Wildfire Egress map.
▪ Weekly meetings with management.	▪ Daily meetings with management – third party engagement.	▪ Daily meetings with management – third party engagement.
▪ Conduct wildfire-based Toolbox talks and employee communications.	▪ Daily employee communications.	▪ Daily employee communications.
▪ Weekly (as needed) update from local Forestry Industrial Liaison.	▪ Weekly (as needed) update from local Forestry Industrial Liaison.	▪ Daily update from local Forestry Industrial Liaison.
▪ Review & confirm your Mutual Aid Agreements and partnerships.	▪ Decision to engage third party support to interpret wildfire threat.	▪ Daily third-party assessment of situation.
	▪ Place 2-hour evacuation notice for non-essential personnel on-site.	▪ Place a 2-hour evacuation notice for essential & non-essential personnel on-site.

	▪ Review:
	  ▪ Evacuation plan.
	  ▪ Ensure evacuation readiness.
		▪ Ready production for immediate shut-down.

Wildfire Preparedness Tables

Evacuation Process Chart	
Step	**Regional Evacuation Decision Process**
1	**SIZE-UP** ❑ Gather and Post ○ Pacific Canbriam Stakeholder Engagement Wildfire Egress Map ❑ Gather Information ○ Location of Wildfires in the area ○ Google: BC Wildfire / interactive maps / active wildfires ❑ Plot Wildfires on Stakeholder Engagement Wildfire Egress Map ❑ Understand wind speed / direction, fire rating and egress routes ❑ 50 km Zone ○ Define objectives if conditions risk Pacific Canbriam's life hazards, safety and assets. ❑ 25 km Zone ○ Define objectives
2	**DEFINE OBJECTIVES** ❑ Define objective(s) and evacuation priorities ❑ Once Size-Up information has been gathered, the decision process should begin with a set of initial objectives that include: ○ Protect the life and health of workers, responders and the public ○ Avoid exposing personnel to more risk in preparing to evacuate or evacuation than the risk posed by the threat ❑ Use available resources in a safe, efficient and effective manner ❑ Consider stakeholder interests in the development of objectives and strategies, especially Site Supervisors and the Ministry of Environment. ❑ Minimize environmental damage and protect property
3	**DEVELOP STRATEGY** ❑ The hazards, risks and potential effects of the hazard and the risks of the evacuation operation are part of the overall assessment ❑ Develop situation specific strategies to meet objectives and priorities ❑ Establish local (situation specific) response strategies to align with overall objectives
4	**SELECT RESPONSE TACTICS** ❑ Select appropriate tactics (techniques / methods) to implement the strategy ❑ Define acceptable and available tactics to achieve the response objectives and strategies
5	**EVALUATE SAFETY AND PRACTICALITY** ❑ Identify the safety and practicality of proposed strategy and tactics ❑ Assess the physical and logistical constraints that might affect the proposed operations ❑ Evaluate the practicality and ability of the proposed operations and procedures to achieve the objectives and strategies ❑ Evaluate the effectiveness of the planned activities and the likely effects of proposed actions) ❑ Redefine strategy and tactics if the proposed actions: ○ cannot be conducted in a safe or effective manner, or ○ cannot be achieved, or ○ are not going to have life safety benefit (or may cause further risk or harm to personnel)
6	**PREPARE OPERATIONAL PLANS** ❑ Prepare or update the plan for the next operational period ❑ If required, obtain approval and input from the Pacific Canbriam Calgary Office

Evacuation Process Chart	
Step	**Regional Evacuation Decision Process**
7	**SAFELY CONDUCT AREA-WIDE EVACUATION** ❑ Ensure each Site Supervisor and Contractor is ready and prepared for evacuation and understands the priority and timing ❑ Ensure head counts are conducted on site and numbers of personnel and any issues are reported to the Pacific Canbriam Public Protection Group Supervisor. ❑ Establish a safe Reception Centre to register and log all personnel who have evacuated (Form 11: Reception Centre Registration Form). Work closely with Site Supervisors and Muster Point Coordinators of each of the evacuee groups ❑ Safely implement the strategies and tactics developed to evacuate and care for the evacuated personnel ❑ Work with Contractors, Pacific Canbriam Calgary Incident Management Team and other experts to determine what groups stay and which personnel are transported to their final destinations ❑ Incident Commander and Public Protection Group Supervisor develop a long-range transportation plan, and re-mobilization plan (business continuity) after the all-clear has been declared and personnel can return to work

Response to Wildfire Smoke			
Air Quality Category	**Health Messages for At-Risk Personnel**	**Health Messages for All Other Personnel**	**Recommended Actions**
Good Visibility: 15 km and up 1-3 hour average PM2.5 0-40 µg / m^3	Continue with usual outdoor activities.	Ideal air quality for outdoor activities.	Be aware of forecast (current, daily, tomorrow).
Moderate / Unhealthy for Sensitive Groups Visibility: 5-14 km 1-3 hour average PM2.5 41-175 µg / m^3	Reduce or reschedule prolonged strenuous activities and limit time spent outdoors.	Be aware of health effects of smoke and related symptom.	Advise workers about: health effects of smoke, related symptoms, and ways to reduce exposure. If the smoke event is projected to be prolonged, evaluate and notify possible cleaner air shelter sites and prepare evacuation plans for at-risk populations.
Unhealthy Visibility: 2.5-4 km 1-3 hour average PM2.5 176-300 µg / m^3	Avoid prolonged strenuous activities and stay indoors if possible.	Reduce or reschedule prolonged strenuous activities outdoors, especially if you experience symptom.	Consider cancelling non-essential outdoor activities. Restrict or eliminate access to the site by other visitors, Consider the distribution and use of respirators and masks.
Very Unhealthy Visibility: 1.5 -2 km 1-3 hour average PM2.5 301-500 µg / m^3	Avoid all strenuous activities and stay indoors if possible.	Avoid prolonged strenuous activities and stay indoors if possible.	Consider having at-risk personnel go to designated air shelters. Make preparations and take precautions against the threat from a wildfire, including the risk from fire (see Appendix A). Consider the distribution and use of respirators and masks.
Hazardous Visibility: < 1 km 1-3 hour average PM2.5 >500 µg / m^3	Avoid all strenuous activities and stay indoors.	Avoid all strenuous activities and stay indoors.	Restrict activities to the essentials. If smoke event is projected to be prolonged, consider evacuation of at-risk personnel. Make preparations and take precautions against the threat from a wildfire, including the threat from fire (see Appendix A). Consider the distribution and use of respirators and masks.

CAPP Guide – Emergency Preparedness Guide for Hazards Associated with Wildfires
Table 2: Recommended action in response to varying levels of particulates

Wildfire Site Evacuation Plan

Table of Contents

Introduction

This document is composed of four parts:

- Part 1: Legal Background
- Part 2: Best Management Practices (BMP) for Northeast BC
- Part 3: ERP NE BC Wildfire Supplement
- Part 4: Field Audit Standards for the BMP

The Legal Background section is an overview of the legislation and regulations pertaining to wildfires in BC. It is intended as a very brief summary of certain sections of the law to aid the reader in understanding the Best Management Practices. For a complete understanding of the legal requirements the original Acts and Regulations should be read.

The Best Management Practices are the standard by which Industry proves that it has completed the due diligence required of it by the Acts and Regulations. Following the BMP, documenting activities taken to evaluate risk and alter operations accordingly, providing expectations and training for personnel, and having sufficient tools on hand to deal with Industry-caused wildfire starts is the first part of proving due diligence. Making decisions and acting appropriately during wildfire events is the second part.

The ERP NE BC Wildfire Supplement is the field version of the plan. It lists the minimum equipment and actions that Industry must take in order to follow the law and prove due diligence with respect to wildfire starts caused by company activities.

The Field Audit Standards are intended to be a quick and easy-to-use checklist of the requirements, and to provide documented proof that commitments made in the BMPs are implemented in the field.

Part 1: Legal Background

Acts and Regulations:
- Wildfire Act, 2004
- Wildfire Regulation, 2023
- Open Burning Smoke Control Regulations
- Workers Compensation Act, Part 2 – Occupational Health and Safety, 2019

Wildfire Act and Regulations:

The act and regulations reflect British Columbia's "results-based" legislative focus. The Wildfire Act and Regulations describe the outcomes desired, and the standard required to demonstrate due diligence. It is up to the company to manage the risk to ensure that the desired result occurs. The act and regulations apply all year long, but a fire season is defined during which additional precautions must be taken.

The Act and Regulations are generally directed towards industry, with a bias towards the forest industry. However, for the oil and gas industry, "industrial activity" as defined in the act includes land clearing, high risk activities, debris piling, road construction, maintenance and deactivation, utility transmission operations, and the operation of a camp. A "high risk activity" includes mechanical brushing, disk trenching, preparation or use of explosives, using fire or spark-producing tools including cutting tools, grinding including rail grinding, mechanical land clearing, clearing and maintaining rights of way including grass mowing.

For the purposes of the Act, an official empowered to make decisions and issue orders can be a person employed by the Ministry of Forests, or by the BC Energy Regulator, or a Conservation Officer.

Summary of requirements
- There is a duty to immediately **report open fires** that are "burning unattended or uncontrolled" to the government.
- A person must **not risk starting an open fire** in forest land or grass land, or within 1 km of forest land or grass land, from a burning substance (match, torch), or any other thing that the person reasonably ought to know is likely to cause a fire (hot exhaust pipe, flare stacks, etc.).
- If a person causes a fire to start, then there is a legal obligation to extinguish the fire immediately.
- For industrial activities, they must be carried **out in a time and manner that** can "reasonably be expected to prevent fires from starting". If a fire starts from industrial activity the person responsible for the industrial activity must:
  - Immediately carry out fire control and extinguish the fire, if practicable, or
  - Continue with fire control until it's extinguished, until further control is impracticable, or they are relieved in writing by an official.
  - As soon as practicable, report the fire
  - Rehabilitate the land damaged by fire control.

Fire Season

Fire season in BC starts on the third day after the area is snow free, and ends at noon on the first day the area becomes snow covered and usually falls between March 1st and October 31st.

Fire danger classes must be determined for the worksite during fire season. The fire danger class can be found on the BC government website under BC Home>>Public Safety and Emergency Services>>Wildfire Service>>Preparedness>>Weather and Fire Danger Ratings>>Fire Danger, or the web link: https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prepare/weather-fire-danger/fire-danger.

The Danger Class Report will be one of:

- I (Very Low Danger)
- II (Low Danger)
- III (Moderate Danger: Carry out any forest activities with caution)
- IV (High danger: Fire hazard is serious. Extreme caution must be used in any forest activities. Burning permits and industrial activities may be restricted)
- V (Extreme Danger: Extremely high fire hazard. General forest activities may be restricted, including burning permits, industrial activities and campfires)

When the Fire Danger Class as posted on the website is the value indicated in column 1 of the table below, the restriction in column 2 applies for the duration in column 3.

Column 1: Fire Danger Class (DGR)	Column 2: Restriction	Column 3: Duration
III (moderate)	After 3 consecutive days of DGR III or greater, maintain a fire watcher after work for a minimum of one hour	Until after the fire danger class falls below DGR III
IV (high)	Maintain a fire watcher after work for a minimum of 2 hours	Until after the fire danger class falls to DGR III for 2 consecutive days, or falls below DGR III
	After 3 consecutive days of DGR IV, cease activity between 1 pm PDT (Pacific Daylight Saving Time) and sunset each day	
V (extreme)	Cease activity between 1 pm PDT (Pacific Daylight Saving Time) and sunset each day and maintain a fire watcher after work for a minimum of 2 hours	Until after the fire danger class falls below DGR IV for 2 or more consecutive days
	After 3 consecutive days of DGR V, cease activity all day	Until after the danger class falls below DGR IV for 3 or more consecutive days, or falls below DGR IV

The risk of wildfire start is highest in the spring and summer, and lowest in winter.

Industrial Activities Due Diligence

- Industrial activity in a prescribed area (forested or grassland zones) and at prescribed intervals (during fire season) must conduct **fire hazard assessments.**
- The hazard assessment must be re-assessed at minimum every three months during fire season, including an assessment of the **fuel hazard**, the risk of a **fire starting**, and the risk of **a fire spreading**.
- A copy of the fire assessment must be provided to a government official when requested.
- During periods of high fire hazard, the fire hazard from industrial activity should be abated by the company.
- Burn Piles:
  - Most industrial burn piles are “category three” fires: material in on ore more piles each exceeding 2 m in height or 3 m in width, or one or more windrows.
  - There must be a burn registration number for each fire: call 1.888.797.1717 to get the number, and keep the number available on site.
  - Each fire area needs an 8 m fuel break around it to ensure that the fire does not escape
  - Fire fighting equipment required on site for a category three fire during fire season are: 2 pieces of heavy equipment, 2 fire suppression systems, 11 workers with at least one fire fighting hand tool each. Note: A variance to the regulatory requirements for equipment can be written by the BCER.
- There must be a **fire break** around camps or industrial sites large enough to ensure a fire on the site does not escape from the site.
- **Engines over 10 hp** that are stationary or semi-permanent must be surrounded by a fuel break.
- In the event of a fire in the area of an industrial operation, industry is required to provide for fire control:
  - All workers, all fire suppression systems (pumps, hoses) and all heavy equipment within 30 km by road from the industrial activity site.
  - A fire fighting hand tool for each person at the worksite
  - The workers, heavy equipment, and hand tools must be deployed as appropriate, given the circumstances and conditions applicable to the fire.

Requirement for fire tools

If there is a risk of a fire starting or spreading on or within 300 m of forest land or grass land, an industrial activity at a site in that area must ensure that fire fighting hand tools are available at that site in a combination and type to properly equip each person with a minimum of one fire fighting hand tool.
Acceptable fire tools are round-nosed shovels, Pulaskis, or mattocks and McLeod tools.

Powers of Government

- The government has the right to restrict open fires, and place restrictions on areas for entry, and limit activities, including the use of equipment, materials, or substances (eg. Trucks, welders, quads, rigs). Exemptions from restrictions are available from the government.
- The government can order all people out of an area if there is an active fire.
- At any time, a government official can order a halt to work to limit the risk of fire starting from industrial activity.
- Power to Requisition:
  - A government official may requisition facilities and equipment to be used to fight fires under the official's directions.
  - A person 19 years old or older may be ordered to assist in fire control if physically capable, or has skills that can be used.
  - Pay while under requisition is "his or her usual wages", unless they or the company they worked for started the fire, or owns the lease for the property on which the fires started.

Penalties

- Penalties for starting a fire are the cost of fighting the fire, the value of timber and grasslands destroyed, and other government indirect costs.
- Administrative penalties for violating the act and regulations (not just starting a fire, but ignoring orders, etc.) are fines ranging up to $1,000,000 or to imprisonment for terms ranging up to three years, or both.
- Note that there is vicarious liability, in that if a "corporation contravenes a provision of this Act or regulations, a director or an officer of the corporation who authorized, permitted or acquiesced in the contravention also contravenes the provision."
- The person responsible for the industrial activity must "rehabilitate the land damaged by fire control" at their own cost.

Workers Compensation Act

The Worker's Compensation Act applies indirectly to wildfires. If a wildfire starts due to industrial activities the government has the right to investigate and charge employers under the act. In the event of a natural (lighting) wildfire start that burns over industrial dispositions, any injuries or risks to employees could be investigated with respect to the company's safety plan.

WCA Requirements

- Every employer must ensure the health and safety of all workers working for that employer, and any other workers present at a workplace at which that employer's work is being carried out.
- An employer must ensure that the employer's workers are made aware of all known or reasonably foreseeable health or safety hazards to which they are likely to be exposed by their work.

- Provide and maintain in good condition protective equipment, devices and clothing as required by regulation and ensure that these are used by the employer's workers.
- Provide to the employer's workers the information, instruction, **training** and supervision necessary to ensure the health and safety of those workers in carrying out their work and to ensure the health and safety of other workers at the workplace.
- A supervisor must ensure that the workers under his or her direct supervision are made aware of all known or reasonably foreseeable health or safety hazards in the area where they work.

WCA Penalties

- Penalties include a fine of up to $1,555,202.51 and, in the case of a continuing offence, to a further fine of not more than $77,760.13 for each day during which the offence continues after the first day, or a prison term not exceeding 6 months, or both fine and imprisonment.
- Additional penalties can be ordered by the courts.

Part 2: Best Management Practices

Hazard Assessments

All worksites
Many industrial activities have the potential to start wildfires, whether from machine exhausts, hot work, or the activity (flaring). The potential for wildfire varies according to the type of vegetation and the time of year. The speed of ignition and rate-of-build of a fire varies over the season as the ground and vegetation leaf out, suffer from drought or heat, and finally cure and dry during the fall.

Any company working in British Columbia must be able to prove that they have done their due diligence in the event of a fire start, regardless if the fire was started by the company, another operator, or a natural event like lightning. The law requires that companies monitor the hazards associated with their activities, plus the hazards associated with the dryness of the forest or grasslands, and modify their work procedures accordingly to abate the combined hazard level. This process must be recorded, consistently applied, and auditable.

Best Management Practices
1. Industrial activity in forests or grasslands during fire season must conduct fire hazard assessments. These hazard assessments can be combined with tailgate meetings, hot work permits, or camp/facility inspections, health and safety audits, etc.
2. The hazard assessment must be re-assessed at minimum every three months during fire season, or when the Danger Class Report changes. The assessment should include an assessment of the fuel hazard, the risk of a fire starting, and the risk of a fire spreading.
3. The Fire Danger Class rating (low to extreme) and hazard assessment results should be covered in tailgate and safety meetings.

Transportation

Light Trucks

Gas powered light vehicles usually have catalytic converters that get very hot and if parked where they come in contact with dry grass may result in ignition of a wildfire.

Best Management Practices

1. Ensure vehicles with catalytic converters are not parked in tall dry grassy areas, park over exposed mineral soil when possible.
2. Do not leave vehicles idling while parked.

Quads and ATVs

The operations of ATVs in wildland areas pose a significant liability for the ignition of a wildfire. These types of fires typically originate from a component of the exhaust system coming into contact with flammable organic material or vegetation. During the operation of an ATV organic material such as grass and moss can accumulate around the exhaust system. Quad exhaust systems can get as hot as 450°C. The organic material is dried and heated to its ignition temperature, and smoldering materials can then fall to the ground and ignite dry grass or vegetation, which in turn can result in a wildfire. Recent studies by the Forest Engineering Research Institute of Canada (FERIC) have determined that this process can occur within 15 minutes from the time the material comes into contact with the hot exhaust system.

The risk of wildfires caused by ATVs is highest in the spring of the year (April/May) when natural fine fuels such as grass is still in its cured state and highly flammable. Wildland fire hazards during this time of the year are generally high to extreme due to low moisture content of forest fuels, low relative humidity and strong winds.

Best Management Practices

1. Operators of ATVs need to stop on a regular basis and remove accumulations of organic material and vegetation from around all components of the exhaust system. The frequency of this cleaning will be dependent on the terrain and weather conditions. For example, the operator must frequently stop and clean the exhaust after traveling through a muskeg area during the spring.
2. ATVs should be equipped with the appropriate tools according to the type of ATV to assist the operator in the removal of accumulations of debris from around the exhaust system. Hot or burning materials that are removed from the ATV must be cooled or extinguished with water or by burying in mineral soil.
3. ATVs should be parked on sites that contain bare mineral soil. Avoid parking in areas with cured grass or other fine fuels which are highly flammable.
4. Operators need to be particularly vigilant during the spring of the year when grass and other fine fuels will quickly ignite and spread to heavier fuels. Restrict or limit the use of ATVs during prolonged periods of extreme fire danger, particularly in dry conditions in spring or summer.

5. The exhaust system should be inspected by the operator on a regular basis to identify and remedy any malfunctions which may further contribute to the ignition of a wildfire. All ATVs should be equipped with a spark arrestor on the exhaust.
6. During the fire season, ATVs should be equipped with basic firefighting tools which may include: a canvas or plastic water pail, water, back pack water container (full of water), shovel, Pulaski, fire extinguisher. Tools will be restricted by the amount of space available on the ATV but must include a container of water, a fire extinguisher and a shovel.
7. Operators must be familiar with the protocol for reporting a wildfire in their area of operation. Thy must have the communication equipment and technology necessary to contact fire authorities. To report a wildfire in BC, call **1.800.663.5555** or ***5555** from a cellular phone. To report a wildfire in other areas call 9-1-1.
8. Prior to operating an ATV at the start of a work day, the operator should ensure that there are not any accumulations of organic material or vegetation surrounding any components of the exhaust system.
9. Oil company personnel and contractors utilizing ATVs should be educated about the potential of ATVs to start fires and what they can do to prevent fires from occurring and what to do should a fire occur. Daily safety briefings could include awareness of fire potential and mitigation.

Disposition Construction

Heavy Equipment

Using heavy equipment in forest areas for clearing forest vegetation, or working in tall cured grass or in very fibrous soils, can result in an accumulation of fine, highly flammable organic material on or near the exhaust systems. This flammable material dries and if heated on exhaust systems to temperatures greater than 240 to 260°C it will ignite. Through vibrations caused by the equipment the ignited materials often fall to the forest floor and cause a wildfire or the materials are carried to maintenance sites that are not fire proof.

Diesel engines that idle for long periods of time build up carbon in the exhaust system and when throttled up and placed under load can expel small very hot carbon particles that are capable of igniting dry forest vegetation and becoming a wildfire.

Best Management Practices

1. To prevent wildfire ignition by heavy equipment, establish a practice that requires all contractors to clean their equipment's exhaust systems on a regular basis.
2. While cleaning the engines, park the equipment on bare mineral soil if possible or spray the area with water then drive the equipment over the wet areas and clean them.
3. Ensure that equipment with diesel engines that idle for long periods of time are throttle up and placed under load to expel any carbon build up over a safe zone of mineral soil or other non-flammable material.
4. Heavy equipment should also carry a backpack water container (full of water) complete with hand pump, dry chemical extinguisher, shovel, axe or Pulaski during the fire season.

5. Heavy equipment operators should consider taking the Woodlands Operating Learning Foundation training on equipment maintenance.

Light Equipment

Light equipment such as power saws, power pumps, brush saws, mowers, mulchers and graders are used extensively by the oil and gas industry in the agricultural and forest areas of the province. During high and extreme fire danger periods, especially when the grass is in a cured and very dry state, there have been occasions when wildfires are started by light equipment.

Using mowers in ditches or right of ways have on occasion started a wildfire from sparks caused by the mower blades contacting rocks or other metal objects. The sparks may cause an ignition in very dry grass or other fine fuels. Graders operating on gravel roads during very dry periods have also caused ignitions from the sparks that result from the steel blades coming in contact with rocks especially along the edges of the ditch line. Mulcher heads are steel with carbide tips that rotate at high speeds and when they come in contact with rocks or metal cause a shower of sparks. These sparks can ignite dry grass and fine fuels and when conditions are right will cause wildfire starts.

Best Management Practices

1. All internal combustion engines shall be equipped with spark arrestors or mufflers in good working condition.
2. A person who uses a power saw in the forest protection area shall take the following precautions to prevent starting a forest fire:
   a. refrain from starting a power saw within 3 metres of the gasoline supply;
   b. refrain from placing a running or hot power saw engine on any flammable matter;
   c. have at the site of operation an approved fire extinguisher in working condition.
3. Evaluate the risks of mowing, mulching or using graders during periods of high and extreme fire danger periods when the grass is cured, the forest fine fuels are dry and the relative humidity is below 30 percent.
4. Allow small engines to cool down before refueling.
5. If it is essential that these operations are under taken during high and extreme fire danger periods with high probability of wildfire ignitions then a water tanker complete with crew, hose and pump should accompany the operation to patrol behind the operation to detect and extinguish any fires that may be started.

Debris Piles

Total disposal of woody debris by burning at a safe time, is a regulated requirement on most Oil and Gas industry dispositions. Burning brush piles is a standard method of total disposal; however escaped fires from these piles are a liability for the industry. The majority of wildfire ignitions result from improperly extinguished fires or holdover fires that reside in deep duff layers or within large brush piles that contain fibrous organic top soil. These holdover fires can surface during dry windy conditions and spread rapidly to the flammable forest vegetation. These fires are often not discovered until they are well developed and under fire behavior conditions that make them difficult to contain.

Best Management Practices

1. A burn registration number is required year round.
2. Debris piles scheduled for burning should be placed on sites with shallow organic soils (Deciduous or mixed wood forest vegetation sites of less than 15 cm of duff) rather than deep duff layers such as those found in muskeg and coniferous forest vegetation sites.
3. During years of extreme drought in the fall, try to use a portable burning sled or ensure that all piles are built on bare mineral soil, away from any organic material.
4. On rights-of-way less than 30 metre width, the windrows or piles shall be located and burned along the centre of the rights-of-way, and on other cleared areas the windrows or piles shall not be placed and burned less than 15 metres from adjacent un-cleared areas.
5. Windrows should be no more than 60 metres in length, with a minimum of 8 metres break between windrows.
6. Round piles should be at least 15 metres apart and a minimum of 8 metres from standing timber.
7. Debris should be piled in a manner that allows for clean, efficient burning of all material: avoid mixing soil into the pile.
8. The best time for burning brush and debris piles is during the winter months when sites are snow covered.
9. Wind speed should be 20 km per hour or less.
10. An option to piling debris for burning is to utilize burning sleds, towed by heavy equipment. This is particularly effective for burning green woody debris.
11. Ensure precautions are taken to keep the fire under control at all times. Monitor burning and have adequate water sources, pumps, manpower and equipment on site to deal with the potential for escape fires.
12. Burn piles must be spread and mixed with water or snow to ensure they are properly extinguished.

Drilling and Completions

Flaring

The majority of fires originating from flaring occur during windy conditions in the afternoon during the seasons with cured grass and vegetation. Flaring can be accomplished in a safe manner by ensuring that burning materials from a flaring operation do not come in contact with flammable vegetation.

There are a number of operational activities, both mechanical and human, that lead to wildfires caused through flaring. Some of the more common causes are the use of flare guns that over shoot flare stacks or pits and flare stack burps that send hot carbon into flammable vegetation. Many fires are caused by an insufficient expanse of mineral soil between the flare stack and surrounding wildland vegetation and flaring during high and extreme wildfire burning periods.

Best Management Practices

1. The horizontal distance from the base of a flare stack to the closest forest vegetation must be at least 2.5 times the height of the stack. (For example, a 5 metre vertical pipe must be 12.5 metres away from the closest forest vegetation.)
2. An 8 metre vegetation-free zone (bare mineral soil or gravel) should be maintained around the base of a flare stack.
3. Operators will perform regular maintenance of any associated fluid tanks at the base of flare stacks to avoid burping.
4. Reduce flare stack carbon build-up through routine maintenance and technology upgrades.
5. A projectile-flare device may be used to ignite flare stacks on public land **only in the event of an emergency** and all residues from such flares shall be extinguished by the user before he leaves the site.
6. If at all possible, routine flaring should not be conducted during periods of high or extreme fire hazard.
7. Operators shall endeavor to complete flaring operations during the evening or early morning when the vegetation ignition risk is at the lowest due to higher relative humidity and lower temperatures. Flaring should be avoided during the spring and fall when there is an abundance of cured grass and other vegetation.

Welding

Welding on pipeline projects or when performing regular maintenance and repairs to equipment during the active fire season does have the potential for starting a wildfire. The risk is especially high during the spring and fall cured grass stages, on muskeg sites or other areas with deep organic soil layers during very dry periods. Wildfires resulting from welding are rare, however the risk of starting a wildfire does exist during high and extreme fire danger periods, and prevention measures should be considered.

Best Management Practices

1. Establish a practice that requires employees and contractors operating in wildland areas to conduct welding operations on bare mineral soil if possible. As an alternative, during high fire hazard periods the work area where welding is to take place, should be wet down with water or foam.
2. Another option is to use a non-flammable shield around the area where welding will take place to confine and prevent the sparks from spreading in all directions.
3. If it is essential that these operations are undertaken during high and extreme fire danger periods with very high probability of wildfire ignitions then a water tanker complete with crew, hose and pump should accompany the welding operation to patrol, detect and extinguish any fires that may be started.
4. Class A Wildfire Foam (Fire Foam 104) should be considered for use when welding on pipelines during high and extreme ignition potential periods to reduce the amount of water required and to ensure the water penetrates into the organic layers. Properly mixed foam will expand the volume of water 5 to 20 times, depending on the foam and equipment used. Foam acts as a fire suppressant rather than a fire retardant. A suppressant extinguishes the flaming and glowing phases of combustion when applied directly to forest vegetation.

Operations/Facilities

Camps

Camps should be located in areas of deciduous forest if at all possible, as coniferous forest are far more prone to burning, and burn with much more heat. Fuel tanks and propane bullets should be placed a minimum of 15 metres from the forest edge. A Canadian study indicated that the air temperatures of a flame front at the height of structures and hydrocarbon storage facilities could reach temperatures of 1000°C. If structures or storage facilities are placed within 10 metres of coniferous forest vegetation then the probability of damage from intense heat is likely.

Best Management Practices

1. Camps should have a minimum of 10 metres between the structures and flammable forest vegetation with a height greater than 10 metres.
2. Diesel, gasoline, and propane fuel tanks should be 15 metres from the forest edge, and a vegetation-free zone of at least 8 metres should be maintained. Fuel tanks should not be placed in a location that would limit the options for escape in the event of a forest fire.
3. Camps operating during fire season should conduct **fire hazard assessments**. The hazard assessment must be re-assessed every three months during fire season, including an assessment of the **fuel hazard**, the risk of a **fire starting**, and the risk of **a fire spreading**.
4. Camps should be equipped with five round-nosed shovels and five Pulaskis or mattocks for fire-fighting.
5. The current Fire Danger Class should be posted during fire season.

Smoking

The activities relating to smoking have caused 3% of the fires attributed to the oil and gas industry. These fires are generally caused by careless disposal of smoker's materials including matches, cigarettes or cigars on to flammable forest vegetation. These types of fires would typically occur when the grass is cured and/or during high to extreme fire danger periods when dry vegetation is combined with very low relative humidity and strong winds.

Best Management Practices

1. Smokers' materials such as cigarettes should be "field stripped" by the user to ensure that all material is extinguished before disposal on bare mineral soil. The material shall be broken up and spread before discarding, or placed in a metal or glass receptacle.
2. Matches must be cold to the touch before disposal. The preferred safest method of lighting tobacco materials is with a child-proof lighter.
3. Smoking in forest areas during periods of high or extreme fire danger conditions should be prohibited.
4. If personnel must smoke in the wildland they should not be walking while smoking. The preferred location for smoking is in a vehicle.
5. If smoking in a vehicle, use the ash tray to dispose of smoking materials; do not throw these materials onto the ground.

Hills and Location on Slopes
A wildfire will burn more rapidly and intensely uphill compared to flat or level ground. Fires can also burn uphill against the wind. In general, structures and leases higher up on a slope, with vegetation below, face a significantly higher probability of ignition or radiant heat damage from wildfires burning over the site.

Slope influence on wildfire spread speed is similar to wind effect: for every 10% increase in slope the fire spread rate will double.

Best Management Practices
1. The distance from the forest edge to structures should be doubled where the slope below the disposition is 30% or greater.
2. Fuel tanks should be kept as far away from the downhill edge of the slope as possible, while still maintaining necessary setbacks from the uphill forest.

Structural Materials
The roof of a structure is the most vulnerable for fire ignition, and roof ignition is one of the main causes of structural losses. Embers and flaming debris from wind-driven fires can travel great distances, and embers landing on a combustible roof surface can start a new fire. Building codes have long recognized the importance roofing plays in fire spread. A fire rating class of “A” is the best fire-resistant classification assigned to roofing, and includes materials such as metal roofing.

Best Management Practices
1. Structures should be constructed using non-combustible exterior cladding.
2. Keep roofs and gutters clean of moss, vegetation, and debris. Use non-corroding 3mm metal screen on eaves and vents, and turn vent openings downward if possible.
3. Where water supplies exist, install sprinkler systems on key structures, and test the sprinkler systems regularly during fire season.
4. Keep the area around structures vegetation-free, or closely mowed, for a distance of 10 metres.

Storage of Flammable Materials
Storage of flammable materials, such as fuel tanks or propane tanks, on a lease or plant site can create additional threats to structures on the disposition based on the presence or absence of hydrocarbons, how flammable the material being stores id, whether airborne embers could accumulate on the tops of tanks or other flammable materials, the closeness of storage sites from the forest, and the distance from flammable materials to the facility structures.

Best Management Practices
1. Keep flammable materials away from key facilities.
2. Clean up spilled flammable hydrocarbons promptly.
3. Tank tops should be cone shaped and designed in such a way that airborne embers will not become lodged around tank openings or vents.

4. Keep the area around tanks and propane tanks clear of vegetation for a minimum of three metres. (no grass, trees, or shrubs)
5. Consider the storage of wooden matting or other flammable material relative to the location of buildings/camps/facilities.

Evacuation Routes

Evacuation routes can be critical for evacuation personnel from a facility during a wildfire emergency. Emergency response plans should identify how the facility or camp will be evacuated. Areas that are designated for helicopter landing or vehicle parking should be kept in a vegetation-free state, and maintained as needed.

Best Management Practices

1. Identify all surface routes into and out of sites, with reference to the width of the driving surface, the width of the road corridor and the number of corners and turns as visibility can be dramatically obscured by drifting smoke.
2. Ensure that parking areas on the facility are large enough to turn around a vehicle, or a loop road around the structures exists.
3. Pre-identify and keep clear potential helicopter landing sites for air lift evacuation should road access be cut off due to wildfire.
4. Identify waterways that can be accessed by boat, if applicable.

Part 3: ERP NE BC Wildfire Supplement

These Guidelines apply to working in North-eastern British Columbia during fire season. Fire season starts the third day of snow-free conditions in the spring to the first day of snow cover in the winter and usually falls between March 1st and October 31st.

Application of these guidelines help Industry Inc. demonstrate due diligence in preparing for company-caused fire starts.

1.0 Fire Emergency Response

1. **Recognize the Problem**
   - Is there a forest fire, equipment fire, or structural fire?

2. **Evaluate the Hazard**
   - Are there threats to people and property?
   - Is the fire spreading fast or slowly?
   - Is smoke blowing across the site limiting vision?
   - Are access routes blocked by fire?
   - Are muster points safe and free of danger?

3. **Take Control**
   - Shutdown operations.
   - Identify what you will require to fight the fire.

4. **Call out for Help**
   - Call for help and additional supplies (on-site personnel if available)
   - Call 1.800.663.5555 or *5555 (cell phone only) with the following details:
     - Size of the fire (hectares).
     - Location (Mapsheet location).
     - Type of fire (structural or forest fire).
     - Fuel type the fire is burning in (slash, grass, bog, big timber).
     - Water supply available (if known).

5. **Take Action**
   - If safe, use the resources you have to action the fire.
   - If you think the fire is too large to handle, evacuate the area immediately and/or find a safe location.
   - Wait for further help from BC Forest Protection.

6. **Follow Up**
   - Contact your Foreman, Contractor Supervisor, or the Industry Area Supervisor.
   - Complete the Accident/Incident Investigation Form.

2.0 Emergency Contacts

Contact	Number	Comments
24-Hour Forest Fire Report Line	**1.800.663.5555**	All phones
	***5555**	Cellular phones in BC only
Fire Information Line	1.888.3FOREST 1.888.336.7378	For recorded information on campfire, open fire and travel bans or restrictions, toll-free number
Burn Registration Line	1.888.797.1717	To register a Category 3 open burn.
Prince George Fire Centre	250.960.2300	General inquiries
Fort Nelson Fire Zone	250.774.7905	General inquiries

ALL FIRES STARTED OR VISIBLE FROM THE WORKSITE, CAMP, OR FACILITY NEED TO BE REPORTED TO THE FIRE REPORT LINE!

3.0 Hazard Assessments

For all activities during the fire season, the QRCI Site Supervisor or HSE rep. is to ensure that hazard assessments for wildfire risks are completed at regular intervals. These hazard assessments may be combined with other assessments, should be written, and must take into account activities ongoing and resources/equipment available. BC law requires that:

- Industrial activity, including construction, drilling and completions, facility operation, and camp operation in forested or grassland zones during fire season must conduct **fire hazard assessments**.
- The hazard assessment includes an assessment of the **fuel hazard**, the risk of a **fire starting**, and the risk of **a fire spreading** for the construction activity ongoing.
- The hazard assessment must be **re-assessed** at minimum every three months during fire season, or as the fire Danger Class Report (see below) changes.
- A copy of the fire assessment must be **available onsite** and provided to a government official when requested.
- During periods of high fire hazard, the fire hazard from industrial activity should be abated by the company.

Fire danger classes must be determined for the worksite during fire season. The Fire Danger Class can be found on the BC government website under BC Home>>Public Safety and Emergency Services>>Wildfire Service>>Preparedness>>Weather and Fire Danger Ratings>>Fire Danger, or the web link: https://www2.gov.bc.ca/gov/content/safety/wildfire-status/prepare/weather-fire-danger/fire-danger.

The Danger Class Report will be one of:

- I (Very Low Danger)
- II (Low Danger)
- III (Moderate Danger: Carry out any forest activities with caution)
- IV (High danger: Fire hazard is serious. Extreme caution must be used in any forest activities. Burning permits and industrial activities may be restricted)

- V (Extreme Danger: Extremely high fire hazard. General forest activities may be restricted, including burning permits, industrial activities and campfires)

When the Fire Danger Class as posted on the website is the value indicated in column 1 of the table below, the restriction in column 2 applies for the duration in column 3.

Column 1: Fire Danger Class (DGR)	Column 2: Restriction	Column 3: Duration
III (moderate)	After 3 consecutive days of DGR III or greater, maintain a fire watcher after work for a minimum of one hour	Until after the fire danger class falls below DGR III
IV (high)	Maintain a fire watcher after work for a minimum of 2 hours	Until after the fire danger class falls to DGR III for 2 consecutive days, or falls below DGR III
	After 3 consecutive days of DGR IV, cease activity between 1 pm PDT (Pacific Daylight Saving Time) and sunset each day	
V (extreme)	Cease activity between 1 pm PDT (Pacific Daylight Saving Time) and sunset each day and maintain a fire watcher after work for a minimum of 2 hours	Until after the fire danger class falls below DGR IV for 2 or more consecutive days
	After 3 consecutive days of DGR V, cease activity all day	Until after the danger class falls below DGR V for 3 or more consecutive days, or falls below DGR IV

During extremely dry conditions the forest can be closed by the British Columbia Government. Permits must be obtained to continue working and travel in the woods. The Industry Supervisor must call the BC Ministry of Forests in Fort Nelson if the forest is closed to arrange permits.

4.0 Burning Requirements and Contacts

Brush piles or log decks are classes as a Category Three fire in BC (industrial fires, land clearing). Prior to burning brush piles or log decks, a burn registration number must be obtained from the BC Government, and kept available onsite during the burning.

Burning is only allowed when atmospheric conditions are appropriate for smoke dispersal. Call the Air Quality Information Line prior to burning to ensure the Fort Nelson burning conditions are “Good” or “Fair”. Contact information is in the table below:

Contact	Number	Comments
Provincial Venting and Air Quality Information Line	**1.888.281.2992**	Call the Provincial Venting and Air Quality Information Line to ensure open burning restrictions are not in effect and to ensure that weather is good for smoke dispersion. Press ‘7’ for Omineca-Peace Region
Burn Registration Number	1.888.797.1717	Obtain a Ministry of Forests and Range Burn Registration Number prior to igniting burn piles.

5.0 Internet Wildfire Information

BC Wildland Fire Information through the Internet: visit the Ministry of Forests Wildfire Service website at http://bcwildfire.ca/ for:

- Campfire bans or open fire restrictions.
- Travel restrictions/road closures.
- Maps showing Fire Danger Class, temperature, relative humidity, precipitation and wind speed.
- Detailed Fire Danger Class (available for Fort Nelson fire weather station)

6.0 Minimum Fire Equipment

During fire season, each quad, truck, or manned worksite should be outfitted with the required equipment listed in the table below. (Requirements from the BC Wildfire Act and Regulations.)

At worksites, the equipment should be stored in a clearly marked, easily accessible location.

Location	Required Equipment	Comment
ATV's	1 shovel 1 axe, mattock, or Pulaski 5-litre container of water (if possible) Fire extinguisher (if possible)	Can be the equipment shared with the truck
Pickup Trucks	1 shovel 1 axe, mattock, or Pulaski 1 backpack with pump, 5-litre	The backpack pump does not need to be filled, but should be filled during fire season
Heavy Equipment	1 fire suppression hand tool (shovel, axe, mattock, or Pulaski, 5 Litre water	As stated in best practices
Worksites (Per person)	1 shovel, axe, mattock, or Pulaski per person	The fire tools in trucks count towards the total

Heavy equipment (cats, excavators, graders, bunchers, skidders, etc.) should be outfitted with a minimum of one fire suppression hand tool, in addition to a fire extinguisher.

In the event of a fire start, BC law mandates that all heavy equipment controlled by the company within 30 kilometres of the fire be made available to fight the fire as fast as reasonably possible.

Fire fighting equipment required on site for a category three fire (burning brush piles and log decks during construction) during fire season are:

- 2 pieces of heavy equipment,
- 2 fire suppression systems (pumps and hoses),
- 11 workers with at least one fire fighting hand tool each.

Note: A variance to the regulatory requirements for equipment can be written by the BCER. The Industry Area Supervisor is responsible for ensuring that the equipment and people are present, or a variance is obtained.

7.0 Emergency Response Plan

- Refer to the Industry Emergency Response Plan, and know where to find it at the worksite.
- Use Best Management Practices during the fire season:
  - All hot work should be completed over exposed mineral soil.
  - Use of open flame should be minimized.
  - Smoke only in designated areas.
  - Park heavy equipment, trucks and ATVs on bare mineral soil to minimize the chance of hot exhaust systems starting grass fires.
  - Flare Stacks should be 2.5 times the height of the stack distance away from the forest, and surrounded by bare mineral soil. (10m stack should be 25 metres from the forest edge).
  - Camps and facilities should have a 10 metre buffer of mineral soil or closely mowed vegetation around buildings.
  - Stationary engines (generators, pumps) should be within containers or have bare mineral soil around them. Do not refuel hot engines.
- For each worksite, identify evacuation staging areas in evacuation plans for use during a wildfire event.
- Ensure all personnel are aware of evacuation alerts, evacuation routes, and evacuation staging areas away from the wildfire. If possible, the evacuation point should be down wind and downhill of the site.
- Know the legal location (National Topographic System mapsheet location) of each worksite so wildfire starts can be reported.
- In the event of a forest fire, use the reporting form in Appendix A to provide information to British Columbia.
- A Burn Registration Number is required for all open fires in BC all year long.

8.0 General Points

- Fire burns uphill fastest, and can burn uphill against the wind.
- Spruce burns better than pine, which burns better than leafy trees.
- 60% of forest fires in BC are caused by lightning, 40% are caused by people.

No person is expected to fight a forest fire without the proper training, equipment, and experience. Industry expects the priorities to be personal safety, environmental protection, and asset protection. If there is any doubt, evacuate to a safe area and call for help.

Part 4: Field Audit Standards for the BMP

Camps/Facilities	Pass✓ Fail✖	Comment/Follow up
Recent fire hazard assessment on file? Hazard assessment includes fuel risks, fire start and spread risks?		
Fire Danger Class posted and current?		
Hand fire tools present?		
Camp building >10m from forest edge on flat ground? Or camp buildings > 20m from forest edge on sloped ground >30%?		
10m buffer of vegetation-free (or mowed) around buildings?		
Propane, gas, and diesel tanks +15m from forest edge on flat land? Or, propane, gas and diesel tanks +30m from forest edge where the slop below tanks is 30% or greater?		
8m buffer of vegetation-free (or mowed) around fuel tanks?		
Metal containers for cigarette butts at designated smoking areas?		
Flammable materials piled near buildings? (wood matting, fuel barrels, etc.)		
Building roofs and gutters clean of needles and flammable materials?		
Muster location clearly marked and +15m from forest edge?		
Helicopter landing zone identified and vegetation-free?		
Is vehicle parking designed to allow easy escape?		
Is any welding taking place over mineral soil?		

Construction Sites	Pass✓ Fail✖	Comment/Follow up
Recent fire hazard assessment on file? Hazard assessment includes fuel risks, fire start and spread risks?		
Do tailgate meeting notes include Fire Danger Class rating and hazard assessment results?		
One hand fire tools present per employee on site? Note: truck mounted hand tools count towards total		
Are vehicles, equipment, and ATVs parked on mineral soil when not in use?		
If the fire danger class rating is “high” or “extreme” is a water truck available on site?		
Employee Questions (employee chosen randomly)		
Is the Fire Danger Class and hazard assessment known?		
Is the BC government forest fire number known? (1.800.663.5555 or *5555 on a cell phone)		
Does the employee know who to contact in the case of a fire start?		
Is the muster point known?		
Does the employee know who to call in the event of a forest fire?		
Does the employee know where to find fire hand tools?		
Are there debris piles on site? If yes:		
Is there 8m of bare mineral soil around each pile?		
Are the piles >15m from the forest edge?		
Are the piles at least 15m apart?		
Is there a burn registration number on site for burning or previously burnt piles?		
Are previously burnt piles scanned with infra-red technology?		

Equipment/Trucks/ATVs	Pass✓ Fail✖	Comment/Follow up
Pickup Trucks		
Is the truck equipped with a shovel, Pulaski and backpack sprayer?		
If a crew truck, is there one fire fighting hand tool per person in the truck?		
Is the vehicle left idling when not in use, while not on bare mineral soil?		
All-Terrain Vehicles		
Is the ATV equipped with a shovel and an axe/Pulaski?		
Is there a tool to remove organic buildup from around mufflers and exhaust systems?		
Does the operator of the ATV know about the potential of ATVs to start forest fires? (Organic accumulation and ember dropping)		
Has the ATV driver had training on operating ATVs in forested/grassland areas during fire season?		
Heavy Equipment		
Is the machine equipped with one fire suppression hand tool?		
Is the exhaust system cleaned on a regular basis (especially land clearing equipment)?		
Is the machine parked on exposed mineral soil when not in use?		
Does the operator know who to call in the event of a fire?		

Appendix A: Forest Fire Reporting Form

Caller's Name _____ Phone Number _____

Location _____ Fire Size _____

Rate of Spread _____ Fuel Type _____

Type of Fire _____ Water Availability _____
(ground, surface, crown)

Any Resources En-route Or Working On The Fire At Time Of Report : _____

_____

_____

_____

_____

Equipment and manpower required to gain control: _____ _____

_____ _____

_____ _____

_____ _____

_____ _____

2.0 Public Protection

2.1 Purpose of an Emergency Response Plan (ERP)

An emergency shall be considered as any situation that creates the potential for harm to the residents, environment, or property surrounding the assets. The response priorities are:

- 1st - People
- 2nd - Environment
- 3rd - Property

An ERP is a document developed to ensure quick access to critical information necessary to effectively respond to an emergency and is a key component of emergency preparedness and response. The extent of the information contained within the plan is determined by the potential hazard(s) identified. An ERP addresses emergency scenarios, potential hazards to the public, and systems required for adequate response.

The purpose of emergency preparedness and response is to establish a decision framework and action plan so that the licensee can quickly and effectively respond to an emergency.

The goals of an ERP are to:

- Enhance the safety of the public, company personnel (including contractors), the environment and property.
- Provide company personnel with established procedures to respond to an emergency.
- Provide company personnel with access to critical information required to respond to an emergency.
- Eliminate or minimize the effects that incidents have on Pacific Canbriam Energy Limited operations.

Where the health and safety of the public cannot be assured, Pacific Canbriam Energy Limited responders will determine the best approach to protecting the public. If an emergency situation occurs which causes or creates a potentially dangerous situation to personnel or the general public, a Hazard Planning Zone (HPZ) shall be established, and the best method of public protection implemented.

Depending on an incident's specifics, Pacific Canbriam Energy Limited will implement the necessary method(s) of public protection: air monitoring, evacuation, ignition, isolation or sheltering.

2.2 Hazard Planning Zone (HPZ) Determination

Hazard planning distances are used to identify a geographical area (HPZ) within which persons, property, or the environment may be affected by an emergency. The combined geographic areas of hazard (emergency) planning zones are used by Pacific Canbriam Energy Limited to identify an HPZ where immediate response actions are required, in the event of an emergency.

The HPZ is based upon the greatest hazard present, or expected to be normally present, for which the ERP has been developed. In many cases, oil and gas operations will have a number of products associated with their operation, such as propane bullets, condensate storage, containment for produced water etc. that create a hazard area. When present, H_2S is typically the greatest hazard and will often determine the extent of an HPZ.

Sour Wells
The initial size of a sour well HPZ is determined by the maximum potential release rate. Equations that may be used to calculate a well's HPZ or located in *Schedule B of the BC Emergency Management Regulation*.

Sour Pipelines and Sour Multiphase Pipelines
The HPZ for a sour pipeline or sour multiphase pipeline is determined using the maximum licensed operating pressure, the internal diameter and the licensed maximum H_2S concentration to calculate the H_2S release volume in cubic metres (m^3) for each segment of pipeline. The release volume at the break point is the drained volume, which may be the sum of the release volumes from several segments that may exist between emergency shutdown valves (ESDs) and check valves.

Note: The release volume calculation for pipelines assumes that ESDs close instantaneously upon failure of the pipeline and check valves close instantaneously downstream of the failure. The calculation also assumes that manual block valves do not close instantaneously and the entire volume of gas in that segment of the pipeline is released.

Sour Production Facility HPZs
The HPZ for a sour production facility is calculated by using the largest H_2S release volume from any pipeline entering or leaving the facility. If the facility has an acid gas disposal well on site, the HPZ for the well may determine the size of the HPZ for the sour production facility.

HVP Pipelines
Under the current BCER Emergency Response Plan Requirements, an established procedure for calculating an HPZ for an HVP pipeline has not been developed. Licensees must conduct a plume dispersion assessment based on release volumes for each segment of pipeline. The volume release at the breakpoint is the drained volume, which may be the sum of release volumes that exist between ESD valves and check valves.

The Canadian Association of Petroleum Producers' (CAPP) *Emergency Response Planning Process Guideline for HVP Operators* recommends an HPZ of 1.5 times the distance from the point of release to the isopleth representing the 50 percent lower flammable limit (LFL).

Hydrocarbon Storage in Caverns

Under the BCER Emergency response Plan Requirements there is no established procedure for calculating an HPZ based on release of hydrocarbons stored in caverns. A licensee may use the current industry HPZ of 0.8 km until such time as a government / stakeholder committee has studied the issue and presented recommendations.

Documentation

Detailed documentation must be available for review by the BCER, if requested, and must clearly describe the methods, assumptions, and modeling uncertainties in sufficient detail so that a third party could duplicate the numerical results. A description of the skills and experience of the person(s) undertaking the hazard assessment must also be included in the documentation.

2.3 Air Quality Monitoring

Pacific Canbriam Energy Limited is responsible for providing the necessary personnel and equipment to monitor and confirm the location of the H_2S / SO_2 or explosive mixtures cloud and to remove occupants or prevent occupants from entering the HPZ.

Air quality monitoring equipment is used to:

- Detect traces of H_2S / SO_2 and explosive mixtures.
- Track the plume.
- Determine if ignition criteria are met.
- Determine whether evacuation and / or sheltering criteria have been met, particularly beyond the HPZ.
- Assist in determining when the emergency can be downgraded.
- Determine roadblock locations.
- Determine concentrations in areas being evacuated to ensure that evacuation is safe.
- Determine if the evacuation area will need to be expanded based on H_2S and SO_2 levels exceeding government regulated limits, or if health effects area apparent by monitoring.
- Monitoring occurs downwind with priority at the nearest un-evacuated residence or where people are present.
- Where release has the possibility of being sustained, hazard area must be redefined 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.
- Determine if a mobile monitor will be placed on standby or dispatched to the site at a Level 1 emergency depending on the travel time to the site.

There are various types of Air Quality Monitoring equipment that may be used at a well site and within the HPZ:

- Electronic personal H_2S monitors for all personnel
- Stationary monitoring units
- Mobile monitoring units
- Other monitoring / notification Equipment:
  - Fixed in place electronic H_2S monitoring system
  - H_2S Sensors
  - Low alarm (flashing light)
  - High alarm (audible siren)
  - Combustible / LEL sensors

Assigned Pacific Canbriam Energy Limited personnel will be equipped with the appropriate personnel protective equipment (PPE), self-contained breathing apparatus (SCBA), and electronic personal H_2S monitors to monitor the following areas:

- Any area in which an H_2S / SO_2 or explosive mixtures cloud odour complaint has been received.
- The nearest downwind un-evacuated area from the incident site, if an H_2S / SO_2 or explosive mixtures cloud release has occurred.
- Any area in which H_2S / SO_2 or explosive mixtures cloud LEL is suspected.

During the implementation of the ERP, air quality monitoring for Hydrogen Sulphide (H_2S), and if ignition has taken place, Sulphur Dioxide (SO_2), shall be conducted at the incident site and throughout the HPZ. Personnel shall maintain a record of the Air Quality Monitoring results using the required forms and immediately report any H_2S or SO_2 detection to the Air Quality Monitoring Unit Leader. The Air Quality Monitoring Unit will maintain detailed records of the progress of an H_2S release and help to monitor the effects, dispersion, and dilution.

In regard to H_2S concentrations in unevacuated areas refer to Evacuation Criteria, and for H_2S / SO_2 concentrations in unevacuated areas refer to *Table 3 – Downwind Mobile Air Quality Monitoring Requirements.*

Table 3 – Downwind Mobile Air Quality Monitoring Requirements
BCER Emergency Response Plan Requirements

	Level 1 Emergency	Level 2 Emergency	Level 3 Emergency
Sour Well	If estimated time of arrival is greater than the estimated time for gas to surface (an estimated time for gas to surface should be based on the time to circulate bottoms-up) 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. (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.)	Continue mobile air quality monitoring.

Readings Outside the HPZ
In regard to Evacuation Criteria and H_2S / SO_2 concentrations in unevacuated areas, refer to *Table 2 – Notification and Evacuation Requirements Outside* the HPZ (BCER Emergency Response Plan Requirements). Air Quality Monitoring will continue throughout the time of the emergency until the all clear is given.

Table 2 – Notification and Evacuation Requirements Outside the HPZ	
H_2S concentrations in unevacuated areas	**Requirement**
1-9 ppm	Individuals must be informed of the concentrations and advised to leave. All other individuals should consider leaving the area and seek medical advice if health symptoms develop.
10 ppm	Immediate evacuation of the area must take place or the release must be ignited.
Note: H_2S Evacuation Level – when downwind monitoring at the nearest unevacuated downwind residence, outside the emergency planning zone, indicates a level of 10 ppm, evacuation procedures will be initiated if safe to do so).	
SO_2 concentrations in unevacuated areas	**Requirement**
1 ppm	Voluntary evacuation.
2 ppm	Evacuation of the area should begin.
5 ppm	Mandatory evacuation of the area.

The Air Quality Monitoring Unit Leader will be notified of wind direction changes at all times during the emergency by the Air Quality Monitoring Unit in order to follow the wind direction of the plume.

Preparedness
As operating areas are developed, Pacific Canbriam Energy Limited may place electronic H_2S monitors along pipeline right of ways or on well sites.

Response
If an air quality monitor alarm on site is triggered personnel investigating the alarm would take appropriate safety precautions to investigate / confirm the situation and report to the Air Quality Monitoring Supervisor immediately.

Based on the Air Quality Monitoring information received, the Incident Commander will determine if a Level 1 Emergency will be declared.

Level 1 Emergency
- If a Level 1 Emergency is declared, the Incident Commander will:
- Alert a contracted air quality monitoring company and place them on stand by ensuring their readiness should they need to be dispatched or dispatch them to the site if travel time is expected to be lengthy.
- A record will be kept of the wind speed and direction.
- The Air Quality Monitoring Unit Leader will notify the Public Safety Supervisor of changes to wind direction on a regular basis.

Level 2 or 3 Emergency

- If a Level 2 or 3 Emergency is declared, Pacific Canbriam Energy Limited will mobilize air quality monitoring unit(s) downwind of the incident site and / or at the nearest evacuated residence.
- Once in place, it will monitor for H_2S / SO_2 and explosive mixtures, record the wind speed and direction and maintain communications with the Air Quality Monitoring Unit Leader.

Post Incident Procedures

- The Air Quality Monitoring Unit will test any buildings within the HPZ and if required, beyond the HPZ, that may have been exposed to the plume to determine if any emissions are in the building prior to allowing residents / occupants back into the area.

2.4 Evacuation

The purpose of an evacuation is the removal of people from the HPZ to reduce the risk of exposure to H_2S / SO_2 or an explosive mixtures cloud. The BCER must be notified of an evacuation of people within the HPZ.

In the event of a hazardous material incident where evacuation needs to take place, local emergency services and municipalities shall be notified immediately to advise them of the situation so that they can take appropriate safety precautions for their personnel who may travel into the HPZ.

First responders may commence evacuation procedures without the authority of Pacific Canbriam Energy Limited, the BCER, or the local and provincial disaster services. It is imperative that police, fire and emergency medical services are advised of the situation immediately and apprised of the evacuation procedures (if any) or shelter in place procedures.

Evacuation Criteria
Criteria to consider that may cause Pacific Canbriam Energy Limited to initiate evacuation procedures include:

- Level of emergency.
- Conditions at the wellsite and if they are likely to escalate to a more serious situation.
- Residents' sensitivities and / or medical conditions.
- The levels of H_2S reaching the public outside the HPZ.

A Level 2 Emergency dictates mandatory evacuation of all public from the HPZ. Evacuation of members of the public outside the HPZ is mandatory when H_2S levels reach 10 ppm - if safe to do so.

Evacuation – Level 1 Emergency

- At a Level 1 Emergency, evacuation is a voluntary action, however transients found within the HPZ including itinerant workers and recreational users should be advised to evacuate due to their inability to safely shelter.
- The Telephone Unit will notify any members of the public listed as having special needs (if applicable), any known transients, and other area operators within the HPZ.
- All information regarding evacuees requiring evacuation assistance will be forwarded to the Rover / Evacuation Unit Leader.
- If a publicly used facility, including schools and hospitals, is located within the HPZ Rovers will be dispatched to the facility at a Level 1 Emergency to assist with early evacuation. A large number of people requiring assistance with transportation may cause the need to deviate from normal evacuation procedures.
- Rovers may be dispatched during a Level 1 Emergency to search the HPZ for transients, recreational users and Trappers / Guides.

Evacuation – Level 2 Emergency

- At a Level 2 Emergency, evacuation of all people including transients and other area users, public facilities and places of commercial activities within the HPZ is mandatory.
- Pacific Canbriam Energy Limited shall initiate evacuation procedures.
- The Telephone Unit will notify all people (residents, transients and other area operators) in the HPZ and advise them of the immediate mandatory evacuation.
- Any new information regarding evacuees requiring evacuation assistance will be forwarded to the Rover / Evacuation Unit Leader.
- Evacuation will be prioritized based on distance from release or other factors where appropriate.

Evacuation – Level 3 Emergency

- If the evacuation of the HPZ has not been completed at a Level 3 Emergency, any people who have not been evacuated will be notified to shelter in place. Necessary instructions for sheltering in place will be provided in the event that evacuation is not possible.
- If a hazardous plume has been ignited and it is relatively certain the plume will stay ignited, those evacuees who were asked to shelter in place will be called and notified to evacuate the area to the Reception Centre.
- Any new information regarding evacuees requiring evacuation assistance will be forwarded to the Rover / Evacuation Unit Leader.

Evacuation Procedure – By Land

- The Incident Commander will determine the safest route(s) to evacuate the area by road.
- This decision may be based on the location of the asset, wind direction and speed.
- Additional transportation may need to be arranged to evacuate public facilities where large numbers of people can be anticipated.
- Evacuation routes are provided to the Roadblock Unit, Telephone Unit and Rover / Evacuation Unit Leader.
- Rovers will be assigned to patrol the area searching for transients, including trappers, guides / outfitters and recreational users.
- During sour operations one or more evacuation vehicle must be available 24 hours a day, with at least one driver onsite who is not required to assist in well control operations.

Evacuation Procedures – By Helicopter

- Helicopters may be required to assist in the search and rescue of people within the HPZ.
- Helicopters may also be used during an emergency to track the plume in order to aid in the evacuation of people within the HPZ.
- Communication with the Air Quality Monitoring Unit is imperative in order to prevent sending the helicopter into a plume.
- The helicopter is to be equipped with loud hailers and / or loudspeaker to notify occupants within the HPZ of the emergency and advise them to evacuate the area.
- Helicopters will be provided the radio frequency to use for the emergency at the time of initial contact, as well as the latitude / longitude coordinates of the Helispots and Reception Centres.

- Pacific Canbriam Energy Limited may wish to activate the helicopter(s) at a Level 1 Emergency if conditions at the emergency site are deteriorating quickly, or if there is a large number of trapped residents, transients, recreational users, and other area operators.
- At a Level 2 Emergency, helicopters may be activated to search for and evacuate people in the area to designated emergency evacuation pick up points, or Helispots.

Evacuation outside the HPZ

The public outside of the HPZ must be notified and evacuated in accordance with criteria in *Table 2 of the BCER Emergency Response Plan Requirements* (*Air Monitoring* Section) and in conjunction with the local authority for the area. As a minimum, notification, and evacuation beyond the HPZ is based on monitored levels of H_2S and SO_2, which includes levels of H_2S reaching the public outside the HPZ at 10 ppm.

- Residents / occupants of an HPZ who are downwind of the asset will be evacuated first. Pacific Canbriam Energy Limited will provide air monitoring at the nearest downwind unevacuated residence.
- If air monitoring results indicate the plume to be outside of the HPZ, evacuation would be provided on a priority basis.
- Residents upwind of the emergency location but within the HPZ would be evacuated on a lower priority basis.
- Evacuation area will be expanded where H_2S and SO_2 exceed evacuation levels or health effects are apparent by monitoring.
- Broadcast media (radio, television) will be used to notify residents outside the HPZ in the event that immediate evacuation of the area must take place.
- Pacific Canbriam Energy Limited along with the local authority will coordinate their respective emergency plans with each other. The local authority may enact their Municipal Disaster Response Plan to deal with the emergency.
- Local disaster services and mutual aid partners (if applicable) will assist in the notification and evacuation of people located in the area outside of the HPZ, in campgrounds, or other transient areas.
- Air quality monitoring information will be made available to the public on a regular basis throughout the duration of the emergency.
- Evacuees will be informed of the best route to their designated Reception Centre and this route must be recorded.
- Evacuees must check in at the Reception Centre.

Prolonged Evacuation

If the problem cannot be readily corrected and evacuees are required to be away from the area for an extended period of time, Pacific Canbriam Energy Limited if required, will:

- Provide assistance in arranging their food and temporary accommodation.
- Provide area security.
- Arrange relief for all responders if the evacuation remains in effect for over eight hours.

Return of Evacuees

Once the emergency is over, the decision to permit the return of persons shall be made by the Incident Commander, in consultation with the BCER and local and provincial disaster services.

2.5 Ignition

If control of an asset is lost and the safety of the public cannot be assured the asset may be ignited to reduce the hazard to the public. Deliberate ignition of a sour gas release is a drastic measure used to control a sustained uncontrolled or partially controlled flow that poses an imminent danger to the public or workers.

Pacific Canbriam Energy Limited will take immediate steps to prepare for ignition at the earliest signs of an asset control problem to ensure there will be no delay. Ignition does not negate the need for continuing evacuation and air quality monitoring. Any partially controlled or uncontrolled release of H_2S gas shall be ignited if the ignition criteria as set forth below have been met. When the sour gas is ignited, the H_2S is converted to SO_2 and is carried higher into the atmosphere by the heat of combustion. This causes any toxic gases to disperse over a larger area and reduces the risk of hazardous ground level concentrations.

Ignition Criteria
The Incident Commander has the authority to direct ignition of the release. If time permits the decision will be made in conjunction with the Pacific Canbriam Energy Limited EOC and the appropriate government agencies. Once any of the below criteria has been met, ignition must occur within 15 minutes of the decision to ignite.

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:

- Personnel working at the site can be cleared to a safe distance.
- The well is experiencing an uncontrolled flow, the well effluent has reached the surface, no immediate chance 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 HPZ cannot be accomplished, or
  - Monitoring results indicate H_2S of 15 ppm for 15 minutes in unevacuated areas, or
  - Monitoring is not taking place due to some unforeseen circumstances, such as bad weather or communication breakdown or
  - Monitored H_2S concentrations exceed 1 ppm (1 hour average) in urban density developments.
- For special sour wells, two means of ignition must be on site (flare gun and firefly).
- The release cannot be brought under control in the short term (ignition decision will be made in consultation with the BCER).

If an immediate threat to human life exists and there is not sufficient time to evacuate the emergency hazard area, the Incident Commander is authorized to ignite the release and their decision to ignite will be fully supported by the IMT.

Important Ignition Factors

The following factors should always be considered when preparing for or conducting a sour ignition:

- Ignition (burning) of H_2S will produce SO_2.
- Has the perimeter of the hazard area been established?
- Have all persons been evacuated from the area?
- Will ignition worsen the situation by endangering the environment, public or private property?
- Will any of the following variables affect ignition procedures:
  - Time of release (day, night, weekend).
  - Weather patterns.
  - Release boundaries (proximity to large urban centre or residents).
  - Product volume and plume size.
  - Wind direction and speed.
  - Site conditions (eg. topography, vegetation, road access, etc.) and how it will affect the behaviour of the vapour plume and control options.

Ignition Safety

- Ignition of the sour gas release is a hazardous procedure and should be conducted with caution by trained personnel following safe work procedures.
- Ignition should only take place once the criteria have been met and not before all of the on site personnel have been accounted for and safely relocated to an upwind area.
- If possible ensure there are at least two people for rescue backup.
- If possible assign two ignition units as follows:
  - UNIT 1 (PRIMARY) - Designated Personnel and Site Safety Officer.
  - UNIT 2 (BACKUP) - Designated Personnel (2 people).
- Evacuate beyond explosive mixture areas.

Sample Ignition Procedure – Pistol / Flare Gun

- Assemble equipment and brief the Ignition Units at an upwind safe area.
- Provide for the safety of ignition team, workers and the public.
- Isolate the HPZ and establish roadblocks.
- Obtain a closure order from the BCER or declare a state of emergency if the incident progresses beyond the HPZ.
- BCER can issue a NOTAM for closure of airspace, if necessary.
- Ensure each member has the appropriate equipment at hand.
- Ensure each member remains in visual contact with each other at all times.
- The Primary Ignition Unit shall approach the gas flow from the upwind side checking that an explosive mixture does not exist in their immediate area.
- Select a firing location that provides maximum protection to the Ignition Unit, with good access and egress routes.

Before firing the flare pistol for igniting flammable material, check the atmosphere for combustible gases with a combustible gas indicator. Always ignite the release from upwind and do not approach any closer than necessary.

- One person shall be responsible for checking the atmosphere for explosive gases with a combustible gas indicator.
- The other person shall be responsible for lighting the emission source.
- Ignite the release from the maximum range of the flare gun (45 - 60 metres) - shells shall be shot towards the gas release in such a manner that ignition will occur at the furthest outside edge of the gas plume.

If an uncontrolled gas release has occurred and no ignition has taken place, it may be very dangerous to send personnel into the potential explosive / fire area to close a valve or make repairs. A high pressure water fog line can be used to keep the gas mixture present below the lower explosive limit. If there is any movement of air, the gas should be approached from the upwind side and the water stream placed through the area where it is known or suspected that the gas is laying.

- If possible, remain on standby at the ignition site to re-ignite the release, if required.
- Repeat until ignition is achieved.

Post-Ignition Procedures

- All people should be moved to a safe distance.
- Ensure the downwind monitoring equipment is adjusted to monitor SO_2 and H_2S.
- Set up SO_2 monitors at the edge of the HPZ and continue evacuation outwards if needed.
- The Ignition Unit Leader advises the Incident Commander that the gas has been ignited.

2.6 Isolation of the HPZ

Establishing and managing manned roadblocks in order to prohibit unauthorized entry into the response zones may become necessary during a sour gas release that could potentially jeopardize public safety.

Isolation of the HPZ (roadblocks) will be required to properly protect the public. This may include:

Roads
- Roadblock personnel may set up roadblocks on lease roads, public roads and provincial highways to protect the public from entering into the HPZ.
- Contact the RCMP immediately to advise of the roadblocks on public roads and provincial highways.
- The Ministry of Transportation will also need to be notified of any road closures on provincial roadways. RCMP are responsible for contacting Transport Canada.
- Roadblocks will be set up bordering the HPZ, if there is not a safe place for motorists to turn around at the established roadblock, Roadblock personnel will also be stationed along the roadway and at the detour point (if applicable) to assist motorists traveling around the HPZ.

Trails
- If applicable, access to trails may be restricted by roadblock personnel and / or municipal or provincial personnel.
- Signage may be used during sour operations to alert those in the area that they will be entering an Emergency Planning Zone.

Railroads
- If applicable, CN, CPKC or private railroad companies will need to be notified of the situation and will stop or relocate rail traffic.

Rivers
- If applicable, rivers may need to be monitored to ensure that recreational users do not travel into the HPZ.
- This may be accomplished by working with municipal, provincial or private companies as well as Transport Canada.
- Signage may be used during sour operations to alert those in the area that they will be entering an Emergency Planning Zone.
- Rovers may be assigned to monitor the river at the edge of the HPZ and boat launches outside of the HPZ during an emergency situation.

Air
- Notification of the BCER to issue a Notice to Airmen (NOTAM) to advise pilots of airspace restrictions above the HPZ may also be required.
- NOTAM may be requested at a Level 2 and 3 Emergency.

Level 1 Emergency
In the case of a well site emergency, the entrance into the well site shall be isolated during a Level 1 Emergency with a roadblock. Additional roadblocks may be established as required. Persons allowed entry into the area shall be briefed on the existing conditions and are equipped with the appropriate Personal Protective Equipment (PPE).

Level 2 or 3 Emergency
In the case of a well site emergency, the HPZ shall be isolated during a Level 2 or 3 Emergency as directed by the Incident Commander. If the incident impacts provincial highways the RCMP shall be notified to provide assistance. The RCMP will notify the Ministry of Transportation and Transport Canada for a coordinated response, as required.

Roadblock Units can be staffed by:
- Safety Company (contractor).
- Company personnel
- Local Authority Mutual Aid, upon request.

Roadblock Teams stationed at the roadblock locations should be equipped with the appropriate Personal Protective Equipment (PPE) including:
- Self contained breathing apparatus (SCBA).
- H_2S / SO_2 detector and high visibility vests.

2.7 Shelter in Place

Shelter in place is the practice of going or remaining indoors during a sudden outdoor release of a hazardous substance. Shelter in place has been demonstrated to be the most effective response to a substance release by creating a buffer between you and any hazard that may be in the outside air. Shelter in place is recommended as a protection measure of short duration, ranging from several minutes to half an hour. The goal of shelter in place is to reduce the movement of air into and within the home until the hazard has passed. It is based on using a building that is constructed to withstand severe winter weather conditions.

An event such as a fire, motor vehicle incident, train derailment, industrial incident, or a natural disaster may cause a substance release. As a result, emergency responders may request that residents shelter in place. If the situation warrants, specific instructions for taking shelter in the home will be given. Shelter in place may protect against any H_2S contaminated air outside and reduce the amount to which people may be exposed.

Shelter in place is not a viable option for recreational users or transients, due to their inability to safely shelter.

Shelter in place must be considered the primary protective measure in limited circumstances when:

- There is not enough time or warning to safely evacuate the public that may be at risk.
- Residents are waiting for evacuation assistance.
- The public would be at higher risk if evacuated.
- Buildings are considered to be within or near to toxic or explosive gas plumes.
- Escape routes traverse the hazards.
- There is a sour gas release of limited duration (eg. due to a pipeline rupture).
- The location of the release has not been identified.
- Duration of release is short term.

Shelter in Place Instructions

These instructions should be provided to anyone who cannot or should not evacuate.

- Immediately gather everyone indoors and stay there.
- Close and lock all windows and outside doors – if possible, tape the gaps around the door frames.
- Extinguish indoor wood burning fires - if possible, close the damper.
- Turn off appliances or equipment that either uses inside air, blows out inside air or sucks in outside air, such as:
  - Stoves
  - Fireplaces
  - Clothes dryers
  - Air conditioners
  - Bathroom and kitchen fans
  - Built in vacuum systems
- Turn off heat and hot water pilot lights.
- Do not smoke or have open flame.

- Leave all inside doors open.
- Wait in an interior upstairs room for further instructions.
- Avoid using the telephone, except for emergencies, so that you can be contacted by emergency personnel.

  The responder should ask if emergency services have been notified so that a coordinated response can be conducted.

- Stay tuned to local radio for possible information updates or for further instructions.
- 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 from emergency response personnel along with instructions to:
  - Ventilate your building by opening all windows and doors.
  - Turn on fans, turn up thermostats, and furnace circulating fans.
  - Once the building is completely ventilated return all equipment to normal.

If warranted, Pacific Canbriam Energy Limited personnel shall carry out notification of residents outside of the HPZ in consultation with the Incident Commander, the BCER and the local authority. All people within the HPZ need to be informed of the emergency situation and given instructions on in place sheltering and / or evacuation procedures.

3.0 Levels of Emergency

This ERP is implemented using three emergency levels. Levels of Emergency may be implemented in sequence or initiated at any level, depending on the severity of the problem.

Once the magnitude of the problem has been determined, the first person on scene shall assume the role of Incident Commander. The Incident Commander will activate the ERP if the situation warrants. Additional contacts are then made to fully implement the ERP.

Pacific Canbriam Energy Limited is responsible for the management of emergency situations relating to its operations. Should an emergency occur, Pacific Canbriam Energy Limited shall activate this ERP and work with the affected municipality, the BCER, EMCR and other provincial government departments, as required.

3.1 Information Flow

The flow of information is structured in a tiered system. The greater the incident severity and company response, the higher the level of management / executive personnel that is required and the greater the number of liaison resources involved in the response effort.

3.2 Classifying Incidents and Responses

Assigning the Level of Emergency needs to occur immediately and be communicated to all response team members, EMCR and the BCER. Each time the Level of Emergency is changed the entire response organization must be notified. The three emergency levels are as follows:

Level 1 – Moderate Emergency
There is no immediate danger to the public or environment as no H_2S has been released, a release of a hazardous substance is confined to the lease or company property. The incident creates little or no media interest, has a low potential to escalate, poses no immediate threat to workers and can be handled by company personnel.

A Level 1 Emergency could include the circumstance of the sour zone being open and any of the following examples occurring:

- Pipe or tool stuck in the hole.
- Lost circulation or inability to circulate.
- H_2S or soluble sulphides detected at surface in the drilling fluids.
- Influx of sour formation fluids.

Level 1 – Moderate Emergency - Action Plan

- A Level 1 Emergency is declared.
- Alert all well site / facility personnel. Evaluate problem and initiate appropriate remedial action.
- Assemble personnel on site and brief them on situation. Equip personnel as required to perform their duties.
- Well control procedures are initiated. Level 1 duties are implemented.
- Unnecessary personnel to leave the site. Non-essential well site personnel are released to the Reception Centre, if required.
- The EOC is notified that a Level 1 Emergency has been declared.
- Alert the mobile monitoring company and be ready for a call out or mobilize monitoring equipment if the location is remote.
- The BCER, RCMP and Emergency Services are notified that a Level 1 Emergency has been declared.
- Notify Emergency Management and Climate Readiness (EMCR) representative.
- Prepare for evacuation in case of escalation of the situation or begin evacuation of residents / transients if there is a large number of residents.
- The Roadblock Units are notified and placed on standby.
- A roadblock is set up at entrance to the lease site.
- Activities in the HPZ are observed and documented.
- Additional equipment and services are mobilized, as required.
- A Rover is activated to check the HPZ for transients, industry operators, recreational users and trappers / guides.
- Telephone personnel shall notify members of the public within the HPZ.
- All members of the EOC maintain 24 hour availability.

Level 1 Potential Emergency - Public Notification and Evacuation

The Incident Commander may elect to begin evacuating members of the public within the HPZ during a Level 1 Emergency if:

- Conditions at the well are deteriorating.
- The problem at the well is becoming progressively more complex and is not likely to be corrected in the near future, or
- Significant time is going to be required to completely evacuate and secure the HPZ.

Level 2 – Major Emergency

A Level 2 Emergency is declared if there is the potential of risk to the public or environment, as the emergency could extend beyond Pacific Canbriam Energy Limited property; however, control of the hazardous substance is still possible. Local or regional media interest is created and the incident may require the involvement of external emergency services, federal, provincial, or local agencies.

A Level 2 Emergency could include the following examples:

- Incomplete combustion of H_2S at the flare pit.
- Equipment malfunction that hinders well control while circulating a kick.
- Inability to maintain required volumes of circulation material.

Level 2 – Major Emergency - Action Plan

- A Level 2 Emergency is declared.
- Well control procedures continue.
- Ensure all Level 1 actions are complete.
- The EOC is notified and advised that a Level 2 Emergency has been declared.
- The BCER, RCMP detachment, Emergency Services and Emergency Management and Climate Readiness are notified that a Level 2 Emergency has been declared and advised that roadblocks are being set up.
- Discuss issuance of a closure order with the BCER office at Fort St. John.
- Initiate evacuation of HPZ.
- Roadblocks are set up on the roads and access into the HPZ is restricted.
- Security of evacuated property is implemented.
- The Telephone Unit shall notify members of the public and advise them to evacuate the area.
- The Rover shall continue to search the HPZ for transients, industry operators, recreational users, and trappers / guides to notify them of the emergency and ask them to evacuate the area immediately.
- Any members of the public found within the HPZ are asked to evacuate the area and go to the Reception Centre.
- A Pacific Canbriam Energy Limited representative is dispatched to the Provincial Regional Emergency Operations Centre (PREOC), if established.
- Mobile air monitoring continues or is mobilized. Mobile monitoring is initiated if not done earlier.
- Send company representative to Reception Centre.
- The Ignition Unit is assembled and briefed, in case of escalation of the situation.
- Additional equipment and personnel are mobilized, as required.
- Non-essential well site personnel are released to the Reception Centre.
- All members of the EOC are activated, as required.
- Establish communication links to offsite command centre, if established
- Mobilize well control group.
- Consider the fire hazards in the area if the release should be ignited.

Level 2 Emergency - Public Notification and Evacuation

Once a Level 2 Emergency has been declared, all members of the public within the HPZ will be asked to evacuate the area immediately and go to the Reception Centre.

Level 3 – Serious Emergency

At a Level 3 Emergency, there exists an immediate danger to the public or environment as control of the situation has been lost. Provincial or national media interest is created. The release of the hazardous substance is uncontrolled and extensive involvement of external emergency services including, federal and / or provincial agencies is required as the emergency now extends beyond company property.

A Level 3 Emergency could include the following:

- Uncontrolled flow (eg. a gas flow which cannot be shut off at the operator's discretion) from the well.
- H_2S readings have reached 15 ppm, over a 15 minute time weighted average, at the nearest unevacuated residence.

Level 3 – Serious Emergency - Action Plan

- A Level 3 Emergency is declared.
- Well control procedures continue.
- Ensure all Level 1 and 2 actions are complete.
- The EOC is notified and advised that a Level 3 Emergency has been declared.
- The BCER, RCMP detachment, Emergency Services and Emergency Management and Climate Readiness are notified that a Level 3 Emergency has been declared.
- Expand HPZ, as necessary.
- Roadblocks and security of evacuated property are maintained. Only authorized personnel have access to the HPZ.
- Continue evacuation and / or sheltering.
- Confirm if evacuation is complete or still in progress.
- Mobile air monitoring continues.
- Search and rescue continue, as required, within the HPZ.
- Non-essential well site personnel are released to the Reception Centre.
- Any uncontrolled or partially uncontrolled sour gas release will be ignited if ignition criteria are met.

Level 3 Emergency - Public Notification and Evacuation

Once a Level 3 Emergency has been declared, mandatory evacuation remains in effect.

BCER INCIDENT CLASSIFICATION MATRIX

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

TABLE 1: CONSEQUENCE RANKING

RANK	CONSEQUENCE (any one of the following)
4	☐ Major on site equipment or infrastructure loss ☐ Major act of violence, sabotage, or terrorism which impacts permit holder assets ☐ Reportable liquid spill beyond site, uncontained and affecting environment ☐ Gas release beyond site affecting public safety
3	☐ Threats of violence, sabotage, or terrorism ☐ Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property ☐ HAZMAT worker exposure exceeding allowable limits ☐ Major on site equipment failure
2	☐ Major on site equipment damage ☐ A security breach that has potential to impact people, property or the environment ☐ Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property
1	☐ Moderate on site equipment damage ☐ A security breach that impacts oil and gas assets ☐ Reportable liquid spill or gas release on location ☐ **Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations
0	☐ 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

RISK SCORE	ASSESSMENT RESULT
MINOR (1-2)	**Notification Only;** permit holder **must** notify the Regulator online within 24 hours using the Form A: Minor Incident Notification Form. In addition to Form A, spills must also be reported to EMCR.
MODERATE (3-4)	**Level-1 Emergency;** immediate notification (call EMCR)
MAJOR (5-6)	**Level-2 Emergency;** immediate notification (call EMCR)
SERIOUS (7-8)	**Level-3 Emergency;** immediate notification (call EMCR)

CONSEQUENCE _____ **+ PROBABILITY** _____ **= RISK SCORE** _____

(this must be completed)

SPILL REPORTING CRITERIA

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

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

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

OTHER REPORTABLE INCIDENTS

The Regulator'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 Regulator 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^3 or greater
  - casing pressure 85% of MA
  - 50% out of hole when kicked
  - well taking fluid (LC)
  - associated spill
  - general situation deterioration, i.e. leaks, equipment failure, unable to circulate, etc.
- 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.

BCER INCIDENT CLASSIFICATION MATRIX			PROBABILITY				
			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
CONSEQUENCE	4	☐ Major on site equipment or infrastructure loss ☐ Major act of violence, sabotage, or terrorism which impacts permit holder assets ☐ Reportable liquid spill beyond site, uncontained and affecting environment ☐ Gas release beyond site affecting public safety	LEVEL 3	LEVEL 3	LEVEL 2	LEVEL 2	LEVEL 1
	3	☐ Threats of violence, sabotage, or terrorism ☐ Reportable liquid spill or gas release beyond site, potentially affecting public safety, environment, or property ☐ HAZMAT worker exposure exceeding allowable limits ☐ Major on site equipment failure	LEVEL 3	LEVEL 2	LEVEL 2	LEVEL 1	LEVEL 1
	2	☐ Major on site equipment damage ☐ A security breach that has potential to impact people, property or the environment ☐ Reportable liquid spill or gas release potentially or beyond site, not affecting public safety, environment, or property	LEVEL 2	LEVEL 2	LEVEL 1	LEVEL 1	MINOR NOTIFICATION FORM
	1	☐ Moderate on site equipment damage ☐ A security breach that impacts oil and gas assets ☐ Reportable liquid spill or gas release on location ☐ **Occurrence of magnitude 4.0 or greater induced earthquake within 3 km of oil and gas operations or any earthquake which is felt on surface within a 3 km radius of oil and gas operations	LEVEL 2	LEVEL 1	LEVEL 1	MINOR NOTIFICATION FORM	MINOR NOTIFICATION FORM
	0	☐ No consequential impacts	LEVEL 1	LEVEL 1	MINOR NOTIFICATION FORM	MINOR NOTIFICATION FORM	NO NOTIFICATION REQUIRED

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

3.3 Confirmation of Incident

Pacific Canbriam Energy Limited may be alerted of an incident through electronic warning systems, by manual inspections of an asset or by a public concern. All odour complaints, public concerns or abnormal operating situations reported to or observed by company personnel shall be investigated and acted upon immediately. In these instances, a trained / experienced company representative equipped with appropriate Personal Protective Equipment (PPE) will be asked to investigate, monitor, and confirm the location of the situation (eg. H_2S / SO_2 or explosive mixtures cloud, injury, or spill).

3.4 Reporting and Notification Procedures

The most qualified personnel at the site of the emergency shall act as the Incident Commander. Notification will vary accordingly and will be coordinated to the guidelines required for each level of emergency. The *Roles and Responsibilities Section* illustrates response actions for responders at both the Emergency Operations Centre (EOC) and the incident site.

Level 1 Emergency
Pacific Canbriam Energy Limited will notify members of the public requesting early notification (if applicable). Pacific Canbriam Energy Limited will also notify transients, industry operators, recreational users, trappers / guides, public facilities and school boards within an HPZ at a Level 1 Emergency (to allow for additional time to evacuate, if necessary). Transients, recreational users and trappers / guides will be instructed to evacuate to the Reception Centre at a Level 1 Emergency due to their inability to safely shelter. The ERP must be activated and the BCER and EMCR must be notified.

WorkSafeBC requires notification of a Level 1 Emergency as it may affect worker safety.

Level 2 and 3 Emergency
Pacific Canbriam Energy Limited will notify all members of the public at Level 2 and 3 Emergencies. The ERP must be activated and the BCER and EMCR must be notified.

WorkSafeBC requires notification of a Level 2 and 3 Emergency as it may affect worker safety.

Reporting Information
The following is a list of core information that is required in any situation relating to an emergency:

- Any injury or loss of life.
- Name of injured or fatality.
- Source, time and location of emergency.
- Cause and severity of emergency.
- Steps that have been taken or are in progress to control emergency.
- Equipment and assistance required.
- Proximity to sensitive areas.

- Volume of spill, rate of release, and gas concentration.
- Wind speed and direction.

WorkSafeBC Reporting Requirements

Section 172 of the *Workers Compensation Act* states that Pacific Canbriam Energy Limited must immediately notify WorkSafeBC of the occurrence of any accident that:

- Resulted in serious injury to or the death of a worker,
- Involved a major structural failure or collapse of a building, bridge, tower, crane, hoist, temporary construction support system or excavation.
- Involved the major release of a hazardous substance, or
- Was an incident required by regulation to be reported.

Additionally, Section 172 provides that employers must immediately report:

- Any incident that kills or seriously injures a worker
- A major leak or release of a dangerous substance
- A major structural failure or collapse of a structure, equipment, construction support system, or excavation
- Any blasting accident that results in injury, or unusual event involving explosives (required by regulation)
- A diving incident that causes death, injury, or decompression sickness requiring treatment (required by regulation)

Such incidents must also be investigated by the employer under Section 173 of the *Workers Compensation Act.*

WorkSafeBC defines a serious injury is any injury that can reasonably be expected at the time of the incident to endanger life or cause permanent injury. Serious injuries include both traumatic injuries that are life threatening or that result in a loss of consciousness, and incidents such as chemical exposures, heat stress, and cold stress which are likely to result in a life threatening condition or cause permanent injury or significant physical impairment.

Traumatic injuries that should be considered as serious injuries include:

- Major fractures or crush injuries including a fracture of the skull, spine, or pelvis.
- Multiple, open, or compound fractures, or fractures to major bones such as the humerus, fibula or tibia, or radius or ulna.
- Crushing injuries to the trunk, head or neck, or multiple crush injuries.
- An amputation, at the time of the accident, of an arm or leg or amputation of a major part of a hand or foot.
- Penetrating injuries to eye, head, neck, chest, abdomen, or groin.
- An accident that caused significant respiratory compromise, or punctured lung.
- Circulatory shock (eg. internal hemorrhage) or injury to any internal organ.
- Lacerations that cause severe hemorrhages.

- All burns that meet the rapid transport criteria of the Occupational First Aid Training Manual, including:
  - Third degree burns to more than 2% of the body surface.
  - Third degree burns to the face, head, or neck.
  - Burns of any degree with complications.
- Asphyxiation or poisoning resulting in a partial or total loss of physical control (eg. loss of consciousness of a worker in a confined space) or a respiratory rate of fewer than 10 breaths per minute or severe difficult or laboured breathing.
- Traumatic injury which is likely to result in a loss of:
  - Sight.
  - Hearing.
  - Touch.

Injuries that require a critical intervention such as CPR, artificial ventilation or control of hemorrhaging or treatment beyond First Aid, such as the intervention of Emergency Health Services personnel (eg. transportation to further medical attention), a physician and subsequent surgery, or admittance to an intensive care unit should also be considered serious injuries.

Employers are required to report serious injuries and fatalities to WorkSafeBC immediately. This reporting should occur as part of the employers' response at the time of the incident. In responding to the incident, Pacific Canbriam Energy Limited should 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 purpose of the reporting requirement is to ensure that a WorkSafeBC prevention officer and / or an investigations officer is able to respond to the incident, as soon as possible, in order to:

- Attend at the scene to conduct an investigation of the incident and ensure the integrity of the scene
- Offer availability of counseling services, as appropriate
- Undertake an inspection of the workplace to help ensure that workers are protected before work is resumed
- Help ensure that any post-incident response or cleanup is performed in a safe manner
- Provide a referral to compensation services

The requirement to immediately report a serious injury or fatality is separate from the requirement to report injuries for claims purposes. Filing a claims form will not satisfy the obligation to immediately report a serious injury or fatality. Failure to immediately notify WorkSafeBC of a serious injury or fatality will be considered a breach of Section 172 and may result in an administrative penalty.

Section 172 also requires Pacific Canbriam Energy Limited to notify WorkSafeBC of any accident that involved the major release of a hazardous substance. A major release does not only mean a considerable quantity, or the peculiar nature of the release, such as a gas or volatile liquid, but, more importantly, the seriousness of the risk to the health of workers.

Factors that determine the seriousness of the risk include the degree of preparedness of the employer to respond to the release, the necessity of working in close proximity to the release, the atmospheric conditions at the time of the release and the nature of the substance.

3.5 Downgrading the Emergency

Level 1, 2 and 3 Emergencies – The decision to downgrade a Level 1, 2 or 3 Emergency is made by the Incident Commander in consultation with the BCER and Emergency Management and Climate Readiness (EMCR). All affected persons and the media must be kept informed of the status of the emergency.

The Incident Commander will notify their respective personnel of the downgrade and return to normal activities.

The Public Information Officer will notify government and the media to advise them of the downgrade and the return to normal operations.

The Telephone, Reception Centre, Rover / Evacuation, and Roadblock Units will notify people within the HPZ of the downgrade and the return to normal operating activities.

Pacific Canbriam Energy Limited personnel will provide instructions for settlement of loss of expenses or other costs directly caused by the emergency.

Once the decision to return to normal operating activities has been made, people can return to their activities within the HPZ.

3.6 Return to Normal – End of Evacuation

The decision to end emergency operations / and return to normal operations, will be made by the Incident Commander in consultation with the BCER, EMCR and other appropriate government agencies, when required. The licensee will develop a return to normal plan that outlines procedures to ensure the safe return of the public into the HPZ.

4.0 Response Structure

Pacific Canbriam Energy Limited has adopted the Incident Command System (ICS) as the communication and response model that will guide and assist in preserving life, the environment, and property in the event of an emergency.

Key ICS Principles

- Flexible organizational structure with role descriptions.
- Ability to respond to small or large multi-agency incidents.
- Common terminology used by all agencies.
- An integrated communications system.
- A manageable span of control. A supervisor can only effectively manage a certain number of personnel – three to seven – with an optimal ratio of five personnel to one supervisor.
- A personnel and resources accountability system.
- Designated incident facilities.
- Use of incident action plans.
- Unity of command – each person reports to only one supervisor.

Benefits of Using ICS

- Cost effective emergency planning.
- Only those positions or functions which are needed are activated.
- More than one position may be assigned to an individual.
- Effective incident management for fires, explosions, spills, releases, and other emergency situations.
- ICS organizational structure does not change with changes in personnel.

The scale of emergency will determine if the event is handled solely by one person, one team, or all components. The size or number of response roles activated will depend on the requirements of the emergency. Additionally, response roles may be filled by responders from outside agencies and / or support services. Therefore, the number of response positions assigned to Pacific Canbriam Energy Limited representatives will be based upon the number of available personnel and the roles necessary to carry out the response. Responders may also fill more than one response role until additional responders arrive and are briefed on their assigned responsibilities.

Large scale incidents may require the use of a unified command involving Pacific Canbriam Energy Limited, regulatory bodies, and local authorities. Unified command enables multiple agencies to manage an incident together by having a common set of objectives and strategies. This also allows joint decisions to be made within a single command structure

4.1 Incident Command Post (ICP)

The ICP is the location from which the Incident Commander oversees all incident operations and is designed to assess the situation, manage on site emergency activities and coordinate the activities at the site. The ICP should be positioned outside of the present and potential hazard area but close enough to the incident to maintain command. The ICP may be located in a vehicle, a trailer at the site, or in a nearby building. For safety purposes the ICP may have to change locations during the event. Members of the ICP may be requested to:

- Develop and direct the implementation of public protection measures.
- Identify the HPZ and when it is safe for responders to enter.
- Ensure that people inside the HPZ are accounted for and initiate a search if required.
- Establish objectives and priorities.
- Determine needs and request additional resources from the EOC.
- Manage emergency response resources.
- Ensure the ERP is implemented.
- Monitor changing conditions.
- Ensure planning meetings are scheduled as required.
- Develop implementation of both action and site safety plans.
- Keep the EOC informed of all decisions.
- Advise EOC at the end of emergency operations.
- Participate in debriefing.

Functions and representation include:

Command Staff

- Incident Commander – responsible for overall command of the incident site. Works with the EOC Director at the Emergency Operations Centre (EOC).
- Liaison Officer – contact and maintain contact with municipal, provincial and if required federal agency representatives as well as non-government organizations. Works with the EOC Liaison Director.
- Safety Officer – monitors and assesses the safety conditions and develop / recommend ways to ensure safety of assigned personnel at the incident site. Works with the EOC Risk / Legal Director.
- Information Officer – act as spokesperson at the incident site in the event that media arrives at the site. Disseminate information to incident site personnel. Works with the EOC Public Information Director.

General Staff

- Operations Section Chief – determine and implement tactical objectives, conduct tactical operations, and direct all resources at the incident site. Works with the EOC Operations Director. Directs the response actions of the following personnel:
  - Staging Area Manager.
  - Site Control Group.
  - Public Safety Group.
    - Ignition Leader – company personnel, contracted source, or mutual aid.
    - Air Monitoring Leader – company personnel, contracted source, or mutual aid.

- Roadblock Leader – company personnel, contracted source, or mutual aid.
- Rover/Evacuation Leader – company personnel, contracted source, or mutual aid.
- Reception Centre Leader – company personnel or government personnel.
- Air Operations Leader – company personnel or contracted source.

Additionally, on site responders will be responsible for site control and security, including the following:

- Perimeter and site control.
- Methods for keeping track of responders.
- Hazard identification.
- Personal protective equipment.
- Monitoring of individuals and the environment.
- Emergency medical care.
- Site evacuation and rescue plans.
- Communications and warning protocols.
- Plans for partial of full decontamination.
- Rest periods and rehabilitation services for responders.
- Security - may also be police, if available.

Planning Section Chief* – develop the action plan, evaluate information, and maintain the status of resources.

- Resources Unit – responsible for all check in activity. Maintains status of all personnel and equipment.
- Situation Unit – collect, analyze, and process information on the current situation. Create and maintain situation status board, summaries, and display of maps.
- Documentation Unit – prepare Incident Action Plan. Maintain all incident documentation.
- Technical Specialists – provide specialized skills or expertise that may be required for a limited time.

*The Planning Section Chief may be located at the EOC.

Logistics Section Chief* – provide support and resources to meet the needs of the incident.

- Communications Unit – develop communications plan, distribute, and maintain communications equipment (radios, phones).
- Medical Unit – develop medical plan, organize emergency medical transportation, and provide first aid to responding personnel.
- Food Unit – determine and supply food and drinking water requirements to responding personnel.
- Supply Unit – order, store and maintain supplies and equipment.
- Facilities Unit – set up and maintain any facility that may be required to provide support for the incident.
- Ground Support Unit – provide transportation and maintenance of vehicles, including fuelling.

*The Logistics Section Chief may be located at the EOC.

Finance / Administration Section Chief* – provide accounting, procurement, administrative and cost analysis services. Monitor costs associated within the incident site.

- Time Unit – ensure all personnel time related to the incident is recorded.
- Procurement Unit – process administrative paperwork with equipment rental, supply contracts, and time reporting.
- Compensation & Claims Unit – documentation related to Workers' Compensation, injuries and / or illness, investigation of damaged property associated with the incident.
- Cost Unit – collect all information related to costs, provide cost estimates and recommendations for cost savings.

*The Finance / Administration Section Chief may be located at the EOC.

4.2 Emergency Operations Centre (EOC)

The EOC is designed as support to the ICP and links to the PREOC. Under the ICS, the EOC is the facility that supports emergency response operations at the site of the incident.

The EOC shall be located in the Pacific Canbriam Energy Limited Office in Calgary, AB.

- EOC Director – Coordinate the response with site from the EOC.
- Liaison Officer – Contact and maintain contact with municipal, provincial and, if required, federal agency representatives as well as non-government organizations. Works with the Liaison Officer at site.
- Risk / Legal Director – Monitor and assess the risk management factors that may affect Pacific Canbriam Energy Limited. Provide legal advice or work directly with the legal department.
- Public Information Director – Act as a spokesperson for Pacific Canbriam Energy Limited. Works with the Information Officer at the incident site.
- Operations Director – Assist in determining tactical objectives at the incident site. Works with the Operations Section Chief at the incident site.
- Telephone Leader – Contact and maintain contact with occupants in the IIZ and EPZ, and areas beyond if required.

Members of the EOC may be requested to:

- Make key decisions.
- Provide technical information.
- Establish communications with outside agencies and liaise with government agencies.
- Procure and approve the use of additional resources.
- Monitor the effectiveness of the response.
- Establish long tern mitigation objectives.
- Gather information and record details of the response.
- Coordinate release of information to the public in a timely matter.

4.3 Provincial Regional Emergency Operations Centre (PREOC)

The PREOC is a command centre established by the BCER in a suitable location to manage larger aspects of the emergency that is manned jointly by government agencies including the Provincial Emergency Program, BC Ambulance Service, and the Ministry of Transportation. Pacific Canbriam Energy Limited may send representatives to the PREOC.

4.4 Staging Area

- The Staging Area is to be used for initial drop off of heavy equipment and large numbers of personnel used in an emergency response. This will aid the efficiency and preparedness of all equipment movement into the EPZ when required.
- The Staging Area may be a contracted source and a Staging Area Manager would be appointed to report directly to the Operations Section Chief.
- Resources in the Staging Area need to be ready for deployment, and should be located within five minutes from the incident site, if at all possible. When establishing the Staging Area, ensure that it has adequate entrance and exit routes and is on a paved surface, if possible.

The Staging Area will be established at the time of the incident depending on the location of the incident.

4.5 Reception Centre

The Reception Centre is designed as a facility to accommodate evacuees and shall be more than adequate to accommodate the disaster social service needs of evacuees.

The Reception Centre Unit Leader, located at the Reception Centre, would report to the Public Safety Group Supervisor and shall coordinate activities along with the local authority Reception Centre representatives. Services provided include: registration and inquiry, emergency food services, emergency clothing services, emergency lodging services and personal services.

A Reception Centre(s), if required, will be established outside of the HPZ at the time of an incident based on the location of the incident. Refer to the *Emergency Contacts Section* for a list of pre-determined Reception Centres.

4.6 Helibase

- The Helibase is where aircraft are fuelled and maintained.
- If helicopter evacuation is, or may be a requirement, the helicopter services will be placed on standby at a Level 1 Emergency.

If required, the Helibase will be established at the time of an incident based on the location of the incident and / or the location of the available aircraft.

4.7 Helispot

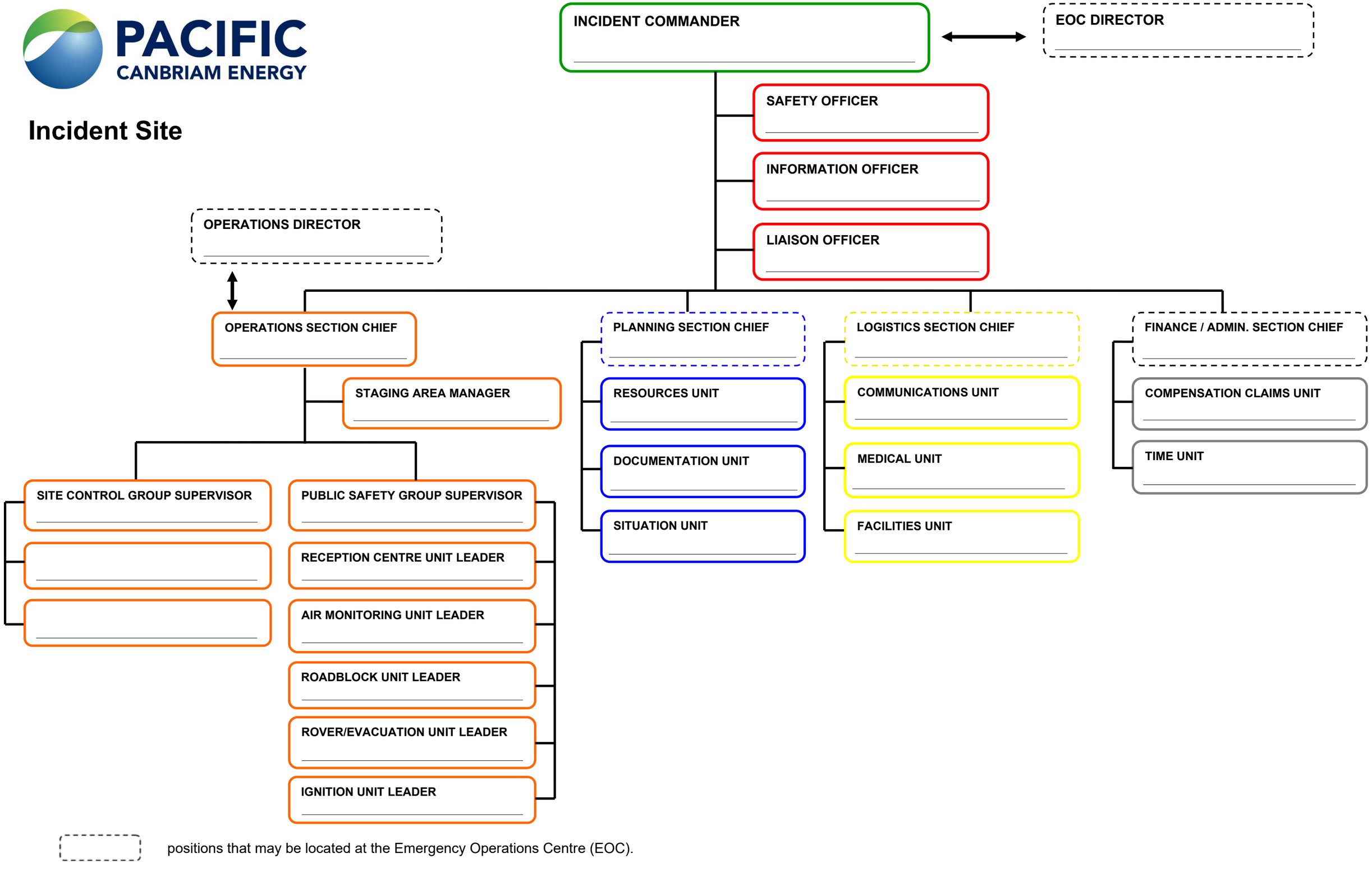
- The Helispot is a temporary location where the helicopter can land to load or unload evacuees, equipment, and supplies.
- Rover / Evacuation personnel will be located at each Helispot to assist evacuees.

If required, Helispot(s) will be established at the time of an incident based on the location of the incident.

Note: Helicopters equipped with loud hailers or loudspeakers may be used in an evacuation to locate transients, residents and other area operators within the HPZ or where the evacuation area has been expanded in areas where H_2S and SO_2 exceed evacuation levels or health effects are apparent.

PACIFIC CANBRIAM ENERGY

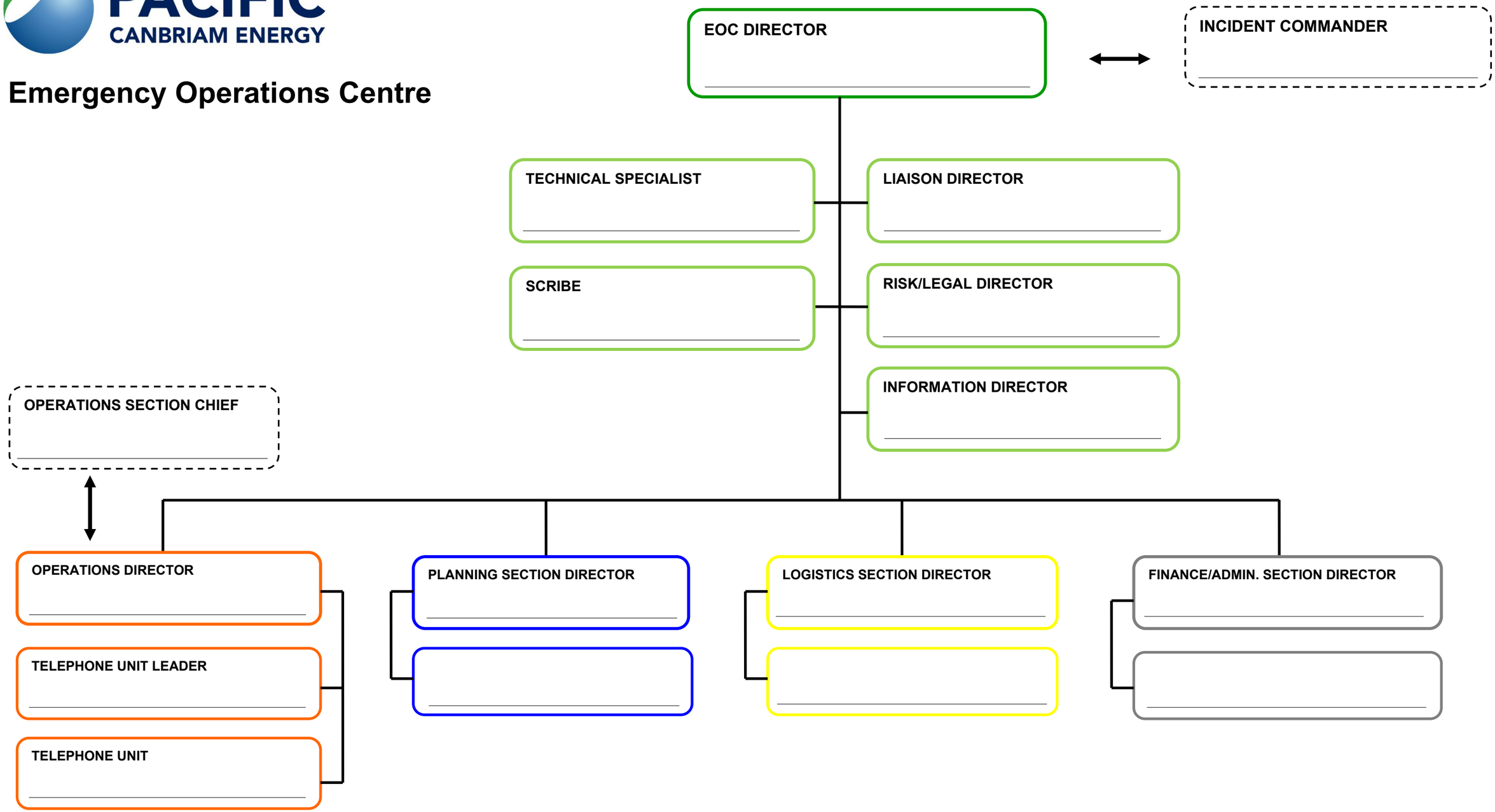
Incident Site



positions that may be located at the Emergency Operations Centre (EOC).

PACIFIC CANBRIAM ENERGY

Emergency Operations Centre



positions that will be located at the Incident Command Post (ICP).

5.0 Roles and Responsibilities

The following roles and responsibilities outline possible response activities at a Level 1, 2 or 3 Emergency. These checklists do not incorporate everything that is required in a response, rather they are guidelines to assist in processing the initial steps and responsibilities. Although these emergency response duties are written specifically for certain Pacific Canbriam Energy Limited position titles, they are not a closed list of duties that might be required during a particular emergency situation. Duties under one position may be delegated to another as the need arises.

5.1 Roles and Responsibilities Checklists

The following pages distinguish each response area and member specific roles and responsibilities. The roles are separated by page so that each role can be individually removed from the manual during a practice or actual emergency.

5.2 Incident Commander

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**
Mission:	Provide overall command of the incident site.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio
Forms:	ICS 201 Form, ICS 202 Form, Incident Report Form, Incident / Event Log, Incident Investigation Report, Motor Vehicle Incident Supplementary Report, Suspect & Vehicle Identification Worksheet, Daily Expense Claim Form, Spill Report Form, Hazard Assessment, Preliminary Media Statement, External Agency Post Incident Evaluation, BCER Form A, BCER Form C, BCER Form D.

Level 1	Completed By	Time Completed
❑ Confirm emergency situation (size up).		
❑ What is the nature of the incident?		
❑ What hazards are present?		
❑ How large an area is affected?		
❑ Are all on site personnel accounted for?		
❑ Are there any injuries? Call for medical help. If it is safe to do so, commence first aid treatment.		
❑ Eliminate all ignition sources.		
❑ Advise immediate supervisor.		
❑ Discuss response and confirm HPZ (if applicable).		
❑ Declare appropriate level of emergency.		
❑ Contact required emergency support services (ambulance, fire, etc.).		
❑ Secure area.		
❑ Determine location and establish the Incident Command Post.		
❑ Implement corrective / control procedures.		
❑ Determine location and establish Staging Area (if required).		
❑ Determine entrance / exit routes and safe routes that are appropriate for the flow of emergency responders and equipment.		
❑ Mobilize required Command and General Staff.		
❑ Notify the Operations Director to mobilize the Telephone Unit Leader - to begin evacuation notification telephone calls to members of the public requesting early notification (if applicable) at a Level 1 Emergency, trappers, and other area users.		
❑ Direct Operations Section Chief to mobilize the following units, as required:		
❑ Air Monitoring Unit Leader – on site and off site.		
❑ Rover / Evacuation Unit Leader – to begin evacuation of residents and trappers on a voluntary basis.		
❑ Reception Centre Unit Leader – to establish the reception centre and commence receiving evacuees.		

5.2 Incident Commander

Level 1 - Continued	Completed By	Time Completed
❑ Roadblock Unit Leader – to establish roadblock(s) at the entrance(s) to the incident site.		
❑ Air Operations Unit Leader – if helicopter evacuation may be required put the helicopter services on standby.		
❑ Ensures BCER and RCMP have been notified and requested to call other government agencies, as required.		
❑ Ensure communication with WorkSafe BC and the Ministry of Environment is taking place, if required.		
❑ Record information received from outside sources and investigate.		
❑ Ensure all required resources (equipment, supplies and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status reports to EOC.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Continue to implement control procedures and direct on site personnel.		
❑ Make preparations for possible relocation of Incident Command Post, if required.		
❑ Ensure the assembly of the Ignition Unit and ensure equipment is in a state of readiness.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
❑ Ensure the Ignition Unit has been directed to begin ignition procedures if ignition criteria has been met.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Request a damage assessment report from the Operations Section Chief.		
❑ Ensure all necessary site investigations are completed before cleanup and repair begins.		
❑ Advise and direct Operations Section Chief regarding cleanup, repair, and resumption of operations.		
❑ Ensure all affected public have been notified of the demobilization and have received assistance.		
❑ Conduct debriefings with personnel involved in the emergency response.		
❑ Ensure Critical Incident Stress Debriefing (CISD), is available to staff and evacuees, as appropriate.		
❑ Participate in incident debriefing and analysis meetings, document improvement preparedness, and response opportunities.		
❑ Collect all forms and documentation.		
❑ Prepare post incident report and submit to the EOC Director.		

5.3 Safety Officer

Name:	**Phone No.:**
Reports To: Incident Commander	**Phone No.:**
Mission:	Assess / monitor safety hazards or unsafe conditions, develop measures to ensure safety of response personnel.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio
Forms:	Incident / Event Log, Incident Investigation Report, Suspect and Vehicle Identification Worksheet

Level 1	Completed By	Time Completed
❑ Maintain communication with the Incident Commander and ensure safety procedures are being adhered to.		
❑ Travel to the Incident Command Post, if required.		
❑ Coordinate safety strategies and provide support as required.		
❑ Advises the IRT of safety requirements.		
❑ Determine the need for additional personnel and equipment, in consultation with the Incident Commander in regard to safety.		
❑ Sets up, deploys and maintains medical, fire, breathing and resuscitation apparatus, H_2S and SO_2 portable hand-operated and continuous monitoring equipment and audible alarm system.		
❑ Ensures personnel on site have the necessary breathing apparatus, first aid qualifications (including H_2S casualty resuscitation techniques) and casualty rescue training.		
❑ Ensure all required resources (equipment, supplies and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Incident Commander.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.4 Information Officer

Name:	**Phone No.:**
Reports To: Incident Commander	**Phone No.:**
Mission:	Provide timely information to media / public seeking information regarding incident. Act as spokesperson at the incident site if and when media arrives. Work with EOC Public Information Director.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Preliminary Media Statement

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Incident Commander.		
❑ Act as spokesperson at the incident site in the event that media arrives.		
❑ Disseminate information to personnel at incident site.		
❑ Notify joint venture partners and other parties (as required).		
❑ Ensure all public and media inquiries are to be coordinated through the EOC Public Information Director and the BCER.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Incident Commander.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.5 Liaison Officer

Name:	**Phone No.:**
Reports To: Incident Commander	**Phone No.:**
Mission:	Coordinate with representatives from regulatory and assisting agencies. Notify the BCER, RCMP, Local Authorities, and government agencies.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, External Agency Post Incident Evaluation

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Incident Commander.		
❑ Notify and maintain contact with the government and regulatory bodies throughout the emergency – for example:		
❑ BCER		
❑ EMCR		
❑ Local Authorities		
❑ RCMP		
❑ Ministry of Environment & Climate Change Strategy		
❑ Ministry of Forests		
❑ Ministry of Transportation and Infrastructure		
❑ Local Health Unit		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Incident Commander.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.6 Operations Section Chief

Name:	**Phone No.:**
Reports To: Incident Commander	**Phone No.:**
Mission:	Determine and implement tactical objectives, conduct tactical operations and direct all resources at the incident site.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Daily Expense Claim Form

Level 1	Completed By	Time Completed
❑ Proceed to the incident site and report to the Incident Commander.		
❑ Mobilize the following groups as required:		
❑ Control Unit – well, pipeline or facility control resources to commence control procedures.		
❑ Air Monitoring Unit – on site and off site.		
❑ Rover / Evacuation Unit – begin evacuation of residents and trappers on a voluntary basis.		
❑ Reception Centre Unit – establish the Reception Centre and commence receiving evacuees.		
❑ Roadblock Unit – establish roadblock(s) at the entrance(s) to the incident site.		
❑ Air Operations – if helicopter evacuation may be required put the helicopter services on standby.		
❑ Staging Area – as required.		
❑ Assign roles to personnel.		
❑ Record information received from outside sources and investigate.		
❑ Continue to implement corrective / control procedures.		
❑ Assess potential to escalate to a Level 2 Emergency.		
❑ Ensure all required resources (equipment, supplies and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Incident Commander.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Ensure Ignition Unit has been put on alert.		

5.6 Operations Section Chief

Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
❑ Continue to implement control procedures and direct on site personnel.		
❑ Direct Ignition Unit to begin ignition procedures if ignition criteria has been met.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Assess damage to assets (well site, pipeline or facility).		
❑ Provide assessment report to the Incident Commander.		
❑ Debrief all personnel on site and document improvement, preparedness and response opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.7 Site Control Group Supervisor

Name:	**Phone No.:**
Reports To: Operations Section Chief	**Phone No.:**

Mission:	Implement and direct control procedures, as required, for corrective purposes.
Resources:	ERP Manual, Maps, Forms, H_2S / SO_2 detection and monitoring equipment and Telephone and / or Radio. Operations manuals and operating procedures, where established.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet

Level 1	Completed By	Time Completed
❑ Upon notification of the incident, immediately proceed to the Incident Command Post and report to the Operations Section Chief.		
❑ Instruct Site Control Units to begin corrective / control procedures as instructed by the Operations Section Chief.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Operations Section Chief.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.8 Public Safety Group Supervisor

Name:	**Phone No.:**
Reports To: Operations Section Chief	**Phone No.:**

Mission:	Implement and direct procedures used to protect public safety.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio, H_2S / SO_2 detection and monitoring equipment.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Daily Expense Claim Form

Level 1	Completed By	Time Completed
❑ Upon notification of the incident, immediately proceed to the Incident Command Post and report to the Operations Section Chief.		
❑ Mobilize the following units as required:		
❑ Air Monitoring Unit – on site and off site.		
❑ Rover / Evacuation Unit – begin evacuation of transients, industry operators, recreational users and trappers / guides on a voluntary basis.		
❑ Reception Centre Unit – establish the Reception Centre and commence receiving evacuees.		
❑ Roadblock Unit – establish roadblock(s) at the entrance(s) to the incident site.		
❑ Assign roles to personnel.		
❑ Record information received from outside sources and investigate.		
❑ Continue to implement corrective / control procedures.		
❑ Ensure all required resources (equipment, supplies and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Operations Section Chief.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Place Ignition Unit on standby.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
❑ Direct Ignition Unit to begin ignition procedures if ignition criteria has been met.		

5.8 Public Safety Group Supervisor

Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Assess damage to assets (well site, pipeline or facility).		
❑ Provide assessment report to the Operations Section Chief.		
❑ Debrief all personnel on site and document improvement, preparedness and response opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.9 Staging Area Manager

Name:	**Phone No.:**
Reports To: Operations Section Chief	**Phone No.:**
Mission:	Track and ensure the ready state of all personnel and resources at the Staging Area.
Resources:	Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet

Level 1	Completed By	Time Completed
❑ Report to the designated Staging Area or report to the Incident Commander and decide on location with the Operations Section Chief and the Incident Commander.		
❑ When establishing the Staging Area, ensure that it has adequate entrance and exit routes and is on a paved surface, if possible.		
❑ Ensure personnel and equipment are prepared for assignments and ready for deployment within three minutes.		
❑ Maintain communications with the Operations Section Chief.		
❑ Keep accurate logs of activities at the Staging Area.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.10 Reception Centre Unit

Name:	**Phone No.:**
Reports To: Public Safety Group Supervisor	**Phone No.:**

Mission:	Responsible for Disaster Social Services (food, clothing, personal services, registration, inquiry and lodging) needs of all evacuees.
Resources:	ERP Manual, Telephone and / or Radio, Reception Centre Kit from the local municipality.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Reception Centre Registration Form, Daily Expense Claim Form, School Children Registration Form

Level 1	Completed By	Time Completed
❑ Travel to incident scene, check in at Incident Command Post and report to the Public Safety Group Supervisor		
❑ Activate the Reception Centre, address concerns and assist with temporary accommodation, as required.		
❑ Coordinate Reception Centre efforts with the Local Authorities.		
❑ Begin to make arrangements for food at the Reception Centre.		
❑ Receive voluntary evacuees, create records of all persons who arrive at the Reception Centre and list those not accounted for using the appropriate form in the *Forms* Section.		
❑ Make a record of all evacuated Special Needs (if applicable) and advise the Telephone Unit Leader of their arrival at the Reception Centre.		
❑ Record the destination of residents / public who have checked in. Record contact numbers for those who leave the evacuation centre		
❑ Provide lodging, personal services and clothing services as required.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Refer media inquiries to the Information Officer.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Public Safety Group Supervisor.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Alert Rover / Evacuation Unit Leader of any members of the public requiring assistance that were not previously known.		

5.10 Reception Centre Unit

❑ Ensure that all members of the public within the HPZ have been notified and evacuated by working with the Rover / Evacuation Unit Leader and the Telephone Unit Leader.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
❑ Commence with the development of a plan to provide services to evacuees overnight or longer.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.11 Air Monitoring Unit Leader

Name:	**Phone No.:**
Reports To: Public Safety Group Supervisor	**Phone No.:**
Mission:	Responsible for the management of all air quality monitoring at the incident site, within the HPZ and beyond the HPZ (if applicable).
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio, H_2S / SO_2 detection and monitoring equipment.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Environmental Monitoring Form,

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Public Safety Group Supervisor.		
❑ Brief and mobilize Air Monitoring Unit.		
❑ Alert additional mobile air quality monitoring equipment companies (as required).		
❑ Position Air Monitoring Unit at the closest downwind resident.		
❑ Maintain site safety and monitor air quality on site using hand held monitors.		
❑ Update Operations Section Chief immediately of H_2S and LEL detection as teams report.		
❑ Assist with procedures to control or minimize effects of incident.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Public Safety Group Supervisor.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Mobilize Air Monitoring Unit and commence monitoring downwind at nearest unevacuated residence.		
❑ Request additional mobile air monitoring equipment, if required.		
❑ Assign hand-held detector air monitoring to the nearest unevacuated site.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
❑ Continues mobile air monitoring downwind. Should ignition criteria be met then track the plume.		
❑ Continue monitoring H_2S and SO_2 levels.		

5.11 Air Monitoring Unit Leader

Post Incident		
❑ Once the incident has been brought under control and prior to occupants returning to residences / buildings, the Air Monitoring Unit shall check each building for air quality and report any levels to the Public Safety Group Supervisor immediately.		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.12 Air Monitoring Unit

Name:	**Phone No.:**
Reports To: Air Monitoring Unit Leader	**Phone No.:**
Mission:	Responsible for conducting and reporting on air monitoring at the site, throughout the HPZ and if applicable, beyond the HPZ.
Resources:	Maps, Forms, Telephone and / or Radio, H_2S / SO_2 detection and monitoring equipment.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Environmental Monitoring Form

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Air Monitoring Unit Leader.		
❑ Monitor air quality in the HPZ.		
❑ Update Air Monitoring Unit Leader immediately of H_2S and LEL detection.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Air Monitoring Unit Leader.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Proceed to nearest unevacuated, at risk residence or roadblock location and begin to monitor the air quality.		
❑ Follow plume and determine boundary of HPZ.		
❑ Report boundary zone to the Air Monitoring Unit Leader.		
❑ Check unevacuated sites to ensure evacuation guidelines have not been exceeded.		
❑ Record H_2S and LEL concentrations, including time, location, wind speed, and direction using the Plume Tracking Record.		
❑ Update Air Monitoring Unit Leader immediately of H_2S / SO_2 and LEL detection.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
❑ Record H_2S / SO_2 / LEL concentrations, including time, location, and wind speed and direction using the Plume Tracking Record.		
❑ Continue SO_2 monitoring if plume is ignited.		
❑ Update Air Quality Unit Leader immediately of H_2S / SO_2 / LEL detection.		

5.12 Air Monitoring Unit

Post Incident		
❑ Once the incident has been brought under control and prior to occupants returning to residences / buildings, the Air Monitoring Unit will check each building for air quality and report any levels to the Operations Section Chief immediately.		
❑ Participate in incident debriefing and analysis meetings.		

5.13 Roadblock Unit Leader

Name:	**Phone No.:**
Reports To: Public Safety Group Supervisor	**Phone No.:**
Mission:	Responsible for the set up and management of roadblocks throughout the HPZ and HPZ, if applicable.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio, H_2S / SO_2 detection and monitoring equipment and Roadblock Kit.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Roadblock Registration Form, Roadblock Unit Cell Phone List

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Public Safety Group Supervisor.		
❑ Set up roadblocks to control access to the site.		
❑ Alert additional Roadblock Unit personnel, as required.		
❑ Advise the Operations Section Chief immediately of H_2S and LEL detection.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Public Safety Group Supervisor.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Mobilize Roadblock Unit using available resources and coordinate roadblocks to isolate the HPZ.		
❑ Document and report any roadblock problems to Incident Commander.		
❑ Contact Public Safety Group Supervisor if RCMP / Police assistance is required to block and detour highway traffic.		
Level 3		
❑ Ensure Level 1 and 2 Emergency duties have been completed.		
❑ Advise Public Safety Group Supervisor immediately of H_2S / SO_2 / LEL detection.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.14 Roadblock Unit

Name:	**Phone No.:**
Reports To: Roadblock Unit Leader	**Phone No.:**
Mission:	Responsible for setting up and manning all HPZ roadblocks.
Resources:	Maps, Forms, Telephone and / or Radio, H_2S / SO_2 detection and monitoring equipment and Roadblock Kit.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Roadblock Registration Form

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Roadblock Unit Leader.		
❑ Set up roadblock(s) at the entrance(s) to the incident site and control access to the site.		
❑ Controls and records the movement or all personnel to and from the site, ensures that safety rules are met, and that proper equipment is worn as required.		
❑ Document and report any roadblock problems to the Roadblock Unit Leader.		
❑ Ensure applicable signs are visible and in good condition, (if applicable).		
❑ Advise Roadblock Unit Leader immediately of H_2S / SO_2 and LEL detection.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Roadblock Unit Leader.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Set up roadblocks surrounding the HPZ and control access to the area.		
❑ Stop all traffic attempting to proceed into the HPZ, briefly explain the problem and request they take an alternate route.		
❑ If the occupant is trying to reach their residence within the HPZ, direct them to the assigned Reception Centre.		
❑ Controls and records the movement of all personnel to and from the site and ensures that safety rules are met, and that proper protective equipment is worn as required.		
Level 3		
❑ Ensure all Level 1 and 2 duties have been completed.		
❑ Advise Roadblock Group Unit Leader immediately of H_2S / SO_2 / LEL detection.		
Post Incident		
❑ Participate in incident debriefing and analysis meetings.		

5.15 Rover / Evacuation Unit Leader

Name:	**Phone No.:**
Reports To: Public Safety Group Supervisor	**Phone No.:**

Mission:	Responsible for management of rover personnel traveling the HPZ ensuring all occupants are notified of the incident and commence evacuation procedures, assist with evacuation of occupants to the Reception Centre.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio, H_2S / SO_2 detection and monitoring equipment.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Transient Evacuation Notice, Empty Residence Notice

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Public Safety Group Supervisor.		
❑ Activate the Rover / Evacuation Unit.		
❑ Establish and maintain contact with the Reception Centre Unit regarding the number of expected evacuees, etc.		
❑ Establish and maintain contact with the Telephone Unit Leader.		
❑ Contact HPZ occupants and other area users to advise them of the incident.		
❑ Direct the voluntary evacuation occupants to the Reception Centre.		
❑ Search HPZ for transients, and other area users, as required.		
❑ Advise Public Safety Group Supervisor immediately of H_2S and LEL detection.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Public Safety Group Supervisor.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Direct Rover / Evacuation Unit to ensure all occupants are evacuated from the HPZ.		
❑ Escort response personnel entering the HPZ to the Incident Command Post or alternate location and advise the Public Safety Group Supervisor.		
❑ Instruct the Rover / Evacuation Unit to continue to monitor the HPZ for occupants and other area users who have not yet evacuated or been advised of the evacuation.		
❑ Advise Public Safety Group Supervisor of any evacuation problems.		

5.15 Rover / Evacuation Unit Leader

Level 3		
❑ Ensure Level 1 and 2 Emergency duties have been completed.		
❑ Advise Public Safety Group Supervisor immediately of H_2S / SO_2 / LEL detection		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.16 Rover / Evacuation Unit

Name:	**Phone No.:**
Reports To: Rover / Evacuation Unit Leader	**Phone No.:**
Mission:	Responsible for all the search and rescue activities within the HPZ and if required, beyond the HPZ.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio, H_2S / SO_2 detection and monitoring.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Transient Evacuation Notice, Empty Residence Notice

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Rover / Evacuation Unit Leader.		
❑ Utilize proper PPE (SCBA, radio, monitor, etc.).		
❑ Assists public with evacuation, where required.		
❑ Search HPZ for members of the public to inform them of the emergency status. Advise them to evacuate to the Reception Centre. Use the necessary forms located in the *Forms* Section to record occupant information and advise the Rover / Evacuation Unit Leader of this information.		
❑ Search HPZ for transients, industry operators, recreational users and trappers / guides and inform them of the emergency status. Advise them to evacuate to the Reception Centre. Use the necessary forms located in the *Forms* Section to record occupant information and advise the Rover / Evacuation Unit Leader of this information		
❑ Provide roadblock relief as required.		
❑ Patrol emergency area to ensure site security.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Advise Rover / Evacuation Unit Leader of H_2S / LEL detection.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Rover / Evacuation Unit Leader.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
❑ Continue to search the HPZ for transients, industry operators, recreational users, and trappers / guides within the HPZ, and advise to evacuate to the Reception Centre.		
❑ Advise Rover / Evacuation Unit Leader of H_2S / LEL detection.		
❑ Report evacuation status to Rover / Evacuation Unit Leader.		

5.16 Rover / Evacuation Unit

Level 3		
❑ Ensure Level 1 and 2 Emergency duties have been completed.		
❑ Advise Rover / Evacuation Unit Leader of H_2S / SO_2 / LEL detection.		
Post Incident		
❑ Participate in incident debriefing and analysis meetings.		

5.17 Ignition Unit

Name:	**Phone No.:**
Reports To: Public Safety Group Supervisor	**Phone No.:**
Mission:	Evaluate conditions at site and ensure the safe ignition of a release of H_2S.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio, Flare Gun.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet

Level 1	Completed By	Time Completed
❑ Assess situation.		
❑ Instruct safety and rig personnel of duties to secure site control.		
❑ Provide status report to the Public Safety Group Supervisor.		
❑ Ignition Unit is not required at this point.		
Level 2		
❑ Ignition Unit should be on standby if emergency escalates to Level 3.		
Level 3		
❑ Assemble safely to ignite the plume if ignition criteria has been met		
❑ Wait for instructions from Public Safety Group Supervisor.		
❑ Ensure all non-essential personnel have left location.		
❑ Don breathing apparatus and lay down flat on stomach.		
❑ Backup rescue team will hookup safety harness and take cover.		
❑ Once in position, fire the flare toward the plume.		
❑ When safe to do so the rescue team shall assist blowout professionals in controlling the release.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.18 Air Operations Unit Leader

Name:	**Phone No.:**
Reports To: Public Safety Group Supervisor	**Phone No.:**
Mission:	Provide helicopter services.
Resources:	ERP Manual, Binoculars, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Incident Command Post and report to the Public Safety Group Supervisor.		
❑ Obtain briefing from the Public Safety Group Supervisor and assess air support requirements.		
❑ If helicopter evacuation is or may be a requirement, the helicopter services will be placed on standby at a Level 1 Emergency.		
❑ Determine current air traffic status and any flight restrictions.		
❑ Organize preliminary air operations and determine Helibase and Helispot requirements.		
❑ Ensure the establishment of a helicopter landing zone, if required.		
❑ Perform operational planning to maintain effective air operations.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.19 EOC Director

Name:	**Phone No.:**
Reports To: Company Executive	**Phone No.:**
Mission:	Provide overall command of the EOC and provide support to the Incident Commander.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet

Level 1	Completed By	Time Completed
❑ Confirm emergency situation (size up).		
❑ What is the nature of the incident?		
❑ How are operations affected by this incident in the operating area?		
❑ Analyze the business continuity of the operating area, if possible.		
❑ Determine other operating areas that may be notified to provide assistance to the response activities.		
❑ If there are any injuries, begin notification procedures of family.		
❑ Advise Company Executive.		
❑ Mobilize required EOC personnel.		
❑ Provide support to the Incident Command Post.		
❑ Record information received from outside sources and investigate.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Request for a damage assessment report from the Incident Commander.		
❑ Ensure all necessary site investigations are completed before clean up and repair begins.		
❑ Advise and direct Incident Commander regarding cleanup, repair and resumption of operations.		

5.19 EOC Director

Post Incident - Continued		
❑ Ensure all affected public have been notified of the demobilization and have received assistance.		
❑ Conduct debriefings with Incident Commander and other personnel involved in the emergency response.		
❑ Ensure Critical Incident Stress Debriefing (CISD) is available to staff and evacuees, as appropriate.		
❑ Participate in incident debriefing.		
❑ Collect all forms and documentation.		
❑ Prepare post-incident report and submit to required government agencies.		

5.20 Liaison Director

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**
Mission:	Coordinate with representatives from regulatory and assist agencies. Notify the BCER, RCMP, Local Authorities, and government agencies.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, External Agency Post Incident Evaluation

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre and report to the EOC Director.		
❑ Coordinate with the Liaison Officer at the ICP and maintain contact with the government and regulatory bodies throughout the emergency, for example:		
❑ BCER		
❑ EMCR		
❑ Local Authorities		
❑ RCMP		
❑ Ministry of Environment & Climate Change Strategy		
❑ Ministry of Forests		
❑ Ministry of Transportation and Infrastructure		
❑ Local Health Unit		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.21 Risk / Legal Director

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**
Mission:	Monitor and assess the risk management factors that may affect the company. Provide legal advice or work directly with the legal department. Work with the Safety Officer at the Incident Site.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log, Suspect and Vehicle Identification Worksheet, Incident Investigation Report

Level 1	Completed By	Time Completed
❑ Complete an Incident / Event Log.		
❑ Maintain communication with the EOC Director and discuss risk management issues.		
❑ Coordinate risk management strategies and provide legal advice or work with the legal department, as required.		
❑ Ensure all required resources are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.22 Public Information Director

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**
Mission:	Company spokesperson. Provide timely information to media / public seeking information regarding incident. Work with Information Officer.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log, Preliminary Media Statement

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre and report to the EOC Director.		
❑ Act as spokesperson for the company.		
❑ Disseminate information to personnel.		
❑ Notify joint venture partners and other parties, as required.		
❑ Ensure all public and media inquiries are coordinated, and if required, through the Information Officer and the BCER.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.23 Operations Director

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**
Mission:	Determine / implement objectives, strategies, and tactics to carry out the plan and support the Incident Commander and Operations Section Chief.
Resources:	Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log

Level 1	Completed By	Time Completed
❑ Upon notification of the incident, immediately proceed to the Emergency Operations Centre and report to the EOC Director.		
❑ Mobilize the Telephone Unit to begin notification telephone calls to occupants and other area users.		
❑ Assign roles to personnel.		
❑ Record information received from outside sources and investigate.		
❑ Assist the site with corrective / control procedures.		
❑ Assess potential to escalate to a Level 2 Emergency.		
❑ Ensure all required resources (equipment, supplies and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required) and equipment.		
❑ Assess damage to assets (well site, pipeline or facility).		
❑ Provide assessment report to EOC Director.		
❑ Debrief all personnel on site and document improvement preparedness and response opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.24 Telephone Unit Leader

Name:	**Phone No.:**
Reports To: Operations Director	**Phone No.:**

Mission:	Coordinate telephone notification with HPZ and other area users, etc.
Resources:	ERP Manual, Maps, Forms, Telephone & / or Radio
Forms:	Incident / Event Log, Telephone / Evacuation Contact Log, Voluntary Evacuation Message, Mandatory Evacuation Message, Resident Shelter Message, Resident Warning Message, Resident Evacuation Message, Transient Evacuation Message,

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre or alternate location and advise the Operations Director of your arrival.		
❑ Obtain pertinent information from the Operations Director that is to be communicated to occupants (eg. Reception Centre Unit, evacuation routes, helicopter evacuation required, etc.).		
❑ Activate Telephone Unit.		
❑ Direct Telephone Unit to notify occupants and other area operators.		
❑ Establish and maintain contact with the Rover / Evacuation Unit Leader and the Reception Centre Unit in regard to determining occupants that have been safely evacuated out of the evacuation area and those that are still unaccounted for.		
❑ Maintain a record of all calls, outcome of calls and problems or concerns. Advise Operations Director.		
❑ Obtain a report from the Rover / Evacuation Unit Leader of all successful evacuated residences.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the Operations Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.25 Telephone Unit

Name:	**Phone No.:**
Reports To: Telephone Unit Leader	**Phone No.:**
Mission:	Telephone occupants, transients, schools, and other area users within the HPZ and provide obtained related information.
Resources:	Maps, Forms, Telephones
Forms:	Incident / Event Log, Telephone / Evacuation Contact Log, Voluntary Evacuation Message, Mandatory Evacuation Message, Resident Shelter Message, Resident Warning Message, Resident Evacuation Message, Transient Evacuation Message,

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre or alternate location and report to the Telephone Unit Leader.		
❑ Obtain pertinent information from the Telephone Unit Leader that is to be communicated to occupants (eg. Reception Centre location, evacuation routes, helicopter evacuation required, etc.).		
❑ Notify all area occupants within the HPZ (if applicable), including Residents, Trappers, Guides and other area operators.		
❑ Maintain a record of all calls, outcome of calls and problems or concerns. Advise Telephone Unit Leader.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status reports to the Telephone Unit Leader.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Participate in incident debriefing and analysis meetings.		

5.26 Planning Section Chief

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**
Mission:	Develop action plan, evaluate information and maintain status of resources.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre and report to the EOC Director.		
❑ Is responsible for the following activities and / or personnel:		
❑ Resources Unit – record status of resources that are committed to the incident.		
❑ Situation Unit – collect, organize and analysis of incident status information and for analyzing the situation as it progresses.		
❑ Documentation Unit – collect, record, and protect all documents.		
❑ Demobilization Unit – orderly, safe, and efficient demobilization of incident.		
❑ Technical Specialists – technical specialists pertaining to the specific emergency response.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.27 Documentation Unit

Name:	**Phone No.:**
Reports To: Planning Section Chief	**Phone No.:**
Mission:	Collect, record, and protect all documents related to the incident.
Resources:	Stationery Supplies, Telephone, Forms.
Forms:	Incident / Event Log

Level 1, 2 or 3	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre and report to the EOC Director.		
❑ Record preliminary information and all activities.		
❑ Maintain a chronological order of all information received and transmitted.		
❑ Record outstanding questions.		
❑ Document identified issues.		
❑ Receive, copy, and distribute incoming faxes.		
❑ Keep copies and track all incoming and outgoing correspondence.		
❑ Compile news releases (eg. newspaper clippings). Record news casts from TV or radio pertaining to the emergency.		
❑ Take minutes at briefings, capturing action items for follow up.		
Post Incident		
❑ Participate in incident debriefing and analysis meetings.		

5.28 Logistics Section Chief

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**
Mission:	Ensure that equipment, materials and staff are quickly accessed and directed to the appropriate area in regard to the incident, Incident Command Post, Staging Area, etc.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre and report to the EOC Director.		
❑ Responsible for the following activities and / or personnel:		
❑ Communications Unit – provide communication services (radio, telephone, etc.).		
❑ Food Unit – coordinate meal service for responders.		
❑ Supply Unit – order equipment / supplies required for incident operations.		
❑ Facilities Unit – provide fixed facilities for an incident (incident base, sleeping area, eating areas, etc.).		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.29 Finance / Administration Section Chief

Name:	**Phone No.:**
Reports To: EOC Director	**Phone No.:**

Mission:	Provide accounting, procurement, administrative and cost analysis services. Monitor costs associated with the incident.
Resources:	ERP Manual, Maps, Forms, Telephone and / or Radio.
Forms:	Incident / Event Log, Daily Expense Claim Form

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre and report to the EOC Director.		
❑ Responsible for the following activities and / or personnel:		
❑ Time Unit – record time for incident personnel / equipment.		
❑ Procurement Unit – responsible for financial matters involving vendor contractors.		
❑ Compensation / Claims Unit – process financial matters resulting from injuries, fatalities, property and environmental damage.		
❑ Cost Unit – track costs, analyze cost related data, cost estimates, cost saving measures.		
❑ Ensure all required resources (equipment, supplies, and personnel) are available.		
❑ Complete the required forms in the *Forms* Section.		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		
Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

5.30 Scribe / Recorder

Name:	**Phone No.:**
Reports To: EOC Director, Incident Commander	**Phone No.:**
Mission:	To document an incident's key events and decisions made during an emergency response. Provide a timeline of events for after action reports, a list of challenges for lessons learned, decisions made for inquiries and legal proceedings, and details on costs and related expenditures.
Resources:	Log Book, Maps, Forms, Telephone and / or Radio.
Forms:	Incident/Event Log

Level 1	Completed By	Time Completed
❑ Upon notification of an emergency, proceed to the Emergency Operations Centre or Incident Command Post and report to the EOC Director or Incident Commander.		
❑ Obtain a briefing of the situation including the onsite and external communications capabilities and restrictions.		
❑ Schedule regular intervals for reporting to the EOC Director or Incident Commander (when on site).		
❑ Ensure sufficient supplies are available:		
❑ Office supplies (pens, paper, staplers, tape, etc).		
❑ Necessary forms.		
❑ Telephone/Radios		
❑ Area Maps		
❑ Contact Lists		
❑ Complete the required forms in the *Forms* Section.		
❑ Maintain an Incident/Event Log		
❑ Transcribe and distribute summary of Planning Cycle meetings		
❑ Maintain the Strategic/Incident Action Plan documents		
❑ Create 'key contact' lists		
❑ Create and update 'To-do' list for designated position		
❑ Maintain other key forms as required		
❑ Provide status report to the EOC Director.		
❑ Maintain a log of activities / decisions.		

5.30 Scribe / Recorder

Level 2		
❑ Ensure all Level 1 Emergency duties have been completed.		
Level 3		
❑ Ensure all Level 1 and 2 Emergency duties have been completed.		
Post Incident		
❑ Demobilize teams (if required), and equipment.		
❑ Collect all forms and documentation.		
❑ Debrief all personnel on site and document improvement opportunities.		
❑ Participate in incident debriefing and analysis meetings.		

6.0 Government Involvement

Government agencies will contribute valuable support to Pacific Canbriam Energy Limited during an emergency by providing advice, resources, and local information. In order to avoid conflicts over jurisdiction and response priorities, company representatives need to work as a team with external groups. Field response shall achieve an integrated response that protects the public, the property, and the environment. The extent of the BCER and other government support will vary depending on the severity of the incident and jurisdiction.

Provincial government agencies and local authorities are involved in the implementation of the ERP. When criteria for any emergency level is met, the Incident Commander must immediately contact Emergency Management & Climate Readiness (EMCR) to advise them of the emergency situation, confirm the level of emergency with the BC Energy Regulator (BCER) and the local RCMP. EMCR will do a fan out notification to all required government agencies including the BCER. Liaison with involved government agencies will be through the BCER representative.

6.1 Government Agencies – Roles and Responsibilities

The following is an outline of the responsibilities for each government agency upon initiation of the Emergency Response Plan:

BC Energy Regulator (BCER)

- Oversees the operator's response to an incident.
- Notified by PEP (Provincial Emergency Program) of incidents within BCER's jurisdiction (on lease).
- Establishes communication with the operator.
- Confirms incident level with operator.
- Confirms downgrade of incident level.
- Issues road closure order upon request from the operator.
- Request NOTAM order from NAV Canada upon request from the operator.
- May send an BCER representative to the On-Site Command Post and / or Evacuation Centre.
- May establish a government EOC at the BCER office.
- Confirms ignition decision with operator if time permits.
- Confirms media releases to be sent out by operator.

Emergency Management & Climate Readiness (EMCR)

- Implement the Government of British Columbia Provincial Emergency Program telephone fan out to alert all affected departments, municipalities and other levels of government and industry.
- Alert the following local authorities whose jurisdictional boundary is affected by the incident:
  - BCER.
  - Ministry of Environment & Climate Change Strategy.
  - Ministry of Environment & Climate Change Strategy, Waste Management Branch.
  - Ministry of Forestry, Fish and Wildlife Branch.

  - Ministry of Forestry, Forest Service.
  - Ministry of Transportation and Infrastructure / Federal Public Works.
  - Regional District.
  - Local Health Region.
- Provides a representative to the Provincial Regional Emergency Operations Centre (PREOC).
- Coordinates reception plans for evacuation of the public with the affected municipalities.
- All other actions to protect British Columbia property from the effects of sour gas.

Note: EMCR does not contact WorkSafeBC during their telephone fan out.

Minister of Agriculture and Food

- Provide advice to farmers, agriculturists, and fishers on the protection of crops, livestock and provincially managed fish and marine plant stocks.
- Coordinate the emergency evacuation and care of poultry and livestock.
- Inspect and regulate food quality.
- Identify food and potable water supplies.
- Assist the Minister of Health in the inspection and regulation of food safety.

Attorney General

- Provide advice to local governments, provincial ministries and government corporations on legal matters relating to the preparation and promulgation of emergency orders, regulations, declarations, and contractual arrangements.
- Prepare, promulgate and implement orders relating to law enforcement and internal security.
- Through the police force having jurisdiction, provide the following:
  - Advice to local authorities respecting the maintenance of law and order.
  - Reinforcement of local police services.
  - Security control of emergency areas.
  - Traffic and crowd control.
  - Search and rescue services for missing persons on land and in inland waters.
  - Provide coroner's services including the operation of temporary morgues, identification of the dead and registration of death.
- Through Emergency Management & Climate Readiness (EMCR), provide the following:
  - Provide a 24 hour capability to direct requests for emergency assistance to appropriate municipal, provincial, federal, or private sector agencies.
  - Serve as the point of contact for requests for emergency assistance from and to the Government of Canada, unless otherwise specified in intergovernmental agreements.
  - Administer the emergency assistance vote to cover those of the incremental costs that:
    - Are incurred by local governments, ministries, and government corporations in responding to an emergency.
    - The minister has approved.
- Organize and administer registered volunteers and temporary workers as requested or detailed in emergency response plans.
- Coordinate the emergency response activities of supporting ministries as requested or detailed in emergency response plans.

Minister of Environment & Climate Change Strategy

A Ministry representative (Environmental Emergency Response Officer - EERO) will provide regulatory oversight and monitor the situation to ensure that the Responsible Party (RP) is taking the appropriate actions:

- May provide a representative to the Off-Site Command Centre (OSCC) and the BCER Emergency Operations Centre (EOC) and / or the Provincial Emergency Operations Centre (PREOC) on a 24-hour basis. 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 Responsible Party fails to take appropriate action as deemed necessary by the EERO or Provincial Incident Commander.
- May assist the RP to ensure that other required agencies and affected stakeholders are contacted.
- Monitors all discharges to the land, atmosphere, and all water bodies.
- May provide assistance with hazardous waste management.
- May conduct sampling for monitoring and enforcement purposes.

Minister of Finance

- Provide risk management services in respect of possible compensation and liability claims.
- Arrange the assignment of suitably qualified public employees from various ministries to special emergency duties.
- Coordinate, in cooperation with ministries, the establishment and maintenance of Emergency Financial Response and Backup Teams throughout BC.

Minister of Forests

- Provide Ministry of Forests personnel with equipment, supplies, telecommunications equipment, aviation support and weather information to assist in emergency response operations.

Minister of Government Services

- Provide Government aircraft and vehicles.
- Provide for the leasing of purchase of emergency supplies and equipment.
- Through the government communications office, coordinate the provincial government emergency information services.

Environmental Health

- Act as a consultant utilizing provided information on toxic chemicals to the Emergency Operations Center.
- Monitor health effects of the incident to ensure appropriate data is collected and investigate such health effects.
- Provide advice to the government on the existing or potential health effects of the incident.
- Establish and operate trauma teams for emergency health services.
- Provide health advice and safety levels for any health care or special care facility and for the more vulnerable residents.
- Monitor adverse effects / contamination of water systems.
- Enforce and regulate Public Health Regulations.

Minister of Municipal Affairs
- Through the office of the fire commissioner, coordinate firefighting in a declared state of emergency.

Minister of Social Services
- Provide the following: Food, clothing, and shelter in private or congregate facilities.
- Registration and information to assist in locating and reuniting of families.
- Care of children who are not accompanied by a guardian or custodian, and mentally challenged persons.
- Necessary financial assistance.
- Provide clothing, food, shelter, registration, and information services as may be required by emergency workers.
- Provide assistance to local authorities in the planning and operation of emergency social services consisting of emergency feeding, clothing, lodging, registration and inquiry and personal services.

Minister of Transportation and Infrastructure
- Coordinate and arrange for transportation, engineering, and construction resources.

British Columbia Hydro and Power Authority
- Coordinate the restoration of electric facilities, taking into account domestic, commercial, industrial and government requirements.
- Interrupt Hydro services when they pose a threat to life or property.
- Conduct safety measures in respect to BC Hydro dams, including initiating warnings in the event of dam failures.

British Columbia Rail Limited
- Provide priority movement of emergency personnel, equipment, and supplies.
- In cooperation with Transport Canada, assist at railway crashes, derailments in the conduct of rescue operations, removal of debris and the cleanup of hazardous material.
- Provide railcars for emergency facilities.
- Provide specialized equipment.

British Columbia Systems Corporation
- Provide technical advice and assistance on the acquisition of telecommunications equipment, systems, and computers.

British Columbia Transit
- Coordinate requirements for public transportation, including school and privately owned buses.

Technical Safety BC

- Technical Safety BC is an independent, self-funded organization that oversees the safe installation and operation of technical systems and equipment across the province subject to the Safety Standards Act and / or Railway Safety Act.
- Technical Safety BC is to be notified of any incidents and hazards of "regulated products", which are defined as a piece of equipment or system subject to the Safety Standards Act.

WorkSafeBC

- WorkSafeBC should be notified in any Level of Emergency (1, 2 or 3) as all of these incidents deal with worker safety.
- WorkSafeBC notification and reporting requirements are listed in the *Levels of Emergency Section* of this ERP.

Royal Canadian Mounted Police

- Assist with roadblocks, traffic control and evacuation.

Local Municipal Government

Each Regional District 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 jurisdiction. Upon request from the BCER , the Regional District may address emergency response capabilities, expectations, and preparedness. If required, the Regional District may activate their emergency plan in order to achieve any of the following:

- Dispatch representative(s) to the BCER's PREOC, if established.
- Ensure notification of endangered area residents.
- Coordinate Emergency Social Services (ESS).
- If necessary, declare a State of Emergency.
- Assist in public information service.

BC Ambulance Service (BCAS)

- Coordinate patient transportation.
- Assist in the mobilization of other available ambulance and auxiliary ambulance resources, as required.
- Coordinate health care needs at Reception Centres.

7.0 Mutual Aid

Mutual Aid among industries and government agencies allow for sharing of personnel and equipment, which enhances response capabilities.

A wide range of emergencies may occur that have an impact on neighbouring stakeholders. In this event, multiple parties may want to provide assistance during the emergency.

It must be agreed upon prior to any type of third party response that Pacific Canbriam Energy Limited will remain the primary emergency responder, and that any assistance provided by third parties must be under the supervision of a Pacific Canbriam Energy Limited representative. Furthermore, the party providing mutual aid must comply with all applicable Pacific Canbriam Energy Limited policies and applicable government regulations.

7.1 Municipal Mutual Aid

During an incident, the regional district and provincial health authority will be notified, via telephone or in person, of the situation and kept apprised of decisions to evacuate, shelter in place, etc. The Incident Commander may contact mutual aid partners or assign another responder to do so. Municipalities may provide assistance, where capable and as required, to assist with the coordination and administration of a reception centre, assist with evacuations and roadblocks, establishing the respective command centre, arranging temporary accommodations and HPZ public notifications.

Each Regional District 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 jurisdiction. Upon request from the BCER, the Regional District may address emergency response capabilities, expectations, and preparedness. If required, the Regional District may activate their emergency plan in order to achieve any of the following:

- Dispatch representative(s) to the BCER's PREOC, if established.
- Ensure notification of endangered area residents.
- Coordinate Emergency Social Services (ESS).
- If necessary, declare a State of Emergency.
- Assist in public information service.

Peace River Regional District	
24 Hour Number	250.784.3200 or 800.670.7773
Primary Emergency Contact	Kevin Clarkson, General Manager Community Services Bus: 250.784.3218 Cell: 250.219.3000 Email: Kevin.Clarkson@prrd.bc.ca
Secondary Emergency Contact	On Duty EOC Director 250.784.4837
Main Office:	250.784.3200 Fort St. John Branch: 250.785.8084
Address:	1981 Alaska Avenue Dawson Creek, BC V1G 4H8

Roles & Responsibilities

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 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 jurisdiction. Upon request from the Oil and Gas Commission (OGC), the Regional District may address emergency response capabilities, expectations and preparedness. If required, the Regional District may activate their emergency plan in order to achieve any of the following:

- Dispatch representative(s) to the OGC's Emergency Operations Centre (EOC), if established
- Provide support to ensure notification of endangered area residents.
- Provide support to coordinate and deliver emergency social services to evacuated residents
- If necessary, declare a State of Local Emergency and issue an evacuation Alert, Order and Rescind
- Assist in a public information service (joint OGC, Industry, local government)
- Provide building re-entry procedures.

Revised October 27, 2010

Consultation Details

The information above was confirmed / revised on May 17, 2024 by Mike Watkins.

7.2 Industry Mutual Aid

Contract Operators and / or local industry operators may provide assistance in an emergency situation. Written or verbal mutual aid understandings may be established allowing for the sharing of resources.

Local industry operators may assist with the coordination and administration of roadblocks, manning equipment used during the response effort and / or filling additional response roles as dictated by the needs of the response effort. Mutual aid responders should be in support roles only and should not fill a command or control role in the response.

Assistance to / from local industry will be based on operational availability. Personnel, equipment, or other resources may be supplied without disrupting operations at the time of the emergency response. Mutual aid response will be based on a 'Best Efforts' response.

All Emergency Response personnel have the 'Right to Refuse Unsafe Work'. Life Safety is our #1 priority. Mutual Aid Emergency Responders must immediately notify their supervisor upon receiving a Mutual Aid request & limit personal and corporate risk exposure when reacting to a mutual aid request. Corporate liability should not be increased due to a Mutual Aid response.

All Emergency Response personnel must react within their capabilities and trained competencies. If another Area Operator provides assistance, the principal behind this assistance should remain as follows:

- Companies or individuals providing assistance are to provide the support outside the lease boundary. The focus will be to provide the manpower and support required for roadblock crews, rovers, resident contact, and evacuation co-ordination as required by Pacific Canbriam Energy Limited requesting the assistance.
- Third party responders will report to the Incident Commander or other coordinating position in the area.
- Individuals providing assistance retain the right to withdraw the assistance should his/her personal safety be jeopardized.

7.3 Third Party Emergencies

For emergencies involving third parties, Pacific Canbriam Energy Limited will respond with the procedures most appropriate to the event in the *Immediate Actions* Section.

Where Pacific Canbriam Energy Limited has a legal obligation to respond, they shall respond immediately in accordance with this ERP to the extent required by law.

Where Pacific Canbriam Energy Limited has no legal duty to respond to a third party emergency, (but where public perception or the name of Pacific Canbriam Energy Limited is involved in any way, or a definite threat exists to people or the environment), and prompt response is not forthcoming from others, Pacific Canbriam Energy Limited personnel will attempt to respond to the extent required to control and contain the emergency and eliminate danger to the public.

When Pacific Canbriam Energy Limited has no association to the emergency, Pacific Canbriam Energy Limited will attempt to respond when requested by government authority, the public or industry without prejudice. All emergencies shall be reported internally and externally in accordance with the procedures set out in this ERP.

7.4 Assistance from Local Health Authorities

Northern Health may, if capable, carry out the following activities:

- Act as a consultant utilizing provided information on toxic chemicals to the Emergency Operations Center.
- Monitor health effects of the incident to ensure appropriate data is collected and investigate such health effects.
- Provide advice to the government on the existing or potential health effects of the incident.
- Establish and operate trauma teams for emergency health services.
- Provide health advice and safety levels for any health care or special care facility and for the more vulnerable residents.
- Monitor adverse effects / contamination of water systems.
- Enforce and regulate Public Health Regulations.

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 (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 will activate its emergency response management plan(s).

NH Roles & responsibilities - <u>PREPAREDNESS (PRE-EVENT):</u>

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

NH Roles & responsibilities - <u>RESPONSE:</u>

- 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

NH/HEMBC- Contact information

1. **For Emergency events that require immediate connection with Northern Health, please call :**
   - HEMBC on call number (24/7) **855-554-3622** (or 855-55-HEMBC)
     - 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.
     - **Please 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.

2. **For non-urgent requests related to Emergency Response Plans, or emergency exercise planning/information,** contact HEMBC North Director Mary Charters, at:
   - 250-617-5288
   - HEMBC@northernhealth.ca

3. **For Environmental assessment inquires and general government consultation questions pertaining to health** please email the NH Office of Health and Resource Development at:
   - resource.development@northernhealth.ca

NH Chief Medical Health Officer approval: July 5, 2016
Rev. Sept 2022- HEMBC North

EMERGENCY RESPONSE ROLES & RESPONSIBILITIES

Before An Emergency

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

During an Emergency

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

After an Emergency

- As requested by BCER.

8.0 Communications

Clear, concise communication is essential to a successful response to an emergency. Care must be taken to provide early notification that is both accurate and concise. There are 3 main phases in the communication process covered in this section:

- Non Emergency Communication.
- Emergency Communication.
- Post Emergency Communication.

8.1 Non Emergency Communication

These communications are designed to keep people informed of operations. Non-emergency communications that typically occur with the undertaking of a development project include:

- Personal consultations and notifications during the public involvement program.
- Operational communications pertaining to pre sour meetings, rig moves and the completion of operations.
- Updates or revisions to the ERP.

Personal Consultations and Notifications
Pacific Canbriam Energy Limited may be required to conduct a public involvement program identifying all individuals, residents, public facilities, local authorities, and area operators that may be impacted by a development project. This identification process can be accomplished through means such as identifying surface developments within an HPZ, meetings with local interest groups and community leaders, contacting other industrial operators and government agencies / departments and talking with land owners. Pacific Canbriam Energy Limited may be required to develop public information packages for personal consultations and notifications during this public involvement program.

Planned Public Communication
Keeping the public informed as operations proceed is critical to the success of a project. The planned communication may be done in person or by an automated call out system.

Operational Communications
Operational communication is conducted by staff working in conjunction with the companies' operations. This group can provide valuable feedback to the project managers to keep the ERP and other project details current.

Websites and Toll free Numbers
A website or bulletin board may be used for projects to provide updates to the resident(s) and interested parties.

Toll free numbers are an effective way to communicate with residents. They are to be monitored and answered at all times.

8.2 Emergency Communications

Emergency communications must be clear and concise. In the event of an emergency, the following procedures may be used to ensure communications are completed in an organized and effective manner.

Initial Notifications – In the Field
These steps are to be taken as soon as the caller is safe and can make the call. The earliest possible initial notifications need to occur before a response is undertaken.

Step 1: Contact Immediate Supervisor or Pacific Canbriam Energy Limited's 24 Hour Emergency Line **1.877.269.2877,** and

Step 2: Provide critical data:

- Your name and return telephone number(s)
- Your present and future location
- The present status of:
  - Injuries.
  - Damage to property.
  - Damage to the environment.
- Other critical data.
- Your next actions.
- The present weather at your location.
- What you need assistance with.

Step 3: Activate the ERP, assume the role of Incident Commander until relieved by a more senior Pacific Canbriam Energy Limited representative. Contact EMCR emergency number **800.663.3456** immediately and upon contact with the BCER, confirm level of emergency.

Initial Notification Received – With the EOC
Once the notification of a potential emergency has been received, the supervisor needs to respond immediately.

Step 1: Contact the Incident Commander and advise of the potential emergency.

Step 2: Assemble the Emergency Operations Committee and review the potential emergency. Contact EMCR emergency number **800.663.3456** immediately and upon contact with the BCER, confirm level of emergency.

Step 3: If a Level 1 or higher is declared, activate the ERP, assemble the response team, and assign key roles.

Ongoing Emergency Communication
There are 4 types of Emergency Communication that will occur during an Emergency:

- Response Teams Communication.
- Internal Communication (Head Office).
- External Communication (Outside of Response Teams).
- On-Site Communication.

All communication must be accurately recorded and followed up on. Communication must be clear and concise during the response.

Response Teams
The Emergency Operations Committee and Incident Commander must clearly identify who is participating in the response and identify their role(s) in the emergency. This shall then be communicated to all responders. Regularly scheduled meetings may be held, as needed.

The communication flow is based on the ICS structure:
- Only Commanders and Section Chiefs can communicate outside of the response structure with the other response team.
- The Units in the field or on site report directly to their Leaders.
- The Leaders report directly to the Supervisors.
- The Supervisors report directly to the Section Chiefs.
- The Section Chiefs report directly to the Incident Commander.
- The Emergency Operations Committee and the Incident Commander are to have a direct line of communication.

Reporting
All responders are required to fill out the necessary forms located in the *Forms* Section and return them to their Unit Leader or person they are reporting to immediately following the incident. All internal reports are to be retained by Pacific Canbriam Energy Limited for review or provided to the BCER upon request.

The EOC Director, in consultation with the Incident Commander will provide written reports within 14 days of the incident, detailing the cause of the incident, the means used to control or end the emergency situation, lessons learned and any additional information to outside agencies including emergency services, regulatory agencies and other public authorities.

Internal Communication (Head Office)
Should an emergency occur during normal business hours, all local staff should be notified of the emergency and asked to standby in case they are asked to become a part of the response. Additionally:
- The Receptionist shall be advised on how to direct all incoming calls.
- No contact shall be made with outside agencies, except approved statements made by the Information Officer, to prevent media leaks.
- Consideration to the length of the emergency should be given and some staff should be released so that they may become team members in 8-10 hours.
- Avoid making public announcements to protect confidentiality.

External Communications (Outside of the Response Teams)
All communication outside of the Response Teams may be subject to public scrutiny so be cautious, accurate, calm, factual, and punctual.

Public Notification
Pacific Canbriam Energy Limited must make the information listed in the below table available to the public as soon as possible during an emergency

Information Disseminated to the Public at the Onset and During an Incident
To those evacuated or sheltered – during
▪ Type and status of incident. ▪ Location and proximity of the incident to people in the vicinity. ▪ Public protection measures to follow including sheltering and evacuation instructions, and any other emergency response measures to consider such as the location of the reception centre. ▪ Actions being taken to respond to the situation, including anticipated time period. ▪ Contacts for additional information. ▪ Description of the products involved and their short term and long term effects. ▪ Potential effects the incident may have on people in the vicinity and what the affected public must do if they experience adverse effects. ▪ Areas impacted by the incident.
To those evacuated or sheltered – post incident
▪ Status of recovery ▪ Financial reimbursement information ▪ Contact for additional information
To the general public - during
▪ Type and status of incident. ▪ Location of the incident. ▪ Areas impacted by the incident. ▪ Description of the products involved. ▪ Confirmation that the permit holder is responding to the incident. ▪ Actions being taken to respond to the situation, including anticipated time period. ▪ Contacts for additional information.

On Site Communication
Pacific Canbriam Energy Limited shall supply the communication systems and equipment required to provide an effective exchange between the Incident Command Post and the:
- Evacuation, roadblock, and air monitoring personnel.

- Emergency Operations Committee.
- Reception Centre Leader.
- Provincial Regional Emergency Operations Centre (PREOC).
- Staging Area.

Radio Communications
Radio communications will be utilized where required for on site and off site communications.

Landline Telephones
A landline telephone shall be available from the Incident Command Post to the EOC and the PREOC. Landline telephones shall also exist at the Reception Centre. In some cases, landlines may not be available, in those instances cellular or satellite communications shall be available.

Mobile/Cellular Telephones
Mobile/cellular telephones will be located at the Incident Command Post and shall be available to all field personnel.

Media
All communication with the media is undertaken by the Information Officer in consultation with the BCER. The Information Officer must coordinate any media releases with the BCER and applicable government agencies prior to releasing the information to ensure consistency and accuracy of information. Communication with the media should not be delayed and should be calm, factual, and punctual. Pacific Canbriam Energy Limited shall keep a record of all public statements released to the media and the data and time of release for post incident debriefing and reporting purposes.

The following information must be released to the public as soon as possible:
- Type and status of incident.
- Location and proximity of the incident to people in the vicinity.
- Public protection measures to follow including sheltering and evacuation instructions, and any other emergency response measures to consider such as the location of the reception centre.
- Actions being taken to respond to the situation, including anticipated time period.
- Contacts for additional information.
- Description of the products involved and their short term and long term effects.
- Potential effects the incident may have on people in the vicinity and what the affected public must do if they experience adverse effects.
- Areas impacted by the incident.

Pacific Canbriam Energy Limited employees and contractors/sub-contractors shall not volunteer information or opinions regarding any incident. If approached by the public or media, refer the representative to the Incident Commander or when established, the designated Information Officer. Do not speculate on the cause or damages resulting from the emergency and under no circumstances are the names of any victims to be released before next of kin are notified.

Next Of Kin Notification / Visit (Serious Injury / Death)

Preparation

- Immediacy is important.
- The family must be notified prior to the media or a neighbour contacting them.
- Coordinate the notification with appropriate local authorities. For example, the RCMP have procedures to follow and will normally make the notification, accompanied by a company representative.
- Choose a team of two or three people, considering appropriate Pacific Canbriam Energy Limited representation (eg. Information Officer). These people should be prepared to spend a minimum of three hours time with the next of kin.
- Human Resources can supply family structure, names, and information on employee benefit issues. Co-workers may be able to supply names for support persons.
- Determine what details of the incident can be revealed before meeting the family. Only factual information can be provided of which may not be immediately available. Check with the Incident Commander before releasing information.
- Determine, when possible, the cause of death or injury, what was done to rescue, ease suffering, etc.

When Meeting the Family

- The RCMP will perform notifications along with a Pacific Canbriam Energy Limited representative.
- Visit the home shortly after confirmation of serious injury or death if a company representative did not accompany the RCMP.
- Request that you be invited inside.
- Try to be seated and introduce yourself. If you remain standing this can be interpreted as a threatening stance.
- Display calmness / openness, competency / compassion.
- Provide facts in a brief and honest manner, no speculations, personal opinions or blaming.
- If it is a death, use the word “dead” rather than “passed away.”
- Do not make empty promises (eg. “Don’t worry I’m sure everything will turn out all right.”)
- Do assure the family that, “We will do everything we can to help you through this.”
- Listen carefully and allow the person(s) to express emotions.
- Ask, “What are your concerns / wishes / needs / right now?” - so that you can be clear about what you can offer.
- People can react very differently. Be prepared for anger, denial, tears, withdrawal, etc.
- Be aware that a variety of physical reactions could occur.
- The chance of a serious adverse medical reaction to bad news is remote, however, you might encourage a visit to the family physician and any suggestion of suicidal thinking requires immediate medical assessment.
- Do not leave an individual family member alone. Offer transportation to wherever requested.
- Assist contact with a support person (eg. family, friends, clergy, etc.).
- Offer to arrange childcare / telephone answering service etc. until family / friend support has been organized.

- Leave the following names and telephone numbers with the family:
  - Who to reference for media inquiries.
  - Pacific Canbriam Energy Limited Human Resources.
  - Employee Assistance Program Contact.
  - Member of Notifying Team.

Follow Up

- Notify the Pacific Canbriam Energy Limited Human Resources and the EOC Director immediately after a visit.
- Human Resources can access an Employee Assistance Program (EAP).
- Check back with the family to offer assistance on a regular basis.
- If a fatality was involved, consider who from the company will attend the funeral services.

8.3 Post Emergency Communications

Tasks are not complete when the response to the emergency is over. A great deal of work and communication remains. The types of Post Emergency tasks are:

- Gathering of response team logs.
- Contacting any parties who were notified.
- Resident follow up.
- Damage assessment and monitoring.
- Press releases and media follow up.

Gathering of Response Team Logs

Both the Emergency Operations Committee and the Incident Commander need to gather notes and logs from all persons who responded to the incident so that they may be reviewed for:

- Required follow ups.
- Submission to regulatory agencies.
- Learnings and ERP updates.

Contacting Parties Who Were Notified

All agencies, residents, mutual aid partners, and bystanders that were contacted during the emergency need to be followed up with. Needs, insights, or observations shall be gathered, and everyone shall be informed of the current status of the emergency. Failure to contact any single entity may result in poor public relations.

Resident Follow Up

All residents, occupants, transients, or other members of the public that were contacted or adversely affected by the emergency need to be followed up with immediately to determine additional physical needs, emotional or financial losses, business continuity concerns, etc. Each follow up needs to be documented and concerns dealt with immediately.

Damage Assessment and Monitoring

Agencies or members of the public that have suffered damage shall be continuously followed up with. On site damage needs to be documented and monitored to prevent further contamination and avoid evidence from being altered.

Press Releases and Media Follow Up

Ensure a complete and accurate press release is prepared after the emergency and make certain that it reaches every member of the press who attended. Focus on the many positives from the response (eg. all safety equipment operated as required, training was extremely beneficial, the quick response resulted in a minimum of damage, no loss of life or serious injuries occurred, etc.).

9.0 Post Incident Procedures

Post incident procedures may be lengthy and, in some instances, may be longer than the incident itself. The time period between the demobilization of the response and the implementation and completion of the recovery program may be from a few days to several weeks depending on the incident.

Keeping the public and government informed of the post emergency procedure process is critical to the success of returning to normal activities and rebuilding public confidence.

The decision to return people to the area and to resume normal operations will be made by Pacific Canbriam Energy Limited and relevant government agencies responsible for public safety. Government clearance to resume normal activities may be required if there has been a fatality, serious injury, or extensive damage. Relevant government agencies that may be involved include the RCMP, WorkSafe BC, Occupational Health and Safety, BCER, EMCR, and environmental agencies.

Once a decision to return to normal status is made, Pacific Canbriam Energy Limited will notify all affected parties.

When the all clear is given, ensure that:
- Buildings are ventilated and checked for gas pockets before allowing the occupants to enter.
- All safety equipment, machinery and tools are cleaned, repaired, and returned to their normal locations.
- All work areas are cleared and restored.
- Emergency responders and other key participants in the emergency are debriefed as soon as possible.
- Critical Incident Stress Debriefing (CISD) is quickly initiated whenever required.

Post Incident Manual Check
After an incident is resolved, this ERP must be reviewed for completeness. Any defaced or missing pages are reported to the manual coordinator and are replaced.

9.1 Response Demobilization

- Demobilize response equipment / supplies.
- Ensure all equipment is serviced and recalibrated.
- Ensure all equipment / supplies are replenished.
- Ensure the removal of any public notifications that may have been posted.
- Submit / collect all response incident / event logs and all other forms.
- Ensure all evacuees have been notified of the demobilization and have received assistance.
- Collect all claim forms from evacuees and submit to the Finance / Administration Section Chief to process.

9.2 Response Debriefing

- Complete response debriefing for all response teams.
- Submit, in writing, response findings and recommendations to the Incident Commander, which will be submitted to the EOC Director.

9.3 Critical Incident Stress Management (CISM)

An important part of any emergency response and post emergency wrap up is to set up a CISM program for all Pacific Canbriam Energy Limited personnel and affected residents that are directly involved in the emergency response within 72 hours following the incident.

After an emergency, company personnel should go through a critical incident stress debriefing. Personnel who responded to the emergency may have experienced one or more of the following:

- A death or serious injury of a co-worker, perhaps witnessed events that have left them very distressed and unable to cope with what they witnessed.
- Witnessed distressing sights (eg. casualties of co-workers or members of the public).
- Stress from pressures, responsibility overload, physical, mental, and emotional demands, limited resources, and high expectations from others.
- Extreme working conditions (eg. hazardous environments or weather conditions).

Company personnel may require assistance from mental health personnel to deal with what they are feeling after the emergency is over. Pacific Canbriam Energy Limited will ensure that all responders to the emergency are provided with the necessary medical or mental health treatment they require to deal with the stress of the emergency.

A CISM program will need to be made available to the affected residents / occupants of the HPZ as well as the EAZ (if applicable). Responders and the affected public should not be involved in the same CISM sessions.

9.4 Recovery Plans – Public

A comprehensive recovery plan will need to be developed and implemented to keep the public apprised of the recovery process and commence the rebuilding of public confidence.

Operations at Site

- A comprehensive recovery plan will need to be developed and implemented to return operations to the site, or to ensure that the site is safe.

Administrative

- Maintain site integrity through the use of roadblocks, rovers, and physical barriers
- Meet with company legal counsel
- File an insurance claim
- Meet with government agencies
- Log all persons entering / exiting the site on the *Incident Investigation Report*

9.5 Incident Investigation

All incidents, regardless of their severity, should be investigated. The purpose of investigations is to identify both the factors that contributed to an incident and the root causes behind those factors. For all incident investigations the *Incident Investigation Report* shall be completed.

The incident investigation entails a detailed review of the circumstances leading up to and including the incident. The investigation shall be initiated by the supervisor or manager and conducted with participation from all levels (including managers, supervisors, Health and Safety Committee members, and other workers who might bring specialized skills or knowledge to the investigation process) as soon as practicable. As well as documenting the basic and immediate causes, incident investigation requires a more in-depth review by identifying indirect contributing factors and root causes. Each incident investigation will be required to identify corrective action and a specific person responsible for follow-up and an associated timeline for completion. All reports and investigations should be reviewed and signed off by Senior Management upon completion and follow-up action has been taken to prevent a recurrence of the incident.

Do not disturb the scene of a reportable incident or injury unless photographic / video documentation has occurred, and:

- You have to attend to someone who has been injured or killed
- You have to take some action to prevent further injuries
- You have to protect property that is endangered as a result of the incident
- You have been given permission to do so by an Occupational Health and Safety Officer or a Peace Officer

In some cases, external agencies such as the RCMP, WCB, WorkSafe BC, BC Energy Regulator (BCER) and the Ministry of the Economy may be required to conduct their own investigations.

9.6 Recovery Demobilization

Recovery Demobilization should include procedures to:

- Demobilize recovery personnel.
- Demobilize recovery equipment / supplies.
- Submit / collect all incident / event logs and all other forms.

9.7 Recovery Debriefing

Complete recovery debriefing for all recovery teams and submit findings, recommendations, changes etc. to the EOC Director.

9.8 Recovery Reporting

- Pacific Canbriam Energy Limited will complete a report and file it with the BCER if they were notified of an incident.
- An *BCER Post Incident Report* must be completed and filed with the BCER within 60 days of the incident for a Level 1, 2 or 3 emergency or any level of incident involving a pipeline, including minor incidents.
- A detailed report will be prepared by Pacific Canbriam Energy Limited, which will evaluate the emergency control procedures. From this analysis, areas of weakness in the existing system will be identified. Recommendations for improvement in areas such as training, communications, logistic support, and established planning procedures, etc. will be implemented immediately in order to improve the capabilities for handling future emergency situations.
- A summary of this report should be prepared and sent to all affected residents in the area.

10.0 Training, Meetings and Exercises

Training, meetings, and exercises are essential elements of emergency preparedness. Conducting simulations, drills and meetings on a regularly scheduled basis is necessary to ensure proper personnel training in the ERP and proficiency in executing the ERP for a wide range of emergencies. They also ensure all equipment, maintenance, and usage programs are sufficient.

All aspects of the ERP are required to be exercised by drills and simulations at prescribed frequencies based on exposure, risk, and regulatory requirements. Periodic drills are the most effective method for keeping the ERP current and ensuring personnel are proficient in its use.

A wide range of emergency scenario situations are conducted to ensure a balanced and complete plan. Upgrading the ERP shall be a continuous process with the maximum number of plan upgrades resulting from periodic simulations / drills.

Pacific Canbriam Energy Limited managers and supervisors will work to ensure that personnel are able to attend mandatory scheduled drills, exercises, and ERP review meetings. More than one scheduled drill, exercise, or ERP review meeting may need to be held in order to accommodate personnel attendance.

10.1 Training

In order to demonstrate that response personnel are competent in the emergency response procedures Pacific Canbriam Energy Limited must provide training sessions to ensure that response personnel are competent in emergency response procedures. Records of those who attend a training session are to be kept for a period of 3 years.

Attendance at ERP Training
All personnel and contractors, who have a response role, should attend the training. Pacific Canbriam Energy Limited may invite disaster management representatives from the local authority, fire, police, and emergency medical services to participate as well.

Frequency of Training
- Initial ERP training when a new plan has been developed / implemented.
- Update ERP training when major changes have occurred to the ERP, for example:
  - Command structure or roles and responsibilities change.
  - Learned outcomes from a drill or exercise that result in changes to the ERP.
  - Changes in regulations and / or legislation.
- At the discretion of the Pacific Canbriam Energy Limited office.

New Employees / Contractors

New employees and / or contractors that commence work with Pacific Canbriam Energy Limited after the initial ERP Implementation Training has been held must also receive the same training within the first week of their employment. It is the responsibility of their immediate supervisor to review the ERP with them.

ERP Maintenance

The BCER requires companies to evaluate changes to the following items regularly and retain documentation that clearly shows the evaluation criteria used, results of the evaluation, and why an ERP was or was not updated.

- Company information.
- Mapping information.
- Resident contact information.
- Response staff or capacity changes.
- New facility additions, such as well or pipeline tie-ins.

Changes in information that are instrumental to implementing the ERP must be distributed to all required plan holders.

Environment & Climate Change Canada's (ECCC) *Environmental Emergency Plan* requires Pacific Canbriam Energy Limited to update this plan annually to ensure its contents are complete and accurate. For plans submitted to the Ministry, Pacific Canbriam Energy Limited is required to submit a notice that the required review and updates have been completed.

Pacific Canbriam Energy Limited shall be responsible for providing training to all response personnel in the following areas:

- Roles and responsibilities during an incident.
- General ERP familiarity.
- Public protection measures used during an emergency.
- Available communication methods.

The Environment & Climate Change Canada (ECCC) *Environmental Emergency Plan* requires this plan be tested annually and personnel who will be involved in the implementation of this plan be trained for their specific response roles. Training opportunities for responders may include ERP implementation sessions, ICS training, exercises, drills, and additional sessions pertaining to corporate policies and procedures.

10.2 ERP Exercises

Pacific Canbriam Energy Limited must conduct emergency response exercises annually for each operating area through the following types of exercises to promote emergency response preparedness:

- Administrative (tabletop or synthetic), combined with a communications exercise, held annually for each area ERP, except in a year where a major exercise is held.
- Major (full scale / full blown), once every three years for each area of the ERP.

In situations where Pacific Canbriam Energy Limited has multiple area ERPs with the same response personnel and infrastructure, the ERPs may be tested simultaneously through one exercise.

Pacific Canbriam Energy Limited is required to notify the BCER 30 days in advance of a scheduled exercise and invite representatives to participate or observe. Pacific Canbriam Energy Limited is required to develop a report of exercise results to be maintained for audit purposes. The report must contain the following information:

- Type of exercise held.
- Scope and objectives.
- Persons involved.
- Outcome (objectives achieved)
- Lessons learned.
- Action plan, including timelines.

Sour well ERPs do not require an exercise unless specifically requested by the BCER; however, Pacific Canbriam Energy Limited must review its ERP by conducting a meeting with key responders no more the 24 hours prior to conducting operations in the sour zone.

10.3 Exercise Design

Refer *to Section 4.10 Exercises* of *CAN / CSA-Z-Z246-2 – Emergency Preparedness and Response for Petroleum and Natural Gas Industry Systems* for further detail in exercise design.

An exercise is a simulation of an actual emergency. It enables responders to be trained properly by practicing their roles. When choosing an exercise, the exercise design team shall select one that will:

- Achieve the purpose of the emergency plan.
- Reinforce previous training (prior exercises).
- Ensure the exercise is straightforward enough that available resources are adequate but complicated enough to be challenging for the responders.
- Provide the maximum lessons to be learned.
- Be cost effective.

10.4 Types of Exercises

The type of exercise depends on the purpose of the training, the availability of personnel (and if applicable, local authorities and contracted service personnel) material resources, cost considerations, and the limitations surrounding the location of operations (eg. urban or rural).

Administrative - Tabletop Exercises

- Tabletop exercises shall be considered an intermediate step in a progressive exercise program.
- Usually, tabletop exercises are used when you want to introduce new personnel to the ERP, revise or replace an existing ERP, or create an opportunity to group problem solve.
- The exercise is commonly held in a conference room, free of the stress and time constraints of full scale exercises and normally run for several hours.
- Meetings to plan for the tabletop exercise include department heads of the various departments and / or groups within Pacific Canbriam Energy Limited, responding agencies (eg. safety company, air monitoring company, etc.), local authorities, and other oil / gas companies.
- The time frame surrounding the design of a tabletop exercise may take approximately one to two months.
- A final report on the outcome of the exercise needs to be completed and acted upon. Retention of the report for audit purposes is three years from the date of the exercise.

Administrative - Synthetic Exercises

- A synthetic exercise is a pre-programmed exercise in which all participants use electronic equipment (eg. computers).
- You may combine a portion of a synthetic exercise, for example, testing emergency response management software, with a tabletop exercise.

Communication Exercises

A communication exercise can be:

- Alerting Exercise – a fan out call to personnel.
- Emergency Operations Centre Exercise – interorganizational exercises are designed to test and develop communication among company departments. Communications include telephone lines, runners, radio phones, fax machines, computers, etc. Interorganizational exercises are designed to accommodate external responding agencies (eg. local authority, health authority, non-government organizations, etc.).
- Media Exercise – coordination with the media to disseminate factual information to the media.

Major (Full Field) Exercises

- Major exercises involve emergency response agencies, Pacific Canbriam Energy Limited, and the deployment of all resources required to test the plan. The exercise may involve only one, a few, or all of the following: police, fire, ambulance, regulatory agencies, municipal or other governments, and Pacific Canbriam Energy Limited.

- Major exercises are intended to provide a realistic simulation of an emergency response. A major exercise is similar to a tabletop exercise with the exception that all required resources are actually deployed.
- The design of a major exercise must take into account: cost of the exercise (not only to Pacific Canbriam Energy Limited, but also external agencies – meaning they need to budget for a major exercise plan), resources required internally and externally, safety of all personnel and any public members involved, exercise termination directives, notification of the exercise to everyone involved (eg. public, media, response agencies, regulatory authorities, etc.) and an emergency notification procedure in the event of an actual emergency during the exercise.
- The time frame surrounding the design of a major exercise could take up to a year to build a scenario, develop a budget and to design the exercise.
- A final report on the outcome of the exercise would need to be completed and acted upon. Retention of the report for audit purposes is three years from the date of the exercise.

10.5 Drills

A drill is taking specific components of the ERP and testing it. Examples of drills may include:
- Testing the Emergency Call Out System
- Testing the Roadblock Unit
- Testing the Logistics Section
- Fire Drill

A drill can be tested in the field or in an office setting. Documentation of the drill plan and report outcomes will need to be completed and acted upon. Retention of the report for audit purposes is three years from the date of the drill.

10.6 Post Exercise / Drill Discussion

- A post exercise / drill discussion must be completed immediately following an exercise or drill.
- Discussion and review by all personnel involved in the exercise / drill shall assist in assessing the results of the objectives.
- The discussion shall be led by either the appropriate management representative from Pacific Canbriam Energy Limited, or an exercise consultant.
- One or more documentation supervisors shall be available to document outcomes of the exercise / drill and a final report prepared.

10.7 Lessons Learned

- Lessons learned from exercises / drills are a valuable source of evaluated information and reference data for the emergency planning program.
- Any outcomes that necessitate change to the ERP will be submitted to the administrator of the ERP and the ERP updated appropriately.

- If additional training is required, Pacific Canbriam Energy Limited shall schedule the training.

10.8 Documentation

The Environment & Climate Change Canada (ECCC) *Environmental Emergency Plan* requires Pacific Canbriam Energy Limited to submit a notice to the Minister following any portion of this plan being tested along with any updates to the plan and certification that the information within this plan is current, accurate and complete. Not all plans are submitted to ECCC. A record of plan revisions and results from annual tests are to be kept on file by Pacific Canbriam Energy Limited for a period of seven years.

11.0 Assets and Equipment

The following information is a summary of area operations and equipment for Pacific Canbriam Energy Limited's operations in northeast BC. For specific information pertaining to each area, please refer to the appropriate area tab.

Pacific Canbriam Energy Limited currently operates assets in the following areas:

Current Operating Areas	CEPA Sites
Altares / Farrell Creek	
Kobes / Groundbirch	

11.1 Safety Equipment

During normal operations, all operators carry their own equipment as required by safety and emergency response plans. This equipment may include, but is not limited to the following:

- Communications equipment (cellular telephone or radio)
- Fire extinguishers
- First aid kits
- Handheld H_2S / SO_2 detector
- Flare gun and flares
- Roadblock equipment (barricade, orange vest, hard hat, reflective coveralls, gloves, personal H_2S monitor and flashlight)

Pacific Canbriam Energy Limited requires that all operators test equipment annually and that all personnel are trained on the safe and proper use of equipment.

The primary methods of communication will be cell phones and two-way radios. In an emergency situation, additional communication equipment (cellular and / or satellite phones and radios) will be provided to responders, including rovers, roadblock, reception centre and air monitoring personnel, as needed. Additional equipment can be acquired from local contracting companies. Refer to the appropriate area tab for more information.

Batteries are equipped with Emergency Shut Down Valves (ESDs), some of which are activated by a SCADA system and each facility is equipped with H_2S and LEL detectors, alarms, shut down equipment and automatic callouts on alarms with 24 hour monitoring.

Appendix 1 – Forms

Form #	Form Name	Completed/Used By	Completion Time
1	**ICS 201 Form**	First on scene Incident Commander	At the time of incident.
2	**ICS 202 Form**	Incident Commander	At the time of incident.
3	**Incident Report Form**	First on scene Incident Commander	At the time of incident.
4	**Incident/Event Log**	All responders	Throughout the incident.
5	**Incident Investigation Report**	Incident Commander Safety Officer	After the incident.
6	**Telephone Threat Report**	First on scene First to receive notification	At the time of incident.
7	**Environmental Monitoring Record**	Air Monitoring Leader Air Monitoring Unit	Throughout the incident.
8	**Motor Vehicle Incident Supplementary Report**	First on scene Incident Commander	At the time of incident.
9	**Suspect & Vehicle Identification Worksheet**	First on scene All responders	At the time of incident.
10	**Telephone/Evacuation Contact Log**	Telephone leader Telephoners	Throughout the incident.
11	**Reception Centre Registration Form**	Reception Centre Leader Reception Centre Members	Upon arrival of evacuees at the reception centre.
12	**Roadblock Registration Form**	Roadblock Leader Roadblock Unit	Throughout the incident.
13	**Roadblock Unit Cell Phone List**	Roadblock Leader	Throughout the incident.
14	**Daily Expense Claim Form**	Finance Chief All responders	Throughout the incident.
15	**Voluntary Evacuation Notification – Telephone Script**	Telephone Leader Telephoners	During a Level 1 Emergency as instructed.
16	**Mandatory Evacuation Notification – Telephone Script**	Telephone Leader Telephoners	During a Level 2 or 3 Emergency as instructed.

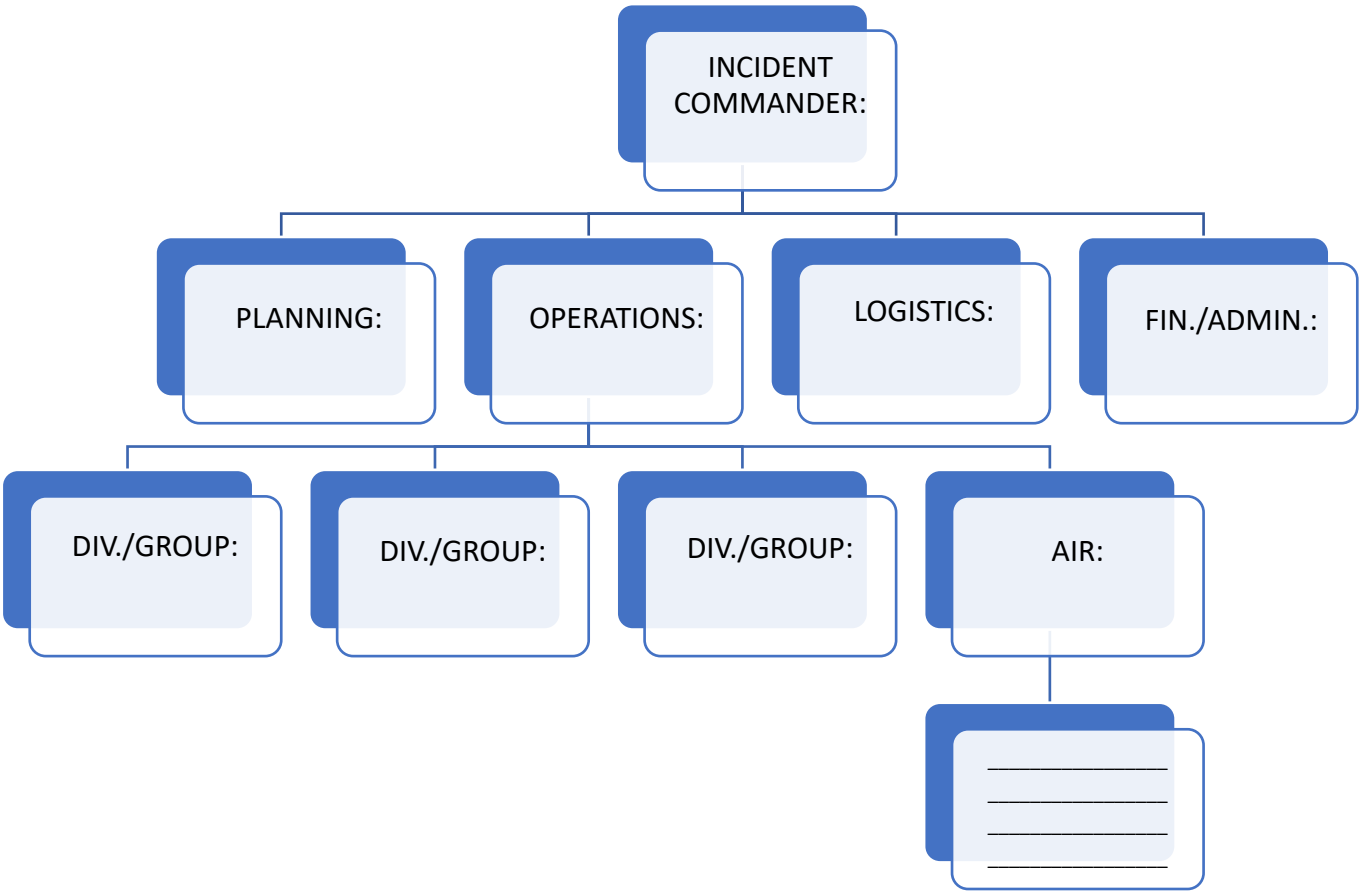
Form #	Form Name	Completed/Used By	Completion Time
17	**Resident Shelter Message Form**	Telephone Leader Telephoners	During a Level 1, 2 or 3 Emergency as instructed.
18	**Resident Warning Form**	Telephone Leader Telephoners	During a level 1 Emergency as instructed.
19	**Resident Evacuation Message Form**	Telephone Leader Telephoners	During a Level 2 or 3 Emergency as instructed.
20	**Transient Evacuation Message Form**	Telephone Leader Telephoners	During a Level 2 or 3 Emergency as instructed.
21	**Spill Report Form**	First on scene Incident Commander	At the time of incident.
22	**Hazard Assessment**	First on scene Incident Commander	After the incident.
23	**Empty Residence Notice**	Rover Leader Rover Unit	Throughout the incident.
24	**School Children Registration Record**	Reception Centre Leader Reception Centre Unit	Upon arrival of evacuees at Reception Centre.
25	**Preliminary Media Statement**	Information Officer Incident Commander	After Consultation with the BCER and EMCR.
26	**External Agency Post Incident Evaluation**	Liaison Officer Incident Commander	After the incident and all information has been collected.
27	**Form A: BCER Minor Incident Notification Form**	First on scene Incident Commander	Within 24 hours of the incident.
28	**Form C: BCER Emergency Incident Form**	First on scene Incident Commander	Within 1 hour of the incident.
29	**Form D: BCER Post Incident Report**	First on scene Incident Commander	Within 60 days of the incident.

ICS 201 FORM

INCIDENT BRIEFING	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED

4. MAP SKETCH

5. CURRENT ORGANIZATION



ICS 201	PAGE 1 OF 2	6. PREPARED BY (NAME & POSITION)

7. RESOURCES SUMMARY

RESOURCES ORDERED	RESOURCES IDENTIFICATION	ETA	ON SCENE ✓	LOCATION / ASSIGNMENT

8. PRIORITIES

1. LIFE SAFETY 2. ENVIRONMENT 3. PROPERTY 4. COMPANY REPUTATION

9. OBJECTIVES

1.

2.

3.

10. SUMMARY OF CURRENT ACTIONS

ICS 201	**PAGE 2 OF 2**	**11. SIGNATURE:**

ICS 202 FORM

INCIDENT OBJECTIVES	1. INCIDENT NAME	2. DATE	3. TIME

4. OPERATIONAL PERIOD (DATE/TIME)

5. GENERAL CONTROL OBJECTIVES FOR THE INCIDENT (INCLUDE ALTERNATIVES)

6. WEATHER FORECAST

7. GENERAL SAFETY MESSAGE

8. ATTACHMENTS (CHECK IF ATTACHED)

- ☐ Organization List (ICS 203)
- ☐ Medical Plan (ICS 206)
- ☐ _____
- ☐ Assignment List (ICS 204)
- ☐ Incident Map
- ☐ _____
- ☐ Communications Plan (ICS 205)
- ☐ Traffic Plan
- ☐ _____

9. PREPARED BY (PLANNING SECTION CHIEF)	10. APPROVED BY (INCIDENT COMMANDER)

INCIDENT REPORT FORM

CALLER INFORMATION

Reported by:	Tel:		Employer:
Location of Accident/Incident:			Call Back Phone # ( )
Incident Date:		Incident Time:	LSD:
Call Date:	Call Time:	Call Received by:	Tel:

Incident Occurred at: ❑ Company Facility ❑ Client Facility ❑ Company Employees Involved ❑ Contractors Involved

Directions to Facility:

INCIDENT INFORMATION (what happened?)

Incident Type

❑ Personal Injury	❑ Illness	❑ Environmental	❑ Spill/Release	❑ Product Mix
❑ Equipment Damage	❑ Security/Theft	❑ Property Damage	❑ Vehicle Incident	❑ Near Miss
❑ Fire/Explosion	❑ Operation Upset	❑ Contamination	❑ Material Loss	❑ Other
❑ H_2S Exposure	❑ Gas Release	❑ Chemical Exposure	❑ Third Party/Public Involved	

Work Activity/Task Being Completed at Time of Incident

Description of Incident

Injuries: ❑ Yes ❑ No ❑ Employees ❑ Contractors or ❑ Public ❑ Taken to Hospital? Where?

Name: Address: Tel:

Extent of Injuries:

Name: Address: Tel:

Extent of Injuries:

EMERGENCY INFORMATION

Description of Odour: ❑ Rotten Egg ❑ Gas ❑ Other Can you ❑ Hear or ❑ See a Gas Release?

Location is Near: ❑ Residences ❑ Town ❑ Recreational Area ❑ Road/Highway ❑ Other (name):

Any People in Immediate Danger? ❑ No ❑ Yes Emergency Response Plan Implemented? ❑ No ❑ Yes Time:

Is Incident Near a Water Course? ❑ No ❑ Yes: ❑ Creek ❑ River ❑ Lake ❑ Other (name):

Roadblocks in place? ❑ Yes ❑ No Evac Procedures Initiated? ❑ Yes ❑ No
Reception Centre Established? ❑ Yes ❑ No

Air Monitoring Initiated? ❑ No ❑ Yes Time: Initial Monitoring Results: (H_2S) PPM (SO_2) PPM

WEATHER CONDITIONS

Wind Direction: ❑ North ❑ South ❑ West ❑ East | Speed: Air Temp: Other:

AGENCIES CALLER HAS NOTIFIED (Document all calls on Emergency Actions Log)

Fire (tel):	County/District/Municipality (Disaster Services - Name):		Tel:
AER (name):	Tel:	AB. WCB (name):	Tel:
B.C. Oil/Gas Comm. (name):	Tel:	B.C. WCB (name):	Tel:
Sask. Energy/Mines (name):	Tel:	Sask. WCB (name):	Tel:
Other: (name):	Tel:	Other: (name):	Tel:

ACTION TAKEN and ADDITIONAL ACTION REQUIRED

What assistance has caller requested?

What have we advised we will do to assist?

What additional Company action is required? By Whom?

INCIDENT/EVENT LOG

FACILITY NAME & LOCATION: _____ **DATE:** _____

PREPARED BY: _____ **POSITION:** _____

Time	Call To (Name)	Call From (Name)	Telephone Number	Event/Action

Note: Document all key events, conversations, meetings, etc. on this form.

INCIDENT INVESTIGATION REPORT

Employer name:		**Employer WCB number:**	
Employer head office address:			

Incident occurred:			
Address where incident occurred:			
Date of incident:		**Time of incident:**	

Injured person(s):	Last Name	First Name	Job Title	Age	Duration of experience with this employer	Duration of experience at this task/job
1						
2						

Nature of injury/injuries

1	
2	

Witnesses

Last Name	First Name	Address	Telephone

Incident Description (briefly describe what happened, including the sequence of events preceding the incident)
Statement of Causes (list any unsafe conditions, acts or procedures that in any manner contributed to the incident)
Recommendations (identify any corrective actions that have been taken and any recommended actions to prevent similar incidents

Persons Conducting Investigation

Name	Signature	Type of Representative			Date
		Employer	Worker	Other	

INCIDENT INVESTIGATION REPORT							
First Name	**Last Name**	**Agency**	**Phone Number**	**Time In**	**Time Out**	**Documentation Checked?**	**Signature**

TELEPHONE THREAT REPORT

WHEN A THREAT IS RECEIVED:
Listen, carefully.
Be calm and courteous.
Do not interrupt the caller.
Obtain as much information as you can.
Notify Building Security or Police.
Immediately relay the information to your Supervisor and the RCMP.
QUESTIONS TO ASK:
When did / will this, happen? (time)
What does it look like? (if a bomb threat)
Where are you calling from?
What is your name?
Where is it placed? (if a bomb threat)
EXACT WORDING OF THREAT: ***(if possible, have caller REPEAT to avoid mistakes in message)***
IDENTIFYING CHARACTERISTICS:
Gender.
Estimated Age.
Accent (English, French, etc.).
Voice (loud, soft, etc.).
Speech (fast, slow, etc.).
Diction (good, nasal, lisp, etc.).
Manner (calm, emotional, vulgar, etc.).
Expressions (Unique such as “oil patch”).
Background noises.
Voice was familiar (specify).
Caller was familiar with area.
THREAT RECIPIENT’S PARTICULARS:
Name
Section/Branch/Department
Person to contact
Telephone
RECORDED DATA:

Date:	Time: am/pm	Duration of Call:
Recorded by:		

ENVIRONMENTAL MONITORING RECORD

Date: _____ Location of Emergency: _____

Location of Facility: _____ Monitoring/Roadblock Crew: _____

H_2S/SO_2 Measurement Technique: _____
(eg. Detector tube, Electronic monitor)

Prepared By: _____ Position: _____

Time (5 min intervals)	Temp	H_2S (ppm)	SO_2 (ppm)	LEL Level	Wind Direction	Wind Speed

∗Estimate meteorological conditions when accurate readings are not available. ∗

MOTOR VEHICLE INCIDENT SUPPLEMENTARY REPORT

Supplementary Report No.: _____ Reported By: _____

VEHICLE:

Employee: _____ Contractor: _____ Unit No.: _____ License No.: _____

Company Business: _____

DRIVER:

Employee: _____ Contractor: _____ Other: _____

Name: _____ Age: _____

Address: _____ Phone No.: _____

Accident Classification: Preventable: _____ Non-Preventable: _____

Vehicle Outcome Subtype No.: _____ If Pedestrian, at Crosswalk: _____

CONDITIONS:

Light: _____ Weather: _____ Road: _____ Traffic: _____

OTHER VEHICLE/ PROPERTY:

Year: _____ Make: _____ Model: _____ License: _____

Other: _____

OTHER DRIVER:

Name: _____ Phone No.: _____

Address: _____

Driver's License No.: _____ Registered Owner: _____

Insurance Company: _____ Policy No.: _____

POLICE:

Reported: _____ Name of Officer: _____

Liability Admitted: _____ ID No.: _____ Station/ Detachment: _____

WITNESSES:

Name: _____ Address: _____ Phone No.: _____

Name: _____ Address: _____ Phone No.: _____

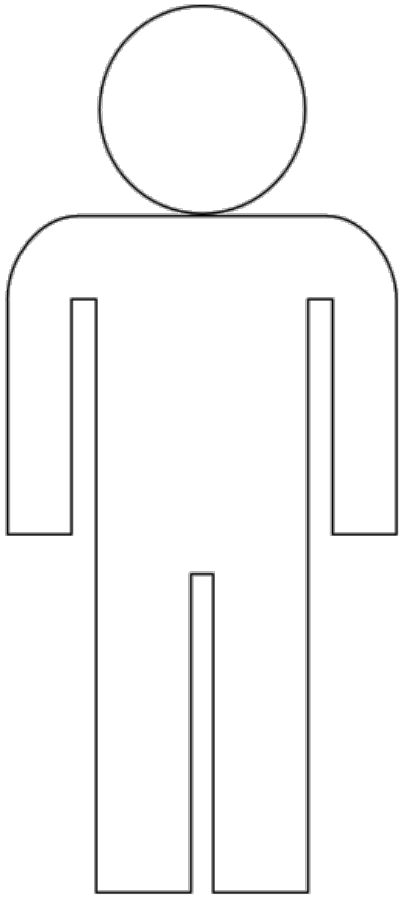
INJURIES:

Name: _____ Address: _____ Phone No.: _____

Name: _____ Address: _____ Phone No.: _____

SUSPECT & VEHICLE IDENTIFICATION WORKSHEET

Gender	Age	Height	Weight	Race
☐ Male ☐ Female				

Hair	**General Appearance**	Hat
Eyes		Coat
Complexion		Shirt
Jewellery		Trousers
Scars/Marks		Shoes
Tattoos		Tie

Facial Appearance	Write below specific facial details that you definitely remember.
Skin/Hair Colour	
Hair Style	
Hair Texture	
Ear Size and Shape	What did the suspect say?
Shape of Eyebrow	
Size/Shape of Eye	
Cheeks (full/sunken)	Tool or weapon seen?
Mouth and Lips	
Moustache or Beard	

Vehicle Information

Colour	Make	Model	License #
Body Style		Damage/Rust	
Antenna	Bumper Sticker	Wheel Covers	
Additional Information			

TELEPHONE/EVACUATION CONTACT LOG

Prepared By: _____ **Date:** _____

Name (List All Persons In The Residence)	**Map Number**	**Contact Time**	**Transportation Or Other Assistance Required**	**Comments** (If not going directly to Reception Centre, give contact number where you can be reached.)

RECEPTION CENTRE REGISTRATION FORM

Prepared By: _____ **Date:** _____

Name (List all persons in the residence)	**Map Number**	**Check in Time**	**Location & Telephone Number** (where they can be reached)	**Comments**

ROADBLOCK REGISTRATION FORM

Prepared By: _____ **Date:** _____

Vehicle Type and License Number	Name Of Driver	Number of Passengers	Time Entering HPZ	Time Exiting HPZ	Comments

Note: Instruct all residents exiting the HPZ to check in at the Reception Centre

ROADBLOCK UNIT CELL PHONE LIST			
Roadblock Unit	**Roadblock Location**	**Cell Phone Numbers**	**Comments**
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

DAILY EXPENSE CLAIM FORM

Incident Location: _____

Name: _____ Date: _____

Address: _____

Location of residences, business, etc: _____

_____

_____

_____

_____

Phone (Residence): _____ While Evacuated: _____

Address (while evacuated): _____

Expenses (please attach receipts): _____

Accommodation (if not pre-arranged): _____

Meals (if not pre-arranged): _____

Transportation (kilometres @ $ /km): _____

Other reasonable daily expenses: _____

_____

_____

_____

_____

_____

Total: _____

Company Contact: _____ Phone: _____

Submitted by: _____

VOLUNTARY EVACUATION NOTIFICATION – TELEPHONE SCRIPT

Date: _____ **Time Posted:** _____

Hello, this is _____ calling Behr Oil and Gas

Is this the _____ at _____*?*

Behr Oil and Gas is responding to a (potential) <*well/pipeline/facility*> emergency at the _____ location and we may ask you to evacuate the area if the difficulties are not rectified.

If you wish, you may evacuate at this time and proceed to Reception Centre located at _____.

When you arrive at the Reception Centre, please check in with the Reception Centre Unit Leader to register and await further instructions.

If you are not evacuating, please remain near the telephone or provide me with a new number where you may be reached: _____.

Do you understand these instructions? _____.

We will call you again and keep you apprised of the situation.

Is there anything that we need to be aware of in regard to your family, your livestock/pets and/or your property, with a possible evacuation?

Is there any matter that we can provide assistance to you?

Thank you for your patience and understanding. If you have any questions or concerns please contact _____ at _____.

Do you understand these instructions?

If you have urgent questions, call me at _____.

MANDATORY EVACUATION NOTIFICATION – TELEPHONE SCRIPT

Date: _____ **Time Posted:** _____

Hello, this is _____ calling from Behr Oil and Gas

Is this the _____ at _____?

I am calling to advise you that we are encountering additional difficulties at our _____ location.

For your safety please evacuate to the Reception Centre located at _____.

When you arrive at the Reception Centre, please check in with the Reception Centre Unit Leader to register and await further instructions.

Do you require assistance to evacuate?

How many people are presently at your house?

Do you understand these instructions? _____.

Is there anything that we need to be aware of in regard to your family, your livestock/pets and/or your property, with a possible evacuation?

Is there any matter that we can provide assistance to you?

Thank you for your patience and understanding. If you have any questions or concerns, please contact _____ at _____.

RESIDENT SHELTER MESSAGE FORM

Note: Record all pertinent information using the <u>Telephone/Evacuation Contact Log</u>

Mr., Mrs., Miss, _____ this is _____ of Behr Oil and Gas calling to inform you that we have a problem at our nearby facility that may result in a sour gas release. You are in no immediate danger; however, we are calling as a precautionary measure to inform you of the situation.

How many people are at your home right now?_____

Is there anyone outside that you cannot contact easily? _____ Yes _____No

*(If **YES** determine the location of anyone outside and assure the resident you will send someone to find them as soon as possible.)*

Please:

- Immediately gather everyone indoors and stay there.
- Close and lock all windows and outside doors.
- Extinguish indoor wood burning fires.
- Turn off appliances or equipment that either:
  - Blows out or uses indoor air such as: bathroom and kitchen fans, built in vacuum systems, clothes dryers, gas fireplaces and gas stoves.
  - Sucks in outside air, such as: heating ventilation and air conditioning (HVAC) systems for apartments, commercial or public facilities, fans for heat recovery ventilators or energy recovery ventilators (HVR / ERV).
- Turn down thermostats to the minimum and turn off air conditioners.
- Leave all inside doors open.
- Avoid using the telephone, except for emergencies, so that emergency personnel can contact you. Notify us if you are experiencing symptoms or smelling odours so that we can address your concerns and adjust our response or if you have contacted emergency services (fire / police / ambulance) so that we can conduct a coordinated response.
- Stay tuned to local radio and television for possible information updates.
- Even if you see people outside, do not leave until told to do so.
- After the hazardous substance has passed through the area you will receive an “all clear” message from emergency response personnel along with instructions to ventilate your building by opening all windows and doors, turning on fans and turning up thermostats.
- Once the building is ventilated, return all equipment to normal.
- If you are unable to follow these instructions, please notify us..

My name is_____ and my telephone number is _____.

Do you understand these instructions? Thank you for your cooperation.

Note: If the resident is determined to leave when you are recommending shelter, calmly explain that it is more hazardous to evacuate because the indoor concentrations will be significantly lower than outdoor levels.

RESIDENT WARNING FORM

Note: Record all pertinent information using the <u>Telephone/Evacuation Contact Log</u>

Level 1 Emergency Notification Message

Mr., Mrs., Miss, _____ this is _____ of Behr Oil and Gas calling to inform you that we have a problem at our nearby _____ that may result in a sour gas release. You are in no immediate danger; however, we are calling as a precautionary measure to inform you of the situation.

Do you wish to leave your residence/place of business at this time?

IF YES: (person wishes to leave)

How many people are at your residence/place of business?

Do you require transportation or assistance?

YES

Instruct person to stay indoors and a company vehicle will be sent immediately to assist.

Thank you for your cooperation.

NO

Please take the (north, south, east, west) direction to exit the area as this will take you out by the safest route (specify a route which does not take the person closer to, or downwind of, the incident site)

Instruct evacuees to check in with the company representative at the appropriate Reception Centre who will make arrangements for their temporary accommodations and address any questions they may have.

Thank you for your cooperation.

IF NO

Please standby for further contact. Please do not use your telephone for outgoing calls as this may prevent us from contacting others in the area, or contacting you again if the problem becomes worse or when it is eliminated.

Thank you for your cooperation.

Note: If evacuees do not wish to report to the Reception Centre, ask evacuees to tell you where they are going and at what phone number they can be reached.

RESIDENT EVACUATION MESSAGE FORM

Note: Record all pertinent information using the Telephone/Evacuation Contact Log

Level 2 or 3 Emergency Evacuation Message

Mr., Mrs., Miss, _____, this is _____of Behr Oil and Gas calling to inform you that we have a serious problem at our nearby facility that has resulted in a harmful release of sour gas. You are in no immediate danger; however, as a safety precaution we request that you evacuate your premises immediately.

Do you require transportation or assistance?

YES

1. For how many?
2. Is anyone outside on the property who you cannot easily contact? (If yes, determine their location and assure the resident you will send someone to notify them.)
3. Please stay indoors and company will send a vehicle immediately.
4. You will be taken to the Reception Centre at _____ where a company will address any concerns you may have and will make arrangements for your temporary accommodations.

   Thank you very much for your cooperation.

Please do not use your telephone for out going calls as this may prevent us from contacting others in the area. A telephone will be made available your use at the Reception Centre.
Thank you very much for your cooperation.

NO

1. Please take the (north, south, east, west) direction to exit the area as this will take you out by the safest route (specify a route which does not take the person closer to, or downwind of, the incident site).
2. Please check in with the company at the Reception Centre to confirm that you have left the area safely.
3. Note: Ask evacuees to tell you where they are going and at what phone number they can be reached if they do not intend to check in at the Reception Centre.
4. The company will address any questions you may have and will make arrangements for your temporary accommodations (as necessary).

   Thank you very much for your cooperation.

ATTENTION

The _____ is experiencing an emergency situation. A Level _____ Emergency may/can be hazardous to people. Presently the wind direction is _____ from the affected site.

The gas is extremely ☐ poisonous ☐ explosive.

Please evacuate immediately to the Reception Centre located at the _____.

Please check in with a company representative once you have arrived and wait for officials to approve your return to the area.

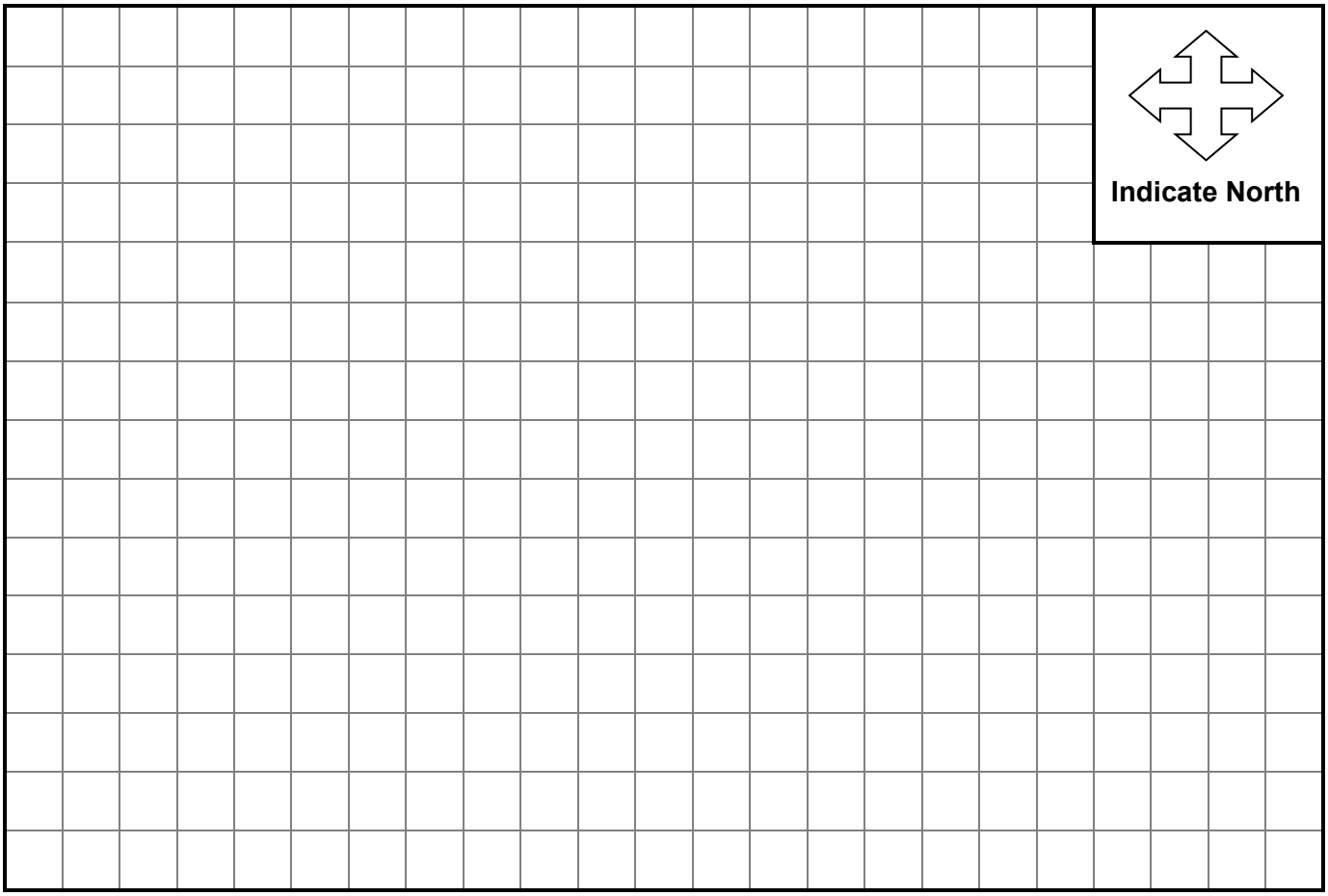
SPILL REPORT FORM

Date:	Time (am/pm):	Legal Description:	
Reporters Name:		Telephone Number:	
Have any other agencies been notified? Yes ☐ No ☐		Specify:	
Size of Spill (cubic meters/barrels)	or Length (m):	Width (m):	Depth (m):
Has the spill migrated beyond the ROW or lease boundaries? Yes ☐ No ☐		Wind Direction:	Temp:
Land Owner's Name:		Telephone Number:	
Describe the area of the incident:			
WELL RELATED SPILL			
Well Type:			
Cause:			
PIPELINE RELATED SPILL			
Pipeline Type:		Segment (where spill occurred):	
Cause:			
FACILITY RELATED SPILL			
Facility Type:		Equipment Type:	
Cause:			
MISCELLANEOUS SPILL (If related to vehicular accident complete Motor Vehicle Incident Supplementary Report)			
LAND SPILL			
Samples Taken? Yes ☐ No ☐			
Soil Texture (sandy loam, loam, silty loam, clay, silty clay):		Soil Permeability (fast, moderate, slow, impermeable):	
Soil Structure (dispersed, normal):	Surrounding Topography (flat, hilly, undulating, etc.):	Vegetation Present:	
Land Use Designation (critical wildlife area, forest, wooded, agricultural, marsh, wetland):		Are any wildlife/livestock in danger?	
WATER SPILL			
Name of watercourse entered:			
Flowrate of the river (slow, moderate, fast):		Is river above normal flow levels? Yes ☐ No ☐	
Is the river frozen, or partially frozen? Yes ☐ No ☐		Has spill migrated to the shoreline? Yes ☐ No ☐	
What is the closest Control Point?:			
Other Comments:			

Spill Report Form continued on next page.

SPILL REPORT FORM CONTINUED
Containment and Recovery: Describe the spill containment and recovery procedures being implemented.

Site Drawing:



On Site Drawing, indicate: waterways, access roads, ROW, slope, pipeline location, test holes, fences, etc.

HAZARD ASSESSMENT

Project # _____

HAZARD ID ☐ NEAR MISS ☐ UNSAFE ACT ☐ POSITIVE REC ☐

Date:_____

Describe the Situation: (who, what, where, when, how):

Worker Name:_____ Signature:_____

Hazard Control Action Plan **(what, how, and who implements required corrective action plan)**

Risk Level		
Level 1	Minimum Risk	Proceed after considering all elements of risk
Level 2	Moderate Risk	Continue after taking action to manage overall level of risk
Level 3	High Risk - Stop	Do not proceed until sufficient control measures have been implemented to reduce risk to an acceptable level.
Supervisor Signature:_____		Date Completed: _____

What to Report	
Report situations that are not up to standard expected in Behr Oil and Gas operations.	
Near Miss:	An incident or occurrence that, under slightly different circumstances, could have resulted in more serious consequences.
Hazard ID:	A condition that, if left uncorrected, could result in an injury, equipment damage, environmental incident, product loss or regulatory infraction.
Unsafe Act:	An Action that could have resulted in an injury, equipment damage, environmental procedure, inappropriate "short cuts', improper PPE, eyes or mind not-on-job, worker complacency, personnel in line of fire, improper positioning, grip or traction, careless driving, etc.

EMPTY RESIDENCE NOTICE

Behr Oil and Gas has encountered a well/pipeline control problem at the _____ location. We feel, under the circumstances, that you should evacuate the area until the problem has been corrected. Please proceed immediately to the Reception Centre located at the _____ where company representatives will address your questions or concerns.

For assistance call: _____

Signed by: _____
Behr Oil and Gas Representative

Date: _____

Time: _____

SCHOOL CHILDREN REGISTRATION RECORD

FIELD AREA: _____ **PREPARED BY:** _____ **DATE (YY/MM/DD):** _____

EVACUATION CENTRE: _____

School Child's Name	Map Number	School Name	Arrival Time	Departure Time	Destination Phone #	Comments

Note: Schools will be contacted to verify student attendance and advised to hold the children prior to releasing them to a school bus. Confirmation of whether students will be picked up by their parents or whether they should be transported to the Reception Centre to meet them. This form can be used the Telephone Unit and the Reception Centre Unit. Schools should be re-contacted to verify that the children were picked up by their parents.

PRELIMINARY MEDIA STATEMENT

At _____ on _____ a(n) _____ occurred at
(Time) (Date) (Fire/Explosion/Gas Release/Oil Spill)

the _____ location, located approximately ____ kilometres from
(Well/Pipeline/Facility)

_____.
(Urban Centre)

The _____ has been _____ and emergency responders for
(Well/Pipeline/Facility) (Status)

Behr Oil and Gas, Local Authorities, Emergency Management and Climate Readiness (EMCR) and the BC Energy Regulator are directing emergency procedures.

The cause of the _____ is not yet known and no estimate of
(Fire/Explosion/Gas Release/Oil Spill)

damage is available.

Public Affairs personnel are available for more details. Please contact

_____ at _____ or at _____.
(Public Information Officer) (Contact Number) (Alternate Contact Number)

EXTERNAL AGENCY POST INCIDENT EVALUATION

Department/Agency:	Telephone:
Representative:	Title:
Incident Location:	
Type of Emergency:	# of Staff Involved:
Duration:	Total # of man hours dedicated to response:

Other resources used (monitoring units, aircraft, buses, etc.):

What worked well during the response?

Areas of improvement?

What was the role of your department/agency during the response?

Was your department/agency able to respond effectively?	Yes ☐ No ☐
Would additional training with company personnel be beneficial?	Yes ☐ No ☐
Do you have a copy of the company's Emergency Response Plan?	Yes ☐ No ☐
If not, do you think a copy would be beneficial?	Yes ☐ No ☐

Please return this form, your business card, and any comments to our main office.

BRITISH COLUMBIA ENERGY REGULATOR

FORM A:
MINOR INCIDENT NOTIFICATION FORM

Physical Address: 6534 Airport Road,
Fort St. John, B.C. V1J 4M6
Mailing Address: Bag 2, Fort St. John,
B.C. V1J 2B0
Phone: (250) 794-5200
emp@bc-er.ca

This form is to be used for incidents which do not meet BCER Level 1, 2, or 3 Classification

*Minor incidents must be reported to the Regulator within **24** hours through the Regulator's Online Minor Incident Reporting System, operated through KERMIT.*

MISCELLANEOUS INFORMATION	**A**
Risk Score: (attach risk matrix)	DGIR #:
Incident Date (YYYY-MM-DD):	Incident Time (24 hour clock): ☐ PST ☐ MST

INFORMATION OF PERSON REPORTING INCIDENT	**B**
Permit holder Name:	Reported by (name):
Phone Number:	Alternate Number:
E-mail:	Fax Number:

INCIDENT DETAILS	**C**

SITE TYPE		**D**
Select only one type.		
☐ Well (Active)	☐ Well (Abandoned/Suspended)	☐ Remote Sump
☐ Battery/Plant/Facility	☐ Tank Farm/Storage	☐ Pipeline
☐ Riser (pipeline)	☐ Well (Drilling & Completions):	Rig Name:
☐ Road or Road Structure: Name:		Location on road:
☐ Other (specify):		

INCIDENT TYPE			E
Check all that apply.			
☐ Spill (Gas, liquid, solid) If yes to leak or spill, contact EMBC.	☐ Fire/Explosion	☐ Drilling Kick	
☐ Security (theft, threat, sabotage, terrorism)	☐ Induced Seismicity	☐ Well Bore Communication	
☐ Pipeline Boring	☐ Vehicle	☐ Equipment/Structural Damage	
☐ Other: Specify:			

ACTIVITY			F
Check all that apply.			
☐ Construction (road, lease, pipeline, facility)	☐ Drilling / Exploration	☐ Waste Management	
☐ Processing (natural gas, petroleum liquids, other)	☐ Well Fracturing	☐ Servicing	
☐ Repair	☐ Flaring (emergency)	☐ Well Testing	
☐ Pressure testing	☐ Transportation		
☐ Other: Specify:			

CONSEQUENCE OR IMPACTS		N/A ☐	G
Check all that apply. If none, select N / A.			
☐ Worker Safety (injuries)	☐ Property (government, public, private)	☐ Economic (loss of and / or damage to equipment or infrastructure, loss of production, work stoppage)	
☐ Other Specify:			

ASSETS	H
GEOPHYSICAL PROGRAM (A UTM location must be filled out in the Location Section)	
Geophysical #: / Program Name:	
Client Name:	
SITE (On lease equipment, wells, or facilities) Fill information in for asset with incident.	
Location of asset: NTS ____ - ____ - ____ / ____ - ____ - ____ or DLS ____ , SEC ____ , TWP ____ , RGE ____ W6M	
BCER Site #: / Well #: / Facility #:	
Site Detail (on lease equipment):	
PROJECT (PIPELINES) (A UTM location must be filled out in the Location Section)	
Project Location: NTS From ____ - ____ - ____ / ____ - ____ - ____ NTS To ____ - ____ - ____ / ____ - ____ - ____ or DLS From ____ , SEC ____ , TWP ____ , RGE ____ W6M DLS To ____ , SEC ____ , TWP ____ , RGE ____ W6M	
Project # / Pipeline Segment #	
Pipeline Installation ID#: / Installation Type:	

OTHER LOCATION
Any asset that does not apply to above such as a road, remote sump, borrow pit, etc.
(A UTM location must be filled out in the Location Section.)

Location Type:	Location Description :

LOCATION

Location of asset: NTS _____ - _____ - _____ / _____ - _____ - _____

or

DLS _____ , SEC _____ , TWP _____ , RGE _____ W6M

UTM (NAD 83): m easting m northing

GPS: Latitude: Longitude:

AREA INFORMATION | I

Land Type: ☐ Private Land ☐ Crown Land	Field Name:

Access: ☐ ATV ☐ Helicopter ☐ Four-wheel-drive ☐ Two-wheel-drive ☐ Unknown

Name of road the asset is located on:

Km where the incident occurred:

Distance to nearest residence/public facility:	Nearest City/Town/Public Camp:

CAUSE | J

Check all that apply.

☐ Third Party	☐ Manufacturing Defect
☐ Corrosion (internal, external)	☐ Employee (negligence, procedural, behavioural)
☐ Natural (weather, flood, fire)	☐ Failure (materials, mechanical, equipment, system)
☐ Geological	☐ Over Pressuring Equipment

☐ Unknown at this time Explain:

☐ Other Factors (specify):

CAUSE/REMEDIAL ACTIONS | K

Describe the cause and remedial actions in more detail:

WEATHER | L

Weather Conditions:	☐ clear				☐ cloudy			
	☐ other (specify):							
Wind Direction: From:	☐ N	☐ NE	☐ NW	☐ E	☐ SE	☐ S	☐ SW	☐ W
Wind Strength:	☐ calm		☐ moderate		☐ strong		☐ gusty	

Temperature: °C

Comments:

NOTIFICATION		N
What government agencies has the permit holder notified:		
☐ EMCR	☐ Ministry of Environment and Climate Change Strategy	☐ Ministry of Transportation and Infrastructure
☐ Public Works	☐ WorkSafe BC	☐ Local Health Authority
☐ Regional/Municipal Authority	☐ RCMP	☐ Ministry of Forest
☐ Canada Energy Regulator (CER)	☐ Other (specify):	

INFORMATION FOR SPILLS ONLY		O
Is spill off lease? ☐ Yes ☐ No		
Spill Material Type:		
☐ Acid	☐ Emulsion (oil, gas, water)	
☐ Fresh Water	☐ Liquid Hydrogen (crude, oil, diesel, fuel)	
☐ Methanol	☐ Non-Toxic Gases (Nitrogen, Carbon Dioxide, Inert Gases)	
☐ Non Toxic Liquids	☐ Salt Water	
☐ Sour Natural Gas	☐ Sour Liquid < 1% only H2S)	
☐ Sweet Natural Gas	☐ Toxic Gas	
☐ Toxic Liquid (>1% different toxins)	☐ Other (specify):	
Amount Spilled:	**bbl** ☐ **m³** ☐ **litre** ☐	
Does Material contain any H2S? ☐ Yes	☐ No ☐ Unknown ☐ N/A	
If Yes, how much?	ppm	
Has spill been cleaned up? ☐ Yes ☐ No ☐ N/A		
Date of Clean Up/Proposed Clean Up:	(mmm dd, yyyy) if applicable	
Estimated Cost of clean-up: $	if applicable	

PERMIT HOLDER POST INCIDENT REPORT		P
PLEASE NOTE: "All incidents involving a pipeline must submit a Form D: Permit Holder Post Incident Report Form within 60 days by email to EMP@bc-er.ca. A Permit Holder Post Incident Report Form may be required to be submitted for other minor incidents upon request by a BCER employee." The form can be found on the Regulator's website.		
Permit Holder Post Incident Report Required:	☐ Yes	☐ No

BRITISH COLUMBIA ENERGY REGULATOR

FORM C:
EMERGENCY INCIDENT FORM

Physical Address: 6534 Airport Road,
Fort St. John, B.C. V1J 4M6
Mailing Address: Bag 2, Fort St. John,
B.C. V1J 2B0
Phone: (250) 794-5200
emp@bc-er.ca

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

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

BCER 24 Hour Emergency Number: 250.794.5200

EMCR 24 Hour Emergency Number 1.800.663.3456

MISCELLANEOUS INFORMATION		
DGIR #:	Ledger Number:	Kermit Number:
Incident Date (YYYY-MM-DD):	Incident Time (24 hour clock): ☐ PST ☐ MST	
Received Date (YYYY-MM-DD):	Received Time (24 hour clock): ☐ PST ☐ MST	
INFORMATION OF PERSON REPORTING INCIDENT		
Permit holder Name:	Reported by (name):	
Phone Number:	Alternate Number:	
E-mail:	Fax Number:	
INCIDENT DETAILS		

Updated: 28-Nov-2023
Effective: 28-Nov-2023

LEVEL OF EMERGENCY				
Risk Score:	(attach risk matrix)	☐ Level 1	☐ Level 2	☐ Level 3
☐ Informed company they must contact the BCER to downgrade or stand down the level.				

SITE TYPE (Select one only)		
Select only one type.		
☐ Well (Active)	☐ Well (Abandoned/Suspended)	☐ Remote Sump
☐ Well (Drilling & Completions)	Rig Name:	
☐ Battery/Plant/Facility	☐ Tank Farm/Storage	☐ Pipeline
☐ Riser (pipeline)		
☐ Road or Road Structure: Name:	Location on road:	
☐ Other (specify):		

INCIDENT TYPE (check all that apply)		
☐ Spill (releases and discharges)	☐ Fire/Explosion	☐ Drilling Kick
☐ Worker Injury	☐ Security (theft, threat, sabotage, terrorism)	☐ Induced Seismicity
☐ Well Bore Communication	☐ Pipeline Boring	☐ Vehicle
☐ Equipment/Structural Damage	☐ Other: Specify:	

ACTIVITY (check all that apply)		
☐ Construction (road, lease, pipeline, facility)	☐ Drilling/Exploration	☐ Waste Management
☐ Processing (natural gas, petroleum liquids, other)	☐ Well Fracturing	☐ Servicing
☐ Repair	☐ Flaring (emergency)	☐ Well Testing
☐ Pressure testing	☐ Transportation	
☐ Other: Specify:		

CONSEQUENCE OR IMPACTS (check all that apply) (If none, leave blank)	
☐ Worker Safety (fatality, injuries)	☐ Property (government, public, private)
☐ Economic (loss of and/or damage to equipment or infrastructure, loss of production, work stoppage)	
☐ Other Specify:	

AREA INFORMATION					
Land Type: ☐ Private Land	☐ Crown Land	Field Name:			
Area Type: ☐ Forest	☐ Muskeg	☐ Farmland	☐ Residential	☐ Other	
Access: ☐ ATV	☐ Helicopter	☐ Four-wheel-drive	☐ Two-wheel-drive	☐ Unknown	
Name of road the asset is located on:					
Km where the incident occurred:					
Distance to nearest residence/public facility:		Nearest City/Town/Public Camp:			

CAUSE (check all that apply)	
☐ Third Party	☐ Manufacturing Defect
☐ Corrosion (internal, external)	☐ Employee (negligence, procedural, behavioural)
☐ Natural (weather, flood, fire)	☐ Failure (materials, mechanical, equipment, system)
☐ Geological	☐ Over Pressuring Equipment
☐ Unknown at this time Explain:	
☐ Other Factors (specify):	

CAUSE/REMEDIAL ACTIONS
Describe the cause and **remedial actions** in more detail:

WEATHER								
Weather Conditions:	☐ clear			☐ cloudy				
	☐ other (specify):							
Wind Direction: From:	☐ N	☐ NE	☐ NW	☐ E	☐ SE	☐ S	☐ SW	☐ W
Wind Strength:	☐ calm		☐ moderate		☐ strong		☐ gusty	
Temperature:	°C							
Comments:								

PUBLIC INJURIES / MEDICAL EMERGENCIES		
☐ First Aid	☐ Hospitalization	☐ Fatality
☐ Other (specify):		

NOTIFICATION		
What government agencies has the permit holder notified:		
☐ EMCR	☐ Ministry of Environment	☐ Ministry of Transportation
☐ Public Works	☐ WorkSafeBC	☐ Local Health Authority
☐ Regional/Municipal Authority	☐ RCMP	☐ Ministry of Forest
☐ Canada Energy Regulator (CER)	☐ Other (specify):	
Permit Holder Instructed to call:		

MATERIAL INFORMATION	
Is spill off lease? ☐ Yes ☐ No	
Spill Material Type:	
☐ Acid	☐ Emulsion (oil, gas, water)
☐ Fresh Water	☐ Liquid Hydrogen (crude, oil, diesel, fuel)
☐ Methanol	☐ Non-Toxic Gases (Nitrogen, Carbon Dioxide, Inert Gases)
☐ Non Toxic Liquids	☐ Salt Water
☐ Sour Natural Gas	☐ Sour Liquid < 1% only H2S)
☐ Sweet Natural Gas	☐ Toxic Gas
☐ Toxic Liquid (>1% different toxins)	☐ Other (specify):

GAS				
Does material contain any H2S?	☐ Yes	☐ No	☐ Unknown	☐ N/A
If Yes, how much?	ppm			
Gas Rate:	10^3m^33d or mmcfd	Gas Volume:		10^3m^3 or mmscf
Can you hear/smell gas?	☐ Yes	☐ No	Propane/NGLs/LPSs?	☐ Yes ☐ No

LIQUID				
Does material contain any H2S? (Oil, water, condensate)	☐ Yes	☐ No	☐ Unknown	☐ N/A
If Yes, how much?	ppm			
Liquid Rate:	m^3/d or BPD	Liquid Volume:		m3 or bbls or litres
Other (Describe):				
Has spill been cleaned up?	☐ Yes	☐ No	☐ N/A	
Date of Clean Up/Proposed Clean Up:		(mmm dd, yyyy)		
Estimated Cost of clean-up: $				

SAFETY ISSUES			
Emergency Planning Zone Size:	km		
Are responders in danger?	☐ Unknown	☐ No	☐ Yes
Are public in danger?	☐ Unknown	☐ No	☐ Yes
First Nations Band Affected?	☐ No	☐ Yes	
Name of Band:			
Public safety actions taken:			
☐ Evacuation ☐ Sheltering	**(Instruct Permit holder to contact Local Authority)**		
☐ Roadblocks ☐ Do you need or do you have a Closure Order? **(Instruct Permit holder to contact MOT up to mile 82 on Alaska Highway or Public Works from 82 north on Alaska highway for any public roads, and the BCER for Petroleum Development Resource roads, or Ministry of Forestry for forestry roads)**			
☐ Do you need or do you have a NOTAM?			
☐ Have you conducted a Transient Survey?			
☐ Any Media Releases must be done in conjunction with BCER			
☐ Have you or do you need to dispatch a Mobile Air Quality Monitoring **(Instruct Permit holder to contact Health Authority if public are involved)**			
☐ Have you or will you need to Ignite?			
☐ Have you notified all tenure holders? Non-resident landowners/Trappers/Guide-Outfitters/Range Allotments/ Grazing Lease			

ASSETS	
GEOPHYSICAL PROGRAM (A UTM location is required)	
Geophysical #:	Program Name:
Client Name:	
UTM (NAD 83): _____ m easting _____ m northing	
(Place on the program that incident happened REQUIRED)	
SITE (On lease equipment, wells, or facilities) Fill information in for asset with incident.	
Location of asset: NTS _____ - _____ - _____ / _____ - _____ - _____ or DLS _____ , SEC _____ , TWP _____ , RGE _____ W6M	
BCER Site #:	Site Detail (on lease equipment):

WELL			
Well Authorization #:		Status of Well:	
Depth/Perforation:	m KB	Wellbore Fluid Density:	kg/m3
Pit Gain	m	Kill Fluid Density	kg/m^3
*SIDPP/SITP	kPa	*SICP	kPa
*RSPP	kPa	Equipment:	
Operating Pressure:	kPa	Shut In Pressure:	kPa
*SIDPP – Shut in Drill Pipe Pressure/SITP – Shut in Tubing Pressure/SICP – Shut in Casing Pressure/RSPP – Reduced Speed Pump Pressure			
FACILITIES			
BCER Facility Code #:		Equipment on Site:	
Design Capacity:		Actual Throughput:	
Operating Pressure:		Operating Temperature:	
PROJECT (PIPELINES) (A UTM location is required)			
Project Location: NTS From _____ - _____ - _____ / _____ - _____ - _____ NTS To _____ - _____ - _____ / _____ - _____ - _____ or DLS From _____ , SEC _____ , TWP _____ , RGE _____ W6M DLS To _____ , SEC _____ , TWP _____ , RGE _____ W6M			
UTM (NAD 83):	m easting		m northing
(Place on Pipeline where incident happened REQUIRED)			
Project #		Pipeline Segment #	
Product:		Line Length Between Valves:	km
ID	mm	OD	mm
Operating Pressure	kPa	Maximum Operating Pressure	kPa
ESD or Block Valve Closure? ☐ Yes		☐ No	☐ Unknown
OTHER LOCATION *Any asset that does not apply to above such as a road, remote sump, borrow pit, etc.* *(A UTM location must be filled out in the Location Section.)*			
Location Type:		Location Description :	
Location of asset: NTS _____ - _____ - _____ / _____ - _____ - _____ or DLS _____ , SEC _____ , TWP _____ , RGE _____ W6M			
UTM (NAD 83):	m easting		m northing REQUIRED
GPS: Latitude:		Longitude:	

BRITISH COLUMBIA ENERGY REGULATOR

DGIR# (if known):

BCER Incident #:

FORM D
PERMIT HOLDER POST INCIDENT REPORT

Must be submitted by the permit holder within 60 days for:

1. Level 1, 2 or 3 emergency incident*; **and**
2. **Any** pipeline incident.

*Note: in addition to the above a permit holder may be required to complete and submit a "Form D" when requested by a representative of the Regulator.

This report and accompanying documentation must be emailed electronically to EMP@bc-er.ca

PART A—PERMIT HOLDER

Permit Holder Name	
Contractor(s) Name(s)	

PART B – DATE, TIME AND OIL AND GAS ACTIVITY IDENTIFICATION OF INCIDENT

Incident Date: *(YYYY/MM/DD)*	Incident Time: *(24-hr system & time zone)*

Well Authorization, Facility Id., Pipeline Project # and Segment #, Road # and Segment #, Other (Describe)

PART C—SPILLS AND RELEASES (*Check all that apply)*

Type of Product	Volume Released (m^3)	Volume Recovered (m^3)	Type of Product	Volume Released (m^3)	Volume Recovered (m^3)
☐ Natural Gas (sour)		☐ Produced Water			
☐ Natural Gas (sweet)		☐ Fresh Water			
☐ Oil		☐ HVP fluids (ethane, propane, butane)			
☐ Condensate		☐ LVP fluids (pentane plus)			
☐ Emulsion					
☐ Other (specify product and CAS# or attach MSDS)					
☐ Other (specify product and CAS# or attach MSDS)					
☐ Other (specify product and CAS# or attach MSDS)					

Was there a fire? ☐ Yes ☐ No	Was there an explosion? ☐ Yes ☐ No
Was anyone directly exposed to the spill product? ☐ Yes ☐ No	Was medical treatment required? ☐ Yes ☐ No (*if yes, complete Part D*)

For any spills where clean-up cannot be completed within 30 days, an initial report / clean-up plan must be submitted within 30 days, with updates every 30 days following until clean-up has been completed.

Has the spill cleanup been completed? ☐ Yes (attach relevant reports) ☐ No (Interim Report or initial clean-up plan attached)

PART D INJURY OR FATALITY? ☐ Yes ☐ No

If yes, describe:

PART E NARRATIVE OF INCIDENT

Provide a complete description of the incident, including conditions and events leading up to, and following, the incident. Attach any additional information that may supplement the narrative such as 1) drawing of the incident site; 2) photographs; 3) schematics; 4) maps; 5) reports (drilling, servicing, etc.). ***Attach additional sheets of narrative as required****.*

PART F INCIDENT RESPONSE

Was the Emergency Response Plan Activated ☐ Yes ☐ No	Was an Incident Action Plan Created? If Yes, attach a copy. ☐ Yes ☐ No

Was an Incident Command System Organization Chart Developed? ☐ Yes ☐ No If Yes, attach a copy.

If the Emergency Response Plan was Activated, describe how the Emergency Response Plan was implemented and outline applicable steps taken to:

- Provide for the safety and health of all responders
- Protect public health and safety
- Protect the environment
- Protect government infrastructure
- Protect property

PART G COMPONENT FAILURE / MALFUNCTION		
Component:	Manufacturer:	Model # or Material and Grade
Manufactured Date:	Installed Date:	Last Certification Date:

Has a third party analysis of the equipment or pipe failure been completed? (Required for Level 2 and 3 Emergencies) ☐ Yes ☐ No

If yes, report attached ☐ or report to be submitted at a later date ☐
The analysis report must contain the following: (see guideline for requirements)

PART H REPAIR DESCRIPTION *Provide a description of all necessary repairs as a result of the incident and include the date of return to service.*

PART I INCIDENT CAUSES *See the Emergency Management Manual, Appendix E: Post Incident Reports, for cause definitions. A full root cause analysis is required for all Level 2 and 3 Emergencies.*

IMMEDIATE CAUSE (Check all that apply)			**BASIC CAUSE** (Check all that apply)	
☐ Defect and Deterioration			☐ Engineering and Planning	☐ Maintenance
☐ Corrosion and Cracking	☐ Internal	☐ External	☐ Procurement	☐ Tools and Equipment
☐ Equipment Failure			☐ Standards and Procedures	☐ Communication
☐ Incorrect Operation			☐ Supervision and Training	☐ Human Factors
☐ External Interference ☐ Employee / Contractor	☐ Third Party		☐ Natural and Environmental Factors	
☐ Natural Force Damage			☐ Unknown Causes (specify)	
☐ Construction			☐ Other Causes (specify)	
☐ Other Causes *(specify)*				

Provide a justification for the causes selected and any additional details or explanation that will help the Regulator understand the basic cause(s) of this incident.

Attachment(s) ☐

PART J PREVENTIVE AND CORRECTIVE ACTIONS *Outline the changes made and the steps taken and to be taken to prevent a similar incident. This will address the basic causes, as applicable. Identify a schedule for completion. Include any relevant information outlining why the preventive actions are appropriate.* ***See the Emergency Management Manual, Appendix E: Post Incident Reports, for more information.***

PART K NAME OF PERSON CONDUCTING A COMPANY INCIDENT INVESTIGATION	
Name and Title	Address
Phone Number	Email

PART L NAME AND TITLE OF COMPANY REPRESENTATIVE FILING REPORT		
Name	Title	
Signature	Company	
Address		
Date *(YYYY/MM/DD)*	Phone number ( )	Email

Appendix 2 - Glossary

Adjacent to	For the purpose of this plan refers to the immediate 25 metres.
Air Quality Monitoring	Measures atmospheric concentrations of hazardous substances such as H_2S and SO_2.
Alarm	Refers to an unusual condition that activates sirens and visual alarms. These alarms could be activated by pump protective devices, high or low pressures, high sump, scraper arrival, etc.
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.
Battery	A system or arrangement of tanks or other surface equipment receiving the effluents of one or more wells prior to delivery to market or other disposition and may include equipment or devices for separating the effluents into petroleum, natural gas, or water, and for measurement.
BC Energy Regulator (BCER)	British Columbia regulatory body for the upstream petroleum industry.
Boiling Point	This is the temperature at which a liquid changes to a gaseous state. Water for example changes to the gaseous state at 100ºC (212ºF) and therefore heat must be applied. NGL products change to the gaseous state at extremely low temperatures and will therefore cool the surrounding environment. If the liquid comes in contact with flesh, it immediately reduces the temperature of the flesh to the boiling temperature of the liquid causing severe frostbite. Rapid phase transition or flameless explosions are sometimes heard when an NGL liquid is rapidly transformed to a vapour state. No burning or chemical reaction is involved.
Booster Pump	A small pump that pulls product from the source of supply and pumps it into the suction, or input of the main pump unit.

BOP	Blowout Preventer
Canadian Association of Petroleum Producers (CAPP)	CAPP represents member companies who explore for, develop, and produce natural gas, crude oil etc. CAPP works closely with the government to analyze key oil and gas issues.
Ceiling – Recommended Exposure Limit	The concentration that should not be exceeded during any part of the working exposure. An employee's exposure to a hazardous substance shall at no time exceed the ceiling value.
Closure Order	Also known as a Fire Hazard Order. A closure order is issued to close a specific area to unauthorized personnel. The closure order area is that area within the boundaries described in an order issued by the BCER.
Condensate	A by-product of plants processing natural gas from natural gas wells. Flammable liquid with a strong hydrocarbon odour.
Control Valve	A valve that will automatically maintain a predetermined pressure upstream or downstream of the valve or will maintain a controlled flow rate through the valve.
Corporate Level ERP	A corporate-level ERP is used when a specific ERP is not required and contains preplanned procedures that will allow for effective response to an emergency.
Disaster	An event that results in serious harm to the safety, health, or welfare of people or in widespread damage to property.
Downstream	With reference to a pumping station, indicates the discharge side of that station.
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)	The Emergency Awareness Zone (EAZ) is a distance outside of the HPZ where public protection measures may be required due to poor dispersion conditions of the hazard.

Emergency Operations Centre (EOC)	An operations centre established in a suitable location to manage the larger aspects of the emergency. In a high-impact emergency there may be a number of EOCs established to support the response. These may include the BCER Field Centre, ICS command post, regional and corporate EOCs, a municipal EOC and the Provincial Regional government EOC.
Emergency Planning Zone (EPZ)	A geographical area that encompasses all the hazard planning zones for an oil and gas activity that is the subject of a plan.
Emergency Shut Down Valve (ESD)	A valve that blocks the passage of material from both directions and can automatically close when the amount of material passing through the valve exceeding allowable limits.
Evacuation	Organized, phased, and supervised withdrawal of members of the public from dangerous or potentially dangerous areas, and their reception in safe areas.
Explosimeters	Can detect explosive substances in the atmosphere. May be a hand held device.
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 the 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 over which the BCER has jurisdiction and that is connected to or associated with the recovery, development, production, handling, processing, treatment, or disposal of hydrocarbon-based resources or any associated substances or wastes. This does not include wells or pipelines.
Flow Rate	The speed in which the product is flowing, computed in cubic meters per second (m^3/s).
Gathering System	The network of pipelines, pumps, tanks, and other equipment, which carry oil and gas to the main pipeline or a processing plant or other separation equipment.

H_2S Release Rate	The rate at which the sour gas escapes into the atmosphere. Usually given in cubic metres per second (m^3/s).
Hazard Planning Zone (HPZ)	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.
Hazardous Product	Substances released in quantities that may harm persons, property, or the environment.
High Vapour Pressure (HVP) Pipeline	A pipeline system containing hydrocarbon mixture in the liquid or quasi-liquid state with a vapour pressure greater than 110 kPa absolute at 38ºC. Some examples are liquid ethane, ethylene, propane, butanes, and pentanes plus. HVP lines have a vapour pressure greater than 240 kPa at 38ºC (34.8 PSIG at 100ºF) and include ethane, propane butane, and pentanes plus, either as a mixture or as a single component.
Hydrogen Sulphide (H_2S)	A naturally occurring gas found in a variety of geological formations and also formed by the natural decomposition of organic matter in the absence of oxygen. H_2S 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 irritation. Depending on the particular gaseous mixture, gas properties, and ambient conditions, a sour gas release may be: ▪ heavier than air so that the gas cloud will tend to drop towards the ground with time (dense), ▪ lighter than air so the gas cloud will tend to rise with time (buoyant), or ▪ about the same weight as air so that it tends to neither rise nor drop but disperses (neutrally buoyant).
Hyper-susceptible	Persons who may be abnormally reactive to a given exposure to toxins and their reaction may occur in orders of magnitude greater than that of the susceptible population. Hyper-susceptible include those persons with impaired respiratory function, heart disease, liver disease, neurological disorders, eye disorders, severe anaemia, and suppressed immunological function.
Ignition	Process of setting a hydrocarbon release on fire.

Incident	An unexpected occurrence or event, caused by human or natural phenomena, that requires action by upstream and/or emergency personnel, to prevent or minimize the impact on the safety or health of people, property, or the environment.
Incident Command Post (ICP)	A facility at, or near the incident site selected from which to manage response and control procedures in the event of an emergency.
Incident Command System (ICS)	An incident response structure that has the ability to expand or contract based on the needs of an incident.
Incident Response Team (IRT)	Responders at the incident site working to control or rectify the situation.
Isolation	To separate an area or process from the rest of the plant.
Kick	A situation where the formation pressure exceeds the static pressure in the well bore allowing formation fluid to enter.
Level 1 Emergency	There is no danger outside the licensee's property. There will be immediate control of the hazard and there is no threat to the public and minimal environmental impact. The situation can be handled entirely by licensee personnel. There is little or no media interest.
Level 2 Emergency	There is no immediate danger outside of company property or the right-of-way but where there is the potential for the emergency to extend beyond the licensee's property. Outside and provincial agencies must be notified. Imminent control of the hazard is probable but there is moderate threat to the public and/or the environment. There may be local and regional media interest in the event.
Level 3 Emergency	The safety of the public is in jeopardy from a major uncontrolled hazard. There are likely significant and on-going environmental impacts. Immediate multi-agency municipal and provincial government involvement is required
Licensee	A term used to designate the responsible duty holder (e.g., licensee, operator, company, applicant,
Liquefied Petroleum Gas (LPG)	Mixture of heavier, gaseous hydrocarbons (butane and propane), liquefied as a portable source of energy.

Local Authority	(i) council of a city, town, village, or municipal district (ii) in the case of an improvement district or special area, the Minister of Municipal Affairs (iii) the settlement council of a settlement under the Métis Settlements Act (iv) the band council of an Indian band if an agreement has been entered into with the Government of Canada in which it is agreed that the band council is a local authority for the purposes of the *Disaster Services Act.*
Local State of Emergency	Is authorized for a limited duration and limited geographical area by members of the Municipal or Town Council. Grants extraordinary powers to the authorities, including the forcible removal or prevention of entry into the designated area.
Lower Explosive/Flammable limit (LEL / LFL)	The lowest concentration of gas or vapour (per cent by volume in air) that burns or explodes if an ignition source is present at ambient temperatures.
Major (Full-Scale) Exercise	As described in *CAN/CSA-Z246-2*, an exercise involving the establishment of an Incident Command Post, emergency response agencies, the duty holder, and the deployment of all resources required in a coordinated response to test the duty holder's ERP and intended to provide a realistic simulation of an emergency response.
Mobile Air Quality Monitoring	The use of sophisticated portable equipment capable of measuring meteorological conditions and tracking substances such as H_2S or SO_2 and of measuring very low (ppb) atmospheric concentrations and also capable of being able to record and provide preliminary analysis (eg. averaging values over time) of the monitored readings.
Municipal District (MD)	A governing body similar to a county.
Municipal Emergency Plan	The emergency plan of the local authority required under section 11 of the *Emergency Management Act*.
Mutual Aid	An understanding between two or more public and/or private facilities or operations to provide assistance to the persons of the agreement. Such an agreement is between two or more persons such as oil and gas companies, service companies, and local authorities.
Natural Gas Liquids (NGL)	These are hydrocarbons liquefied under pressure in field facilities or in gas processing plants. Natural gas liquids include ethane, propane, butane, and pentanes plus, and normally occur as a mixture of these compounds.

NAV Canada	NAV Canada is Canada's civil air navigation services. NAV Canada provides air traffic control, flight information, weather briefings, aeronautical information services, airport advisory services and electronic aids to navigation.
NOTAM (Notice to Airmen)	An order requested by the BCER and issued by Transport Canada to close a specific airspace to unauthorized commercial aviation. The dimension of the airspace described is issued by Transport Canada. Also known as a No Fly Zone.
Notification	The act of being informed of an emergency by an outside source.
Off Site	The area beyond the asset property boundary.
On Site	The area within the asset property boundary.
Operating Personnel	Refers to the people working in a given field area.
Partially Controlled Flow	A restricted flow of product at surface that cannot be shut off at the operator's discretion with equipment on site.
Parts Per Million (ppm)	The unit for measuring the concentration of a particular substance equal to one (1) unit combined with 999,999 other units.
Personal Consultation	Consultation through face-to-face visits or telephone conversations with identified parties and providing the required information packages.
Personal Protective Equipment (PPE)	Safety equipment used for an individual's protection.
Plume (Gas Plume)	An elongated mobile column of gas or smoke.
Public	The group of people who may be or are impacted by an emergency (eg. employees, contractors, neighbours, emergency response organizations, regulatory agencies, the media, appointed or elected officials, visitors, customers, etc. as appropriate).
Public Facility	A public building, such as a hospital, rural school, or a major recreational facility, situated outside of an urban centre that can accommodate greater than 50 individuals and/or requires that additional transportation be provided during an evacuation.

Publicly Used Development	Places where the presence of 50 individuals or less can be anticipated. Examples include places of business, cottages, campgrounds, churches, and other locations created for use by the non-resident public.
Pump Unit	Consists of an electric motor or engine connected to a centrifugal pump, either directly as in the case of constant speed units, or through a fluid drive, as in the variable speed pump units.
Reception Centre	A centre established to register evacuees and to assess their needs. The centre is used to register evacuees for emergency shelter or, if temporary shelter is not required because evacuees will stay elsewhere, to ascertain where they can be contacted.
Residence	Full time or part time dwelling.
Resident	Individual living in the area at a fixed location.
Self Contained Breathing Apparatus (SCBA)	Personal protection used for protection from hazardous substances in the air.
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 (H_2S).
Sour Pipelines	Convey gas and/or liquid that contains sour gas.
Sour Production Facility	Processes sour gas or liquid.
Sour Well	An oil or gas well expected to encounter sour gas-bearing formations during drilling or any oil or gas well capable of producing sour gas.
Special Sour Well	A designation that reflects the proposed well's proximity to populated centres and its maximum release rate.
Sulphur Dioxide (SO_2)	A colourless, water-soluble, suffocating gas formed by burning sulphur in air; also used in the manufacture of sulphuric acid. SO_2 has a pungent smell similar to a burning match. SO_2 is extremely toxic at higher concentrations. The molecular weight of SO_2 is heavier than air; however, typical releases are related to combustion therefore making the gaseous mixture lighter than air (buoyant).

Sump	An underground tank located at each pump station used to catch products that leak through valves, meters, pump units, seal housing, etc.
Surface Development	Occupied permanent or part-time dwellings, publicly used facilities including campgrounds, places of business, and any other surface development where the public may gather on a regular basis. Surface development includes residences that are required to egress through the EPZ and those immediately adjacent to the EPZ.
Table Top Exercise	As described in *CAN/CSA-Z246-2*, an informal group discussion centered on a scenario generally used to test existing plans, policies, review resource allocation, roles, procedures, and as orientation of new personnel to emergency operations without the stress and time constraints of a full scale exercise and without incurring the cost associated with deploying resources.
Transient	Individual temporarily in the area (eg. camper, cross country skier).
Trapper	Holder of a Provincially Licensed and Registered Trap Line for the purpose of hunting and trapping fur bearing animals.
Uncontrolled Flow	A release of product that cannot be shut off at the company's discretion.
Unrestricted Country Development	Any collection of permanent dwellings situated outside of an urban centre and having more than eight permanent dwellings per quarter section; for the purpose of applying the requirements of *ID 97-6*, includes any similar development that the BCER might so designate.
Upstream Petroleum Industry	Constitutes all facilities, equipment, substances, and operations used in the exploration, recovery, processing and transporting of petroleum within the BCER jurisdiction. Generally, this includes oil and gas operations upstream of a refinery and the storage and transportation of unrefined products by pipeline between oil and gas production facilities or other end points.
Urban Centre	A city, town, new town, village, summer village, hamlet, with no fewer than 50 separate buildings, each of which must be an occupied dwelling, or any similar development the BCER may designate as an urban centre.

Urban Density Development	Any incorporated urban centre, unincorporated rural subdivision, or group of subdivisions with not fewer than 50 separate buildings, each of which must be an occupied dwelling, or any other similar development the BCER may designate.
Vapour Density	A measure of the weight of the gas compared to air (air = 1).
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.
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.
WorkSafe BC	Non-profit organization that works to reduce injury in the workplace.

Acronyms

BCER	Energy Regulator (BC)
CAPP	Canadian Association of Petroleum Producers
CISD	Critical Incident Stress Debriefing
CISM	Critical Incident Stress Management
EAZ	Emergency Awareness Zone
EMCR	Emergency Management and Climate Readiness British Columbia
EOC	Emergency Operations Centre
EPZ	Emergency Planning Zone
ERP	Emergency Response Plan
ESD	Emergency Shut Down
ETA	Estimated Time of Arrival
H_2S	Hydrogen Sulphide
HPZ	Hazard Planning Zone
HVP	High Vapour Pressure
IAP	Incident Action Plan
ICP	Incident Command Post
IRT	Incident Response Team
JIC	Joint Information Centre
LEL	Lower Explosive Limit
LFL	Lower Flammable Limit
LPGERC	Liquefied Petroleum Gas Emergency Response Corporation
MEP	Municipal Emergency Plan

NGL	Natural Gas Liquids
NOTAM	Notice to Airmen (No Fly Zone)
PPE	Personal Protective Equipment
PPM	Parts Per Million
PREOC	Provincial Regional Emergency Operations Centre
RHA	Regional Health Authority
SITREP	Situation Report
SO_2	Sulphur Dioxide