



Canadian Natural

CANADIAN NATURAL RESOURCES LIMITED

RING BORDER

SUPPLEMENTAL EMERGENCY RESPONSE PLAN *to Corporate (Core) Emergency Response Plan*

DISCLAIMER:

In accordance with federal guidelines, portions of this Emergency Response Plan have been redacted as per the following:

- Canada Energy Regulator Order AO-001-MO-006-2016 s. 1.a.i.:
personal Information
- Canada Energy Regulator Order AO-001-MO-006-2016, s. 1.a.ii.:
facility / pipeline technical data, disclosure of which would risk security

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April 1, 2022

Canadian Natural Resources Limited
24 Hour Emergency Number

1-888-878-3700

AMENDMENT PROTOCOL

Annual updates are indicated by a consecutive 'revision' number dash zero (e.g. 7-0) while major revisions requiring a distribution will trigger a consecutive number change (e.g. 7-1).

Notification of errors and / or suggestions for improvement will be reviewed, addressed according to significance and considered for the next update by the EM Team. These notifications should include a) the ERP name, b) section(s) and page number(s) affected and c) the rationale for change and directed to:

CANADIAN NATURAL RESOURCES LIMITED

Email:

Canadian Natural is committed to the continuous improvement of its documentation. For full details on Canadian Natural's Management of Change protocols, refer to Section 7 of the Corporate (Core) Emergency Response Plan.

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AMENDMENT RECORD

Date (YYYY/MM/D) ERP Planner	Rev	Revision Details	Annual Update (Y / N)	Date inserted in ERP (YYYY/MM/D)	Inserted / Replaced by (Name & Signature)
2022/03/31 	7-0	<ul style="list-style-type: none"> Reviewed / updated all contact information Gathering system reviewed and updated 	Y		
2021/03/31 	6-0	<ul style="list-style-type: none"> Reviewed / updated all contact information Gathering system reviewed and updated 	Y		
2020/03/31	5-0	<ul style="list-style-type: none"> Reviewed / updated all contact information Gathering system reviewed and updated accordingly 	Y		
2019/04/29	4-0	<ul style="list-style-type: none"> Reviewed / updated all contact information Gathering system reviewed and updated accordingly 	Y		
2018/03/29	3-0	<ul style="list-style-type: none"> Reviewed / updated all contact information Gathering system reviewed and updated accordingly 	Y		
2017/04/01	2-0	<ul style="list-style-type: none"> Annual update Reviewed / updated all contact information Added NEB required information 	Y		
2016/03/31	1-0	<ul style="list-style-type: none"> Reviewed and updated all contact information Added All Hazards Table 	Y		
2015/11/01	0-0	<ul style="list-style-type: none"> Acquired property from ConocoPhillips Gathering system reviewed and area groundtruthed 	N		

The Ring Border ERP is Supplemental to Canadian Natural's Corporate (Core) Emergency Response Plan and covers the following:

AREA NAME	LOCATION	DESCRIPTION	REGULATOR ERP ID
Ring Border		CER regulated pipeline	
Ring Border		Butane, Pentane	
Ring Border		Gas plant	
Ring Border		Gas plant	
North Dahl		Compressor station	
Ring Dahl		Compressor station	
Gutah		Compressor station	
Dahl		Compressor	
Lapp		Compressor	
Kahntah		Shut-in gas plant	
Zarembo		Suspended battery	

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Ring Border

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ALL HAZARDS IDENTIFICATION TABLE

Completed By: Area Field Operations & Emergency Management Tech

POTENTIAL HAZARD	HAZARD IMPACTS:				RANK HAZARD IMPACT <i>(Low / Med / High)</i>	MITIGATION MEASURES AVAILABLE / NEEDED	
	PUBLIC	ENVIRONMENT		COMPANY ASSETS		<i>(Fundamental Reference Materials: SMS Section 22 / Safety Data Sheets (SDS) / ERP Manual / Emergency Response Guide / Guide to Safety & Compliance / First Responder's Guide / Site-Specific Drilling Plans / Asset Integrity Pipeline Maintenance Manual and Management Systems)</i>	
		LAND USE AREAS	WILDLIFE / LIVESTOCK			CONTROLS / EQUIPMENT / RESOURCES	
<input checked="" type="checkbox"/> Hydrogen Sulphide (H ₂ S) Release	YES	YES	YES	YES	Low	<input checked="" type="checkbox"/> Personal Gas Monitor	
						<input type="checkbox"/> Portable Gas Detector	
						<input checked="" type="checkbox"/> SCBA	
						<input type="checkbox"/> SABA	
						<input checked="" type="checkbox"/> ESD Procedures	
						<input checked="" type="checkbox"/> Emergency Planning Zone(s)	
						<input checked="" type="checkbox"/> Ignition Resources – Equipment	
						<input checked="" type="checkbox"/> Ignition Resources – Service Provider	
						<input checked="" type="checkbox"/> Roadblock Kit(s)	
						<input checked="" type="checkbox"/> Communication Plans – Public / Media	
						<input checked="" type="checkbox"/> SCADA ESD	
						<input type="checkbox"/> Other:	
<input type="checkbox"/> High Vapour Pressure (HVP) Pipeline Release <i>(pipelines that convey hydrocarbon mixtures in the liquid or quasi-liquid state with a vapour pressure of greater than 110 kPa absolute at 38°C)</i>						<input type="checkbox"/> SCADA ESD	
						<input type="checkbox"/> Evacuation Procedures	
						<input type="checkbox"/> Roadblock Kit(s)	
						<input type="checkbox"/> Communication Plans – Public / Media	
						<input type="checkbox"/> Emergency Response Plan	
						<input type="checkbox"/> ESD Procedures	
						<input type="checkbox"/> Emergency Planning Zone(s)	
						<input type="checkbox"/> Ignition Resources – Equipment	
						<input type="checkbox"/> Ignition Resources – Service Provider	
						<input type="checkbox"/> Fire Extinguishers	
						<input type="checkbox"/> Firefighting Equipment – e.g. shovels, axes, picks, water packs, wheeled extinguishers	
						<input type="checkbox"/> Other:	



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	PUBLIC	ENVIRONMENT		COMPANY ASSETS		CONTROLS / EQUIPMENT / RESOURCES	
		LAND USE AREAS	WILDLIFE / LIVESTOCK			ACTIVE MITIGATIONS	
<div>Large Chemical Storage Hazards (CEPA – E2)</div> <div><input checked="" type="checkbox"/> <i>(large active storage vessels for NGLs, LPGs, LNGs, condensate, crude oil, hydrochloric acid, pentanes, etc.)</i></div>		YES	YES	YES	Low	<div><input type="checkbox"/> Firefighting Equipment – e.g. <i>shovels, axes, picks, water packs, wheeled extinguishers</i></div> <div><input checked="" type="checkbox"/> Fire Extinguishers</div> <div><input checked="" type="checkbox"/> Industrial Firefighters</div> <div><input checked="" type="checkbox"/> Roadblock Kit(s)</div> <div><input checked="" type="checkbox"/> Communication Plans – Public / Media</div> <div><input checked="" type="checkbox"/> Ignition Resources – Equipment</div> <div><input checked="" type="checkbox"/> Ignition Resources – Service Provider</div> <div><input checked="" type="checkbox"/> Evacuation Zone</div> <div><input checked="" type="checkbox"/> Evacuation Procedures</div> <div><input checked="" type="checkbox"/> ESD (Automatic Valves) Procedures</div> <div><input type="checkbox"/> SCADA ESD</div> <div>PASSIVE MITIGATIONS</div> <div><input type="checkbox"/> Secondary Containment – <i>earth berms, dikes</i></div> <div><input type="checkbox"/> Separator / Surface Water Collection System</div> <div><input checked="" type="checkbox"/> Vessel Protection Systems – <i>PSVs, high level alarm</i></div>	
<div>Petroleum Release / Spill</div> <div><input checked="" type="checkbox"/> <i>(on land or in water, includes all types of petroleum spills, gas releases, flammable vapours releases)</i></div>		YES	YES	YES	Low	<div><input type="checkbox"/> SCADA ESD</div> <div><input checked="" type="checkbox"/> CiNQ – Environment Conventional – Thermal Intranet Site: <i>spill reporting procedures / docs</i></div> <div><input checked="" type="checkbox"/> TDG / LPG Emergency Responsibilities <i>(Guideline 10, Corporate ERP)</i></div> <div><input checked="" type="checkbox"/> WCSS / Other Spill Cooperative Manual</div> <div><input checked="" type="checkbox"/> WCSS / Other Water Control Point Location(s)</div> <div><input type="checkbox"/> Boom(s)</div> <div><input checked="" type="checkbox"/> Absorbent Material</div> <div><input checked="" type="checkbox"/> Roadblock Kit(s)</div> <div><input checked="" type="checkbox"/> Proper PPE</div> <div><input checked="" type="checkbox"/> Communication Plans – Public / Media</div> <div><input type="checkbox"/> Other:</div>	



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	PUBLIC	ENVIRONMENT		COMPANY ASSETS		CONTROLS / EQUIPMENT / RESOURCES	
		LAND USE AREAS	WILDLIFE / LIVESTOCK				
<input checked="" type="checkbox"/> Asset Fire		YES	YES	YES	Low	<input type="checkbox"/> Firefighting Equipment – e.g. shovels, axes, picks, water packs, wheeled extinguishers	
						<input checked="" type="checkbox"/> Fire Extinguishers	
						<input checked="" type="checkbox"/> Fire Detection System (facilities)	
						<input checked="" type="checkbox"/> Roadblock Kit(s)	
						<input checked="" type="checkbox"/> Communication Plans – Public / Media	
						<input checked="" type="checkbox"/> Evacuation Procedures	
						<input checked="" type="checkbox"/> ESD Procedures	
						<input type="checkbox"/> Other:	
<input checked="" type="checkbox"/> Wildfire <i>(can include grassfires, forest fires)</i>	n/a <i>(municipal / provincial jurisdiction)</i>	n/a <i>(municipal / provincial jurisdiction)</i>	n/a <i>(municipal / provincial jurisdiction)</i>	YES	High <i>(SMS Procedure 22.06)</i>	<input checked="" type="checkbox"/> ESD Procedures	
						<input checked="" type="checkbox"/> Firefighting Equipment – e.g. shovels, axes, picks, water packs, wheeled extinguishers	
						<input checked="" type="checkbox"/> Fire Extinguishers	
						<input checked="" type="checkbox"/> Site Specific Wildfire Plans	
						<input checked="" type="checkbox"/> Evacuation Procedures	
						<input checked="" type="checkbox"/> Transportation Available	
						<input checked="" type="checkbox"/> Provincial Wildfire Reporting Contact Numbers	
<input checked="" type="checkbox"/> On-Site Chemicals / Fuels <i>(at ERP's main facilities)</i>	n/a <i>(hazards contained within lease boundaries)</i>	n/a <i>(hazards contained within lease boundaries)</i>	n/a <i>(hazards contained within lease boundaries)</i>	YES	Low	<input checked="" type="checkbox"/> Spill Reporting Procedures	
						<input checked="" type="checkbox"/> SDS – accessible via online database, EOC, District offices	
						<input checked="" type="checkbox"/> Fire Extinguishers	
						<input checked="" type="checkbox"/> Absorbent Materials	
						<input checked="" type="checkbox"/> Proper Storage	
						<input checked="" type="checkbox"/> Proper PPE	
						<input checked="" type="checkbox"/> SMS COP: Storage, Handling, Use / Disposal of Harmful Substances	
<input checked="" type="checkbox"/> Company Facility Isolation <i>(if access roads closed)</i>	n/a <i>(not EPZ related)</i>	n/a <i>(not EPZ related)</i>	n/a <i>(not EPZ related)</i>	YES	Low	<input checked="" type="checkbox"/> Shelter / Evacuation Procedures	
						<input type="checkbox"/> Other Transportation Available – e.g. snowmobile, ATV, helicopter, boat, etc.	
						<input checked="" type="checkbox"/> Area Work Alone Procedures	
						<input checked="" type="checkbox"/> Communication Plans	
						<input type="checkbox"/> Other:	

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	PUBLIC	ENVIRONMENT		COMPANY ASSETS		CONTROLS / EQUIPMENT / RESOURCES	
		LAND USE	WILDLIFE / LIVESTOCK				
<input checked="" type="checkbox"/> Communications Failure	n/a (not EPZ related)	n/a (not EPZ related)	n/a (not EPZ related)	YES	Low	<input type="checkbox"/> Landlines	
						<input checked="" type="checkbox"/> Cell phones	
						<input checked="" type="checkbox"/> 2-Way Radios	
						<input checked="" type="checkbox"/> 2-Way Radios – Service Provider	
						<input checked="" type="checkbox"/> Internal Communication / Notification System	
						<input type="checkbox"/> Other:	
<input checked="" type="checkbox"/> Power Outages	n/a (not EPZ related)	n/a (not EPZ related)	n/a (not EPZ related)	YES	Low	<input type="checkbox"/> Back-up generator(s)	
						<input checked="" type="checkbox"/> Communication systems	
						<input type="checkbox"/> Other:	
<input checked="" type="checkbox"/> Severe Weather / Natural Disasters <i>(includes severe storms, blizzards, tornadoes, earthquakes, floods, landslides)</i>	n/a (not EPZ related)	n/a (not EPZ related)	n/a (not EPZ related)	YES	Low	<input checked="" type="checkbox"/> Communication Advisory	
						<input checked="" type="checkbox"/> ESD Procedures	
						<input checked="" type="checkbox"/> Area Working Alone Procedures	
						<input checked="" type="checkbox"/> Shelter / Evacuation Procedures	
						<input type="checkbox"/> Pumps	
						<input type="checkbox"/> Other:	
<input checked="" type="checkbox"/> Pandemic <i>(reduced workforce)</i>	n/a (not EPZ related)	n/a (not EPZ related)	n/a (not EPZ related)	YES	Low	<input checked="" type="checkbox"/> Back-Up Resources for Continued Operations	
						<input checked="" type="checkbox"/> Internal Communication / Notification System	
						<input checked="" type="checkbox"/> Canadian Natural Pandemic Protocols – <i>Human Resources</i>	
<input checked="" type="checkbox"/> Security Threats <i>(theft / vandalism / violence / terrorism)</i>	n/a (not EPZ related)	n/a (not EPZ related)	n/a (not EPZ related)	YES	Low	<input checked="" type="checkbox"/> Internal Communication / Notification System	
						<input checked="" type="checkbox"/> Roadblock Kits	
						<input checked="" type="checkbox"/> Communication Plans – Public / Media	
						<input checked="" type="checkbox"/> Evacuation Procedures	
						<input checked="" type="checkbox"/> Information Systems: <i>Disaster Recovery Principles</i>	
<input type="checkbox"/> Other						<input type="checkbox"/>	
						<input type="checkbox"/>	
						<input type="checkbox"/>	

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1 SITE-SPECIFIC DISTRIBUTION LIST

1.1 INTERNAL COPIES

COPY	RECIPIENT	POSITION	LOCATION	CONFIDENTIAL INFORMATION INCLUDED (✓)
1		Area Foreman	Fort St. John Office	✓
2		Assistant Foreman	Fort St. John Office	✓
3		Operations Superintendent	Fort St. John Office	✓
Electronic (CINQ) / ERP Maps		Manager, Fort St. John Field Operations	Fort St. John Office	
Electronic (CINQ)		Safety & Compliance Coordinator	Fort St. John Office	
4		Area Landman	Fort St. John Office	✓
5	District Office Incident Command Post			
6	Emergency Response Mobile Cart		Calgary Office	✓
7	Calgary Office Command Centre		Calgary Office BHE 26002	✓
*	Roadblock Kit	Ring Border		

1.2 EXTERNAL COPIES

COPY #	RECIPIENT	ORGANIZATION	LOCATION
Email	Secretary of the Board cc Emergency Management & Security Program Support	Canada Energy Regulator	cc: [REDACTED]
8	CER – Hard Copy		517 – 10 th Avenue SW Calgary, AB T2R 0A8
CD	CER		
9	Emergency Response and Safety Inspector	British Columbia Oil and Gas Commission	6534 Airport Road Fort St. John BC V1J 4M6
eSubmission	British Columbia Oil and Gas Commission	British Columbia Oil and Gas Commission	[REDACTED]
SWIM	E2 Plan registration only (full copy not required)	Environment and Climate Change Canada	Public Inquiries Centre 12 th Floor, Fontaine Building 200 Sacré-Coeur Boulevard Gatineau QC, K1A 0H3 [REDACTED]
Email	Manager of Community Services	Peace River Regional District	[REDACTED]
Email	Safety Coordinator / Airport Supervisor	County of Northern Lights	[REDACTED]
Email	North Zone Manager, Environmental Public Health	AHS – North Zone	[REDACTED]
CD	Electronic copy on CD		
eSubmission	Electronic copy submitted via British Columbia Oil and Gas Commission's online submission portal		
Email	Electronic copy provided by email		
SWIM	Single Window Information Management system under Environment and Climate Change Canada (ECCC)		

EXTERNAL ERP DISTRIBUTION DISCLAIMER:

Site-Specific ERPs are forwarded electronically while the Corporate ERP can be found on our website here:
<https://www.cnrl.com/corporate-responsibility/health-and-safety/emergency-management>

The following stakeholders who are impacted by an Emergency Planning Zone have been offered an information package as part of the consultation process if applicable:

- Local Indigenous Nations
- Residents / Businesses
- Public Facilities
- Local Airport Operators
- Registered Trappers / Guide Outfitters
- Grazing Lease Holders
- Grazing Reserves
- Forestry Management Areas
- Rights Holders

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2 GENERAL INFORMATION

2.1 INTRODUCTION AND SUMMARY

2.1.1 FACILITY - GENERAL INFORMATION LOCATION

FACILITY LOCATION	Ring Border 	
PHONE NUMBERS	NUMBER	DESCRIPTION
	N/A	Office
	N/A	Control Room

DISTRICT OFFICE LOCATION	Fort St. John District Office	
PHONE NUMBERS	NUMBER	DESCRIPTION
	250-785-3085	Office
	250-785-3055	Fax
	250-263-2019	On-Call Phone

2.1.2 INCIDENT COMMAND POST (ICP) / EMERGENCY OPERATIONS CENTRE (EOC)

OFFICE LOCATION	Fort St. John District Office	
STREET ADDRESS	6744 Airport Road Fort St. John BC V1J 4H9	
MAILING ADDRESS	Bag 6450 Fort St. John BC V1J 4H9	
PHONE NUMBERS	250-785-3085	Office
	250-785-3055	Fax
	250-263-2019	On-Call Phone

2.1.3 SAFE LOCATIONS

NAME	LOCATION
On-Site Safe Location (Muster Area):	Upwind side of incident
Off-Site Safe Location (Staging Area):	To be determined at time of incident

2.1.4 GENERAL LAND USE AND POPULATION DENSITY

Local Municipality		Peace River Regional District (BC) County of Northern Lights (AB)
Area Land Use		Hunting, trapping and oil and gas operations
POPULATION DENSITY (WITHIN EPZ)		
NUMBER	TYPE	DESCRIPTION
0	Residences	N/A
0	Businesses / Organizations	N/A
0	Public Facilities / Recreational Areas	N/A
10	Trappers / Guide Outfitters	N/A
0	Grazing Leases / Reserves	N/A
0	Forest Management Areas	N/A
0	First Nations	N/A
0	Lakes / Rivers	N/A
0	Public Highways	N/A
0	Other (Railway, logging, etc.)	N/A

2.1.5 EMERGENCY & ROADBLOCK EQUIPMENT

2.1.5.1 Emergency Equipment

TYPE	QUANTITY	LOCATION / NOTES
Burn Kit	1	Plant
Eye Wash Station – 1 litre bottle		Each operator's truck
Eye Wash Station – 15 min flow		
First Aid Kit		Each operator's truck
First Aid Room	1	Plant
First Aid Station	1	Plant
Fire Blanket		
Firefighting Hand Tools (<i>e.g. shovels, axes, picks, hand pump water packs, etc</i>) - minimum requirements in place for different provinces (see Corp ERP, Section 2.2.4)		
Handheld Fire Extinguisher		Plant Each operator's truck
Ignition Equipment	1	Plant
Personal Gas Monitor		Each operator
Portable Gas Detector		
Portable Spill Response Kit		
Self-Contained Breathing Apparatus (SCBA)	2	Plant
Spill Response Trailer	0	None located on site Nearest CNRL Trailer(s): - Progress GP - Grande Prairie North Office,
Supplied Air Breathing Apparatus (SABA)	0	
Wheeled Fire Extinguisher (150 - 300 lb)	0	

2.1.6 EXTERNAL EMERGENCY RESPONSE PLANS / MUTUAL AID

Canadian Natural maintains emergency response support / mutual aid understandings with local authorities impacted by this ERP and information from these understandings are included in the sections below. These understandings are maintained by annual consultations; consultation forms are filed separately with the Emergency Management group and are not included in this plan. Consultation forms are used to:

- Collect contact information for emergency notification and updating purposes
- Inform government / agency / emergency responder of Canadian Natural practices and procedure to be followed
- Make available relevant information consistent with that which is specified in our Emergency Response Plan (ERP) to the government / agency / emergency responder
- Clarify roles, responsibilities and capabilities of both parties, including support and / or additional aid from agency
- Inform the government / agency / emergency responder of the potential hazards of Canadian Natural facilities
- Inform government / agency / emergency responder of Canadian Natural's risk controls and mitigation activities
- Collect the authorization signature of the relevant agency representative

2.1.6.1 External Emergency Response Plans - Local Municipalities

Peace River District (PRRD) – (BC)

Consulted October 21, 2021 via email with [REDACTED]

The Peace River Regional District will be notified at any time an emergency occurs that involves the evacuation of residents.

It is essential that Canadian Natural's Incident Commander or designate maintain communication with PRRD's Protective Services Manager to ensure that responses are coordinated.

The PRRD has a formal Emergency Management Plan that 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:

- Dispatch representative(s) to the EMBC's Emergency Operation Centre (EOC), if established
- Provide support to ensure notifications 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

Emergency Services / Equipment:

The PRRD provides enhanced 9-1-1 Emergency Services to all municipalities and electoral areas of the Regional District. The 9-1-1 Emergency Services also includes fire / rescue radio dispatch for eleven fire departments throughout the region; fire dispatch centers are located at the Dawson Creek and Fort St John Fire Departments.

Local RCMP Detachments - the local RCMP detachment of Fort St. John:

- May assist with initial area isolation, evacuation and / or assistance with closure of roads
- Provides security, traffic and crowd control
- May assist in search and rescue activities
- Maintains law and order

County Of Northern Lights – (AB)***Consulted March 15, 2022 via email with***

In the event of a major emergency in the Northern Rockies Regional Municipality (NRRM), the Emergency Response Plan (ERP) and the Emergency Operations Centre (EOC) will be activated. The EOC will be established in order to facilitate and manage coordinated response and recovery operations and to support emergency response personnel in the field. It is the EOC where coordination and decisions are facilitated and where all official communications regarding the emergency will originate.

Local RCMP Detachments

The local RCMP detachments of Northern Rockies (BC) and Manning (AB):

- May assist with initial area isolation, evacuation and / or assistance with closure of roads
- Provides security, traffic and crowd control
- May assist in search and rescue activities
- Maintains law and order

2.1.6 EXTERNAL EMERGENCY RESPONSE PLANS / MUTUAL AID (CONTINUED)

2.1.6.2 External Emergency Response Plans: Local Health Services

Alberta Health Services – North Zone

Consulted October 5, 2021 via email with [REDACTED]

ENVIRONMENTAL PUBLIC HEALTH ROLES AND RESPONSIBILITIES

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

EPH will endeavor to:

- Participate with the Licensee in the development of their Emergency Response Plans as it relates to the EPH Program's role and responsibility.
- Provide the AHS Zone Single-Point-of-Contact (SPOC) emergency phone number to enable the Licensee to notify and alert the Zone of an emergency. From the initial notification or alert, AHS emergency response will fan out to and coordinate with other AHS programs and facilities as necessary. 9-1-1 EMS services remain independent of the Zone SPOC notification / alert process.
- Participate with stakeholders in preparedness training and exercises associated with a Licensee's simulated activation of an Emergency Response Plan in which EPH has a role and responsibility.
- Participate in public information sessions during the Licensee's Emergency Response Plan development process when appropriate and resources permit.
- Provide guidance to stakeholders and local municipal authorities in identifying sites suitable for establishing and operating an evacuation Centre and / or Reception Centre, including operational requirements.
- In consultation with the Zone Medical Officer of Health (MOH) provide guidance to stakeholders on substances that may affect public health, including Alberta Health and Wellness acute exposure health effects for hydrogen sulphide and sulphur dioxide.
- Conduct assessments, inspections and give regulatory direction, when appropriate, to ensure the requirements of provincial legislation and EPH program areas of responsibilities for public health protection and disease prevention are maintained.
- Notify the Zone Medical Officer of Health of any incident affecting or potentially affecting other AHS programs or facilities. The Zone MOH will notify and coordinate emergency response in other program areas and facilities as necessary.
- Establish EPH emergency management operations, when appropriate, to support regional response efforts and liaise with the Government Emergency Operations Centre, Municipal Emergency Operations Centre and / or industry Emergency Operations Centre, if needed.
- Assist the Zone Medical Officer of Health, local municipal authority and Public Information / Communication Officers in the development, issuance and rescinding of public health, public evacuation and shelter-in-place advisories.
- Provide guidance to stakeholders on matters relating to evacuation of the public and / or public facilities and the re-occupancy of those evacuated areas or facilities.
- Record and respond to health complaints or concerns from the public during and following an incident.
- Participate in stakeholder debriefings as necessary.

2.1.6 EXTERNAL EMERGENCY RESPONSE PLANS / MUTUAL AID (CONTINUED)

2.1.6.2 External Emergency Response Plans: Local Health Services (continued)

Health Emergency Management British Columbia (HEM BC) / Northern Health (NH)

Consulted August 16, 2021 via email with

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
- 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).

Roles & Responsibilities - PREPAREDNESS (PRE-EVENT):

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

Roles & Responsibilities - RESPONSE:

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

2.1.6 EXTERNAL EMERGENCY RESPONSE PLANS / MUTUAL AID (CONTINUED)

2.1.6.3 Mutual Aid

Canadian Natural does not currently participate in any formal mutual aid agreements for this ERP; however, reciprocal emergency response assistance on a service level to other industrial operators may be possible in the event of an emergency, depending on equipment / personnel resources and availability.

Operated Third Party Assets

In an emergency involving another licensee whose assets are operated by Canadian Natural, Canadian Natural would provide First Responder actions, with an immediate notification to these well or pipeline licensees to activate their ERP:

OPERATOR	ERP NAME	EMERGENCY NUMBER
N/A		

Non-Operated Third Party Tie In Assets

Where third party assets are tied into this plan's facility(ies) but not operated by Canadian Natural, the licensee will have their own ERP and would be responsible for emergency response actions involving their assets.

OPERATOR	ERP NAME	EMERGENCY NUMBER
N/A		

2.1.7 DRIVING DIRECTIONS AND MAP

2.1.7.1 Driving Route

CER PIPELINES: Driving directions to staging area location will be determined by field operations at time of incident.

From Fort St. John:

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

NOTE:

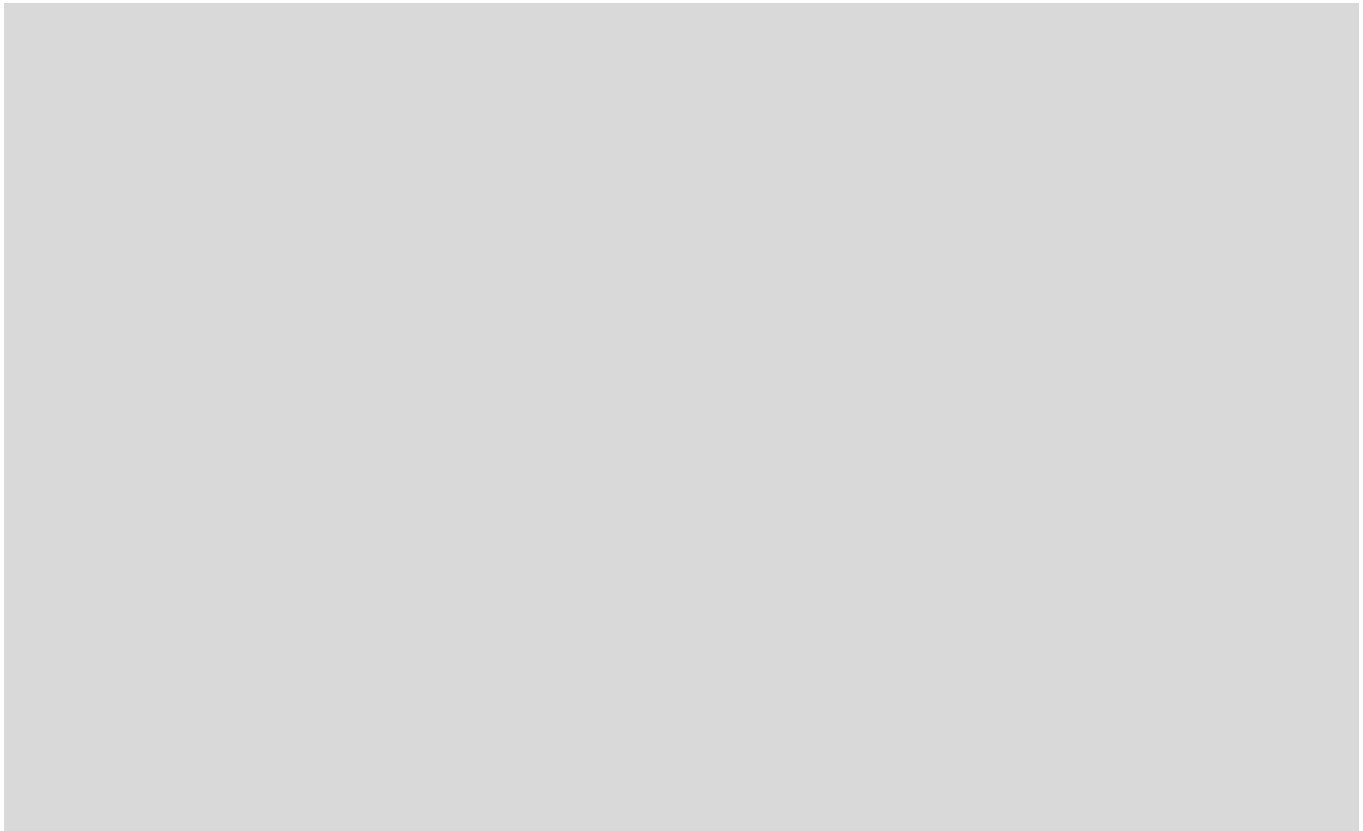
[REDACTED]

2.1.7.2 Proximity To Nearest Urban Centre

[REDACTED]

2.1.7.3 Latitude and Longitude Coordinates

FACILITY		LATITUDE (N)	LONGITUDE (W)
Ring Border	Plant	[REDACTED]	[REDACTED]



2.2 EMERGENCY DETECTION, NOTIFICATION AND CONFIRMATION SYSTEMS

PRESENT AT 	TYPE	DESCRIPTION
Y	24-Hour Emergency Telephone Number	A 24-hour emergency number is posted at all facilities and pipeline crossings. Any operator, landowner or citizen can call to notify Canadian Natural of an emergency situation. On-call Canadian Natural personnel will take appropriate actions to manage the emergency.
Y	SCADA System	Supervisory Control and Data Acquisition (SCADA) – Electronic monitoring equipment on wells throughout the gathering system will transmit signals to a central control panel. SCADA systems trigger alarm and call-out systems and may have ESD capabilities.
Y	Alarm and Call-out Process	System monitoring equipment throughout facilities will trigger an alarm to an answering service that will use a call-out system to notify applicable operators.
Y	Aerial Surveillance	Pipelines may be surveyed on a regular basis to detect leaks.
Y	Landowner Complaint System	Landowners with concerns, or who have identified potential problems, can call the facility directly or the 24-hour emergency number.
Y	Operator Inspections	Operators do regular inspections of pipelines, wells and facilities and will report any abnormality they detect.
Y	24-Hour Manned Stations	Some Canadian Natural facilities are monitored 24 hours a day.
Y	H ₂ S Monitors – Continuous	Continuous H ₂ S monitoring equipment is strategically located at all sour facilities. Monitors are calibrated at regular intervals and are designed to activate a call-out procedure to operational personnel if H ₂ S levels are detected at the facility. If H ₂ S levels reach a predetermined level, the system is designed to activate the Emergency Shutdown (ESD) and shut down the facility.
Y	Gas Monitors – Handheld	Canadian Natural personnel are equipped with personal H ₂ S / LEL monitors for early detection.
Y	Gas Detection Equipment	Continuous Combustible Gas Detectors are located throughout the facility. The detectors alarm at 20% lower explosion limit (LEL). At 40% LEL, the detectors engage a facility shut down.
Y	Fire Detection Equipment	An ultraviolet fire detection system, “Fire Eyes,” may be installed throughout facilities.
Y	Leak Detection System	Continuous monitoring systems are installed on several pipeline systems, including but not limited to water injection, oil emulsion and ESD risers. These systems can be based on different methodologies such as pipeline or differential pressure, pressure rate of change (ROC), flow rate imbalance, ROW monitoring, etc.

2.3 COMMUNICATIONS

The primary means of communications between the Emergency Response Team personnel and the various Operations Centers / Command Posts will be by cellular telephone. Portable radios will be utilized if practical. Applicable radio frequencies are listed below.

2.3.1 COMMUNICATION EQUIPMENT

EQUIPMENT	COMMENT
Cell Phone	Each operator has a cellular phone. Cell coverage in the area is reliable; however some dead spots may occur in lower lying area. In these cases, signals can be re-established by moving to higher ground.
Two-Way Radios	Two-way radios are installed in all operator trucks with base radios in the office. If more portable radios are required, contact service providers listed in Contract Services – Communications Rental Equipment
Land Line	There are no land lines at the facility

2.3.2 RADIO FREQUENCIES

NAME	RECEIVE NUMBER	TRANSMIT NUMBER

2.4 SPILL RESPONSE

Canadian Natural has implemented company spill response trailers to supplement WCSS equipment caches and / or developed additional water control points for spill mitigation. Company and / or WCSS equipment and spill contingency plans will guide initial emergency response actions while long term spill containment and recovery activities will be performed by established spill response consultants / providers contracted and directed by Canadian Natural. A list of these providers can be found in Contract Services in Section 3.

NOTE: WCSS does not provide human resources for spill response however other neighboring industrial operators or other WCSS members may be of assistance.

For spill response, consult with Environmental Coordinator and applicable WCSS Spill Contingency manual. Also refer to CiNQ:

Corporate > Environmental Conventional-Thermal > Job Instructions > [Spill Response Equipment and Contact List](#)

For full spill response procedures, guidelines and methods see applicable WCSS Spill Contingency manual (recommended) or Procedure 5: Hazardous Product Release / Spill Control (SMS 22.05) on CiNQ or in purple tabbed Hazard Response Procedures section in the Corporate ERP.

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3 CONTACTS AND TELEPHONE LISTS

3.1 COMPANY EMERGENCY CONTACTS

POSITION	NAME	CELL	OFFICE
Area Foreman			
Assistant Foreman			
Operations Superintendent			
Area Safety & Compliance Coordinator			
Environmental Field Coordinator			
Surface Landman			
Manager, Corporate Safety & Emergency Mgmt			
Emergency Management Lead			
Manager, Fort St. John Field Operations			
VP, West Field Operations			
Calgary Command Centre - Bankers Hall East (BHE)	Room 26002	N/A	

3.2 MANDATORY NOTIFICATIONS (SEE EMERGENCY NOTIFICATION DETAILS CHART)

NAME	LOCATION	TELEPHONE	
BRITISH COLUMBIA			
FOR CER PIPELINE INCIDENTS, CALL: Transportation Safety Board (TSB) *TSB will contact CER See Forms & Guidelines section, Corporate ERP: <u>Guideline 8: CER Event Reporting Guidelines</u> NOTE: CER = Canada Energy Regulator OERS = CER's Online Event Reporting System	For “Immediately Reportable Events” within three (3) hours of discovery: a) call TSB 24-Hour Reporting Hotline and b) report via OERS	24-Hour	1-819-997-7887
		https://apps.cer-rec.gc.ca/ers	
		For all other events, within 24 hours of discovery: a) report via OERS If OERS is unavailable, report by calling TSB 24-Hour Reporting Hotline	https://apps.cer-rec.gc.ca/ers
Emergency Management BC (EMBC) EMBC will contact BC Oil & Gas Commission (OGC) Use this number to also verbally report an Environmental Emergency (E2) ----- • Written notice (Schedule 8) made via SWIM * ASAP by Environmental Coordinator • Environment Canada notified by EMBC	Province-Wide	For all emergencies 24-Hour Incident Reporting	1-800-663-3456
		* For E2 Emergency Reporting only: Single Window Information Management (SWIM) https://ec.ss.ec.gc.ca	
Peace River Regional District	Dawson Creek BC	Toll-free	1-800-670-7773
Health Emergency Management BC (HEMBC)	Northern BC	24-Hour Emergency On-Call	
		Non-emergency inquiries only (HEMBC Director)	
RCMP	Fort St. John BC	24-Hour	9-1-1

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NAME	LOCATION	TELEPHONE	
ALBERTA			
FOR CER PIPELINE INCIDENTS, CALL: Transportation Safety Board (TSB) *TSB will contact CER See Forms & Guidelines section, Corporate ERP: <u>Guideline 8: CER Event Reporting Guidelines</u> NOTE: CER = Canada Energy Regulator OERS = CER's Online Event Reporting System	For "Immediately Reportable Events" within three (3) hours of discovery: a) call TSB 24-Hour Reporting Hotline and b) report via OERS	24-Hour	1-819-997-7887
		https://apps.cer-rec.gc.ca/ers	
	For all other events, within 24 hours of discovery: a) report via OERS If OERS is unavailable, report by calling TSB 24-Hour Reporting Hotline	https://apps.cer-rec.gc.ca/ers	
Energy & Environmental Response Line Alberta Environment / Alberta Energy Regulator (AER) Use this number to also verbally report an Environmental Emergency (E2) ----- <ul style="list-style-type: none">Written notice (Schedule 8) made via SWIM * ASAP by Environmental CoordinatorEnvironment Canada notified by EMBC	Province-Wide	For all emergencies 24-Hour Incident Reporting	1-800-222-6514
		* For E2 Emergency Reporting only: Single Window Information Management (SWIM) https://ec.ss.ec.gc.ca	
County of Northern Lights	Manning AB	24-Hour	780-836-0158
		Office	780-836-3348
Alberta Health Services * Ask for Environmental Public Health On Call	Province-Wide	24-Hour	
		Email	
RCMP: Manning Detachment	Province Wide		9-1-1

3.3 ROAD CLOSURE CONTACTS

Dispatch Roadblocks immediately and notify the following (no Closure Orders required for emergencies):

	ROAD TYPE	AGENCY	TELEPHONE	
BC	Provincial Highway / Roads (highways with 1, 2, 3 digits or local names)	1. RCMP / Local Police – advise of situation / request presence	24-Hour	9-1-1
		2. Traffic Management Centre BC – advise of situation / pending roadblocks	24-Hour	1 866 707-7862
		3. Highway Maintenance Contractor – advise of situation / roadblock locations	Argo Road Maint	1-800-663-7623
			Dawson Road Maint	1-800-842-4122
	Petroleum Development Roads (PDRS)	1. RCMP / local police – advise of situation / roadblock locations; request presence	24-Hour	9-1-1

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	ROAD TYPE	AGENCY	TELEPHONE	
	Forestry Roads	2. Notify of closures as needed: - for PDRs, notify OGC directly - for forestry roads, notify Ministry of Forests, LNRORD Resource District office SEE PROVINCIAL GOVERNMENT CONTACTS TABLE BELOW		
AB	- for major highways (1, 2 or 3 digit highways)	RCMP – advise of situation / roadblock locations; request presence	24-Hour Emergency	9-1-1
	- for other licensee PDRs and / or forestry roads	AER / Alberta Environment & Parks	24-Hour	1-800-222-6514

3.4 WATER INTAKE CLOSURE CONTACTS

** NOT APPLICABLE **

3.5 PROVINCIAL GOVERNMENT CONTACTS

NAME	LOCATION	TELEPHONE	
BRITISH COLUMBIA			
Emergency Management BC (EMBC) <i>EMBC will contact BC Oil and Gas Commission (OGC)</i> <i>For E2 emergencies, call and written report* required</i>		For all emergencies 24-Hour Incident Reporting	1-800-663-3456
		* For E2 Emergency Reporting only: Single Window Information Management (SWIM) https://ec.ss.ec.gc.ca	
Forests, Lands, Natural Resource Operations & Rural Development (LNRORD), Ministry of <i>Natural Resource Districts</i>	Fort Nelson NRD	Fort Nelson Office	250 774-5511
	Peace NRD	Dawson Creek Office	250-784-1200
Health Emergency Management BC (HEMBC) Non-emergency inquiries only (<i>HEMBC Director</i>) <div></div>	Northern BC	24-Hour Emergency On Call	<div></div>
Highway Maintenance Service Area 21 – South Peace <i>Argo Road Maintenance (South Peace) Inc.</i>	Dawson Creek / Pouce Coupe BC	Emergency	1-800-663-7623
		Road & Weather Conditions: www.drivebc.ca	
Highway Maintenance Service Area 22 – North Peace <i>Dawson Road Maintenance Ltd.</i>	Fort St. John BC	Emergency	1-800-842-4122
		Road & Weather Conditions: www.drivebc.ca	
Report a Wildfire	Province-Wide	24-Hour	1-800-663-5555
		Cell (Telus)	*5555
Report All Poachers and Polluters (RAPP)	Province-Wide	24-Hour	1-877-952-7277
		Cell (Telus)	*7277
WorkSafeBC (<i>Area Safety & Compliance Coordinator only</i>)	Province-Wide	Worksite Emergency 24-Hour	1-888-621-7233

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NAME	LOCATION	TELEPHONE	
ALBERTA			
Alberta EDGE – Center for TDG <i>(Environmental and Dangerous Goods Emergencies)</i>	Province-Wide	24-Hour	1-800-272-9600
Alberta Emergency Management Agency (AEMA) / <i>Provincial Operations Centre (POC)</i>	Province-Wide	24-Hour	1-866-618-2362
Alberta Energy Regulator (AER) <i>* notify when blocking petroleum development and / or forestry roads</i>	Energy & Environmental Emergency or Complaint	24- Hour	1-800-222-6514
Alberta Environment and Parks <i>* notify when blocking roads through or adjacent to Crown Land</i>			
Alberta Environment & Parks <i>Parks Fish and Wildlife Land Water</i>	Report a Poacher	24-Hour	1-800-642-3800
		Telus Mobile	#3800
	Report a Wildfire	24-Hour	310- 3473 (FIRE)
Alberta Health Services <i>* Ask for Environmental Public Health On Call</i>	Province-Wide	24-Hour	
		Email	
Alberta Transportation <i>Provincial Highway Road Closures Support</i> 1. call 9-1-1 / RCMP 2. call nearest Region / District Office <i>Highway maintenance contractors are responsible for maintenance activities including highway patrolling and emergency duties</i> Road& Weather Conditions: 511.alberta.ca	Peace Region Office	Peace River	780-624-6280
Occupational Health & Safety (Area Safety & Compliance Coordinator only)	Province-Wide	24-Hour	1-866-415-8690
Workers' Compensation Board	Province-Wide	24-Hour	1-866-922-9221

3.6 EMERGENCY SERVICE NUMBERS

SERVICE	LOCATION	TELEPHONE NUMBER	
BRITISH COLUMBIA			
RCMP	Fort Nelson BC	24-Hour	9-1-1
		Office	250-774-2777
Hospital	Fort Nelson BC	24-Hour	250-774-8100
British Columbia Ambulance Service	Province-Wide	Emergency	9-1-1
		Toll Free	1-800-461-9911
		Cell/ SAT Phone/ Outside BC	250-374-5937
Fire Department	Fort Nelson BC	24-Hour	9-1-1
		Office	250-774-2222

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ALBERTA		ALL EMERGENCY SERVICES CALL 9-1-1	
RCMP	Manning AB	24-Hour	9-1-1
		Office	780-836-3007
Hospital: Northwest Health Centre	High Level AB	24-Hour	780-841-3200
Ambulance	Province-Wide	24-Hour	9-1-1
Fire Department	Province-Wide	24-Hour	9-1-1

3.7 TDG / LPG EMERGENCY NUMBERS

NAME	CONTACT	TELEPHONE NUMBER
FOR TDG EMERGENCIES Operations to contact ERAC only if carrier driver is unable to contact supervisor 1) Carrier is responsible for contacting ERAC 2) ERAC will contact company on call contacts (Safety Leads) for ERAP activation 3) ERAC will notify and report to Transport Canada		
For Emergencies involving CNRL Propane & Butane Emergency Response Assistance Canada (ERAC) Canadian Natural ERAP Number:	24-Hour	1-800-265-0212
For TDG emergencies other than CNRL Product - contact ERAC	24-Hour	1-800-265-0212
For Information Only: CANUTEC	Toll free	1 888 226-8832
	Call Collect	613 996-6666
	Cell	*666

3.8 MUNICIPAL GOVERNMENT CONTACTS

NAME	LOCATION	TELEPHONE NUMBER
Peace River Regional District	Dawson Creek BC	Toll-free 1-800-670-7773
		Office 250-784-3200
		Fax 250-784-3201
County of Northern Lights	Manning AB	24-Hour Emergency 780-836-0158
		Office 780-836-3348

3.9 FEDERAL GOVERNMENT CONTACTS

NAME	LOCATION	CONTACT INFORMATION
FOR CER PIPELINE INCIDENTS, CALL: Transportation Safety Board (TSB) *TSB will contact CER <i>See Forms & Guidelines section, Corp ERP: Guideline 8: CER Event Reporting Guidelines</i> NOTE: CER = Canada Energy Regulator OERS = CER's Online Event Reporting System	For "Immediately Reportable Events" within three (3) hours of discovery: a) call TSB 24-Hour Reporting Hotline and b) report via OERS	24-Hour 1-819-997-7887 https://apps.cer-rec.gc.ca/ers
	For all other events, within 24 hours of discovery: a) report via OERS <i>If OERS is unavailable, report by calling TSB 24-Hour Reporting Hotline</i>	https://apps.cer-rec.gc.ca/ers
	Environment Canada * will be notified by respective provincial govt agency – see Section 3.2	

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Fisheries & Ocean Canada <i>Report emergency to nearest Marine Communications & Traffic Service Center (MCTS)</i>	MCTS – Prince Rupert, Operations	Emergency	250-627-3081
	MCTS – Victoria, Operations	Emergency	250-363-6333
Health Canada Department of Indigenous Services Canada, Environmental Public Health Services First Nations & Inuit Health Branch <i>For emergencies impacting First Nations and Indigenous communities (see Section 4)</i>	BC – FNIH First Nations Health Authority	Main	1-866-913-0033
	BC – EMBC (fanout)	24-Hour	1-800-663-3456
	AB - Environmental Health Officer (EHO)	24-Hour	780-719-8782
Indigenous Services Canada (ISC) Aboriginal Affairs & Northern Development Canada	Toronto Office	Toll Free	1-800-567-9604
NAV Canada – Flight Info Centre (FIC) <i>To issue a NOTAM, have ready (if possible):</i> - GPS coordinates, height, time frame	Nation wide	Toll Free Call Centre	1-866-992-7433

3.10 CONTRACT SERVICES

COMPANY	LOCATION	TELEPHONE NUMBER	
3.10.1 AIR QUALITY MONITORING			
Alberta Energy Regulator (not contract service)	Province-Wide	24-Hour	1-800-222-6514
Brogan Safety - SO ₂ monitors, etc	Fort St. John	24-Hour	250-787-2114
Firemaster Oilfield Services Inc.	BC, AB, SK	24-Hour	403-342-7500
HSE Integrated Ltd.	BC, AB, SK	24-Hour	1-888-346-8260
Trojan Safety Services	BC, AB, SK	24-Hour	1-877-785-9558
3.10.2 AIRCRAFT (FIXED WING) CHARTERS		CONTACT CORPORATE TRAVEL	
3.10.3 COMMUNICATIONS RENTAL EQUIPMENT			
Earth Communications	Fort Nelson, BC	Toll Free	1-877-560-3276
Petron Communications Ltd.	Fort St. John, BC	Main	250 785-3333
3.10.4 DRONE / UAV OPERATORS			
Infinity Drones Inc	Fort St. John, BC	250 787-5110 infinitydronesinc.com	
Nortech Advanced NDT	Fort Nelson, Fort St. John, BC	780 380-9888 nortechadvanced.com	
Points North GIS & UAV	Fort St. John, BC	250 264-8300 pointsnorthgis.ca	

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COMPANY	LOCATION	TELEPHONE NUMBER	
3.10.5 FRESH WATER SUPPLIERS			
3.10.6 HELICOPTERS			
Bailey Helicopters	Fort Nelson, Fort St. John	Toll Free	1-877-822-2245
Canadian Helicopters / HNZ	Edmonton, Fort McMurray, Fort St. John, Grande Prairie, Norman Wells (NWT)	24 Hr Emergency (Western Canada)	780-429-6900
Qwest Helicopters	Fort Nelson	24-Hour	250-774-5302
Valley B Aviation	Manning, AB	Main	780-836-4309
Yellowhead Helicopters	Fort St. John	24-Hour	250-785-2331
3.10.7 SAFETY SERVICES			
Brogan Safety - SO ₂ monitors, etc	Fort St. John	24-Hour	250-787-2114
Firemaster Oilfield Services Inc.	BC, AB, SK	24-Hour	403-342-7500
HSE Integrated Ltd.	BC, AB, SK	24-Hour	1-888-346-8260
Safety Boss Services	BC, AB	24-Hour	1-800-882-4967
Trojan Safety Services	BC, AB, SK	24-Hour	1-877-785-9558
United Safety Ltd.	BC, AB	24-Hour	1-800-432-1809
3.10.8 SPILL RESPONSE EQUIPMENT			
Clean Harbors	North America	24-Hour	1-800-645-8265
EnviroHazmat	BC, AB, SK	24-Hour	403-236-4901
Gen7 Environmental Solutions	AB, SK	24-Hour	780-542-3676
GFL Environmental	North America	24-Hour	1-866-417-2797
North Shore Environmental Consultants	BC, AB, SK (small scale)	24-Hour	1-855-700-6732
QM Environmental	BC, AB, SK	24-Hour	1-877-378-7745
Rapid Response Industrial Group	Canada-wide	24-Hour	1-844-774-4911
SWAT Consulting	Canada-wide	24-Hour	1-866-610-7928
Tervita	Canada-wide	24-Hour	1-800-327-7455
Western Canadian Spill Services (WCSS)	See WCSS section		
3.10.9 WELL BLOWOUT CONTROL			
Firemaster Oilfield Services Inc.	BC, AB, SK	24-Hour	403-342-7500
HSE Integrated Ltd.	BC, AB, SK	24-Hour	1-888-346-8260

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COMPANY	LOCATION	TELEPHONE NUMBER	
Safety Boss Inc.	BC, AB	24-Hour	1-800-882-4967
3.10.10 WESTERN CANADIAN SPILL SERVICES (WCSS) COOP “8” & “9” 24-HOUR EMERGENCY CONTACT 1-866-541-8888 <i>Refer to Section 2 Emergency Equipment subsection for Canadian Natural spill response trailers</i>			
COOP “8”			
Co-op Custodian James Barnhill, Husky Energy	Husky Oil Operations Yard / Rainbow Lake SE 10-10-109-08 W6M	Office	780-956-8052
		Cell	780-956-1814
Co-op Custodian Bruce Muzichuk, Muzzy's Contracting	1072 Aspen Drive Zama City, AB	24-Hour	780-926-9797
COOP “9”			
Regional Equipment Custodian Shawn Doré, Clean Harbors	Clean Harbors Surface Rentals 6715 - 85th Avenue Fort St. John, BC V1J 4J3	Cell	250-775-0364
		Office	250-785-4577
Co-op Equipment Custodian Troyer Ventures Ltd	4850 - 46 Avenue Fort Nelson, BC V0C 1R0	24-Hour	250-774-5332
Co-op Chairman Carl Reimer, North River Midstream	Fort St. John BC	Cell	250-262-8752
		Office	250-262-3456

NOTE: For spill response, consult with Environmental Coordinator. Also refer to CiNQ:

Corporate > Environmental Conventional-Thermal > Job Instructions > [Spill Response Equipment and Contact List](#)

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4 PUBLIC NOTIFICATIONS

4.1 NOTIFICATION PROCEDURES

4.1.1 TELEPHONE CALLERS

If an emergency occurs that involves only a few residents within the EPZ, the Public Safety Supervisor will designate Telephone Callers to relay messages of notification, shelter-in-place or evacuation. Refer to the Public Safety Supervisor and Telephone Caller roles in the Corporate ERP for procedures and scripts. (Forms 15, 16, 17, and 18)

Once all calls are made, the Public Safety Supervisor will review the contacted public within the EPZ and dispatch Rovers for those who requested assistance or were not reached by the telephone callers.

4.1.2 AUTOMATED PUBLIC NOTIFICATION SYSTEM (NOT APPLICABLE)

****NOT APPLICABLE FOR THIS AREA****

4.2 RECEPTION CENTRE(S)

Reception Centres have been pre-arranged as noted below. The Reception Centre chosen to send residents to will be dependent on the site of the emergency and which route is the safest for evacuating residents out of the Emergency Planning Zone.

RECEPTION CENTRE	LOCATION	TELEPHONE NUMBER	
Lakeview Inns & Suites	4507 – 50 Avenue S Fort Nelson BC V0C 1R0	24-Hour	250-233-5001
Noralta Motor Inn	101 Rainbow Drive E Rainbow Lake AB T0H 2Y0	24-Hour	780-956-5665

4.3 RESIDENT INFORMATION

Confidential resident information will only be included in the main responders' Emergency Response Plans at the end of this Section, if applicable.

4.4 BUSINESS / PUBLIC FACILITY INFORMATION

Confidential business and public facility information will only be included in the main responders' Emergency Response Plans at the end of this Section, if applicable.

4.5 SPECIAL CONSIDERATIONS FOR EMERGENCY RESPONSE

4.5.1 LOCATING TRANSIENTS AND RECREATIONAL USERS

In an emergency situation, aerial surveillance should be considered for sweeping the area to look for individuals such as non-resident landowners, snowmobilers, hunters, backpackers, skiers or any other recreational transient activity. Helicopters and fixed wing contractors are listed in Contract Services Section under the Site Specific Emergency Contacts Tab in the manual.

NOTE: Helicopters only fly during daylight hours; an emergency situation that happens at night will require the services of the fixed wing company.

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4.6 SCHOOLS DIVISION(S) / SCHOOL(S)

In the event of an emergency, the school division(s) listed below must be contacted. General school division policy defines that in an emergency situation, each division is responsible for children attending their schools until their parents / guardians are located. Private schools must be contacted directly. School children living within the EPZ attend the following schools:

SCHOOL DIVISION	TELEPHONE NUMBER	SCHOOL NAME
There are no school divisions affected by this ERP		

4.7 INDUSTRIAL OPERATOR(S)

If an industrial operator is the first person to identify a problem or emergency involving Canadian Natural Facilities, their response will be to notify Canadian Natural immediately. If Canadian Natural personnel are the first people to identify a problem or an emergency, they will immediately notify all industrial operators within the determined EPZ. Whether or not assistance will be given by neighbouring industrial operators will depend on the resources of the company at the time. The following companies operate in the Emergency Planning Zone.

INDUSTRIAL OPERATOR NAME	OPERATIONS DESCRIPTION	TELEPHONE NUMBER
N/A		

4.8 TRAPPERS / GUIDE OUTFITTERS

The following information has been updated from the most current provincial government database. Where applicable, "N/A" indicates the information was 'not available' in this database (confidentiality laws) nor was available via data searches or public consultations. Rovers will be dispatched to search the area for transient activity when required.

REGISTERED AREA	NAME	ADDRESS	TELEPHONE NUMBER



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4.9 GRAZING LEASE(S) / RESERVE(S) AND OTHER LAND USE DISPOSITIONS

Land Use Disposition Types

REGISTERED AREA	NAME	ADDRESS	TELEPHONE NUMBER
N/A			

REGISTERED AREA	NAME	ADDRESS	TELEPHONE NUMBER
N/A			

4.11 FIRST NATIONS / INDIGENOUS NATIONS

FIRST NATIONS COMMUNITY / SETTLEMENT			
NAME	CONTACT	TELEPHONE NUMBER	DESCRIPTION
N/A	There are no known First Nations dwellings / communities located within or immediately adjacent to the EPZ.		

LOCAL INDIGENOUS NATION / BAND			
NAME	CONTACT	TELEPHONE NUMBER	DESCRIPTION

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5 GATHERING SYSTEM INFORMATION

5.1 FACILITY INFORMATION

5.1.1 FACILITY SUMMARY

Facility Name	Ring Border [REDACTED]
Facility Type	Gas plant
Facility Code	N/A
Legal Description	[REDACTED]
Facility Description	[REDACTED]

Facility Name	Ring Border [REDACTED]
Facility Type	Gas Plant
Facility Code	[REDACTED]
Legal Description	[REDACTED]
Facility Description	Suspended

Facility Name	North Dahl [REDACTED]
Facility Type	Compressor Station
Facility Code	[REDACTED]
Legal Description	[REDACTED]
Facility Description	Operating

Facility Name	Ring Dahl [REDACTED]
Facility Type	Compressor Station
Facility Code	[REDACTED]
Legal Description	[REDACTED]
Facility Description	Operating

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Facility Name	Gutah <input type="text"/>
Facility Type	Compressor Station
Facility Code	<input type="text"/>
Legal Description	<input type="text"/>
Facility Description	Operating

Facility Name	Dahl Comp <input type="text"/>
Facility Type	Compressor
Facility Code	<input type="text"/>
Legal Description	<input type="text"/>
Facility Description	Operating

Facility Name	Lapp Comp <input type="text"/>
Facility Type	Compressor
Facility Code	<input type="text"/>
Legal Description	<input type="text"/>
Facility Description	Operating

Facility Name	Kahntah <input type="text"/>
Facility Type	Gas processing plant
Facility Code	<input type="text"/>
Legal Description	<input type="text"/>
Facility Description	Shut-in

Facility Name	Zaremba <input type="text"/>
Facility Type	Battery
Facility Code	<input type="text"/>
Legal Description	<input type="text"/>
Facility Description	Suspended

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5.1.1 EMERGENCY CONTROL SYSTEMS

TYPE	NTS LOCATION	LAT (Decimal Degrees)	LONG (Decimal Degrees)	EASTING (UTM NAD 83)	NORTHING (UTM NAD 83)	UTM ZONE	NOTES
ESD / CV							
ESD / CV							Compressor
ESD / CV							Gas processing plant
ESD / CV							Battery
ESD / CV							Compressor
ESD / CV							
ESD / CV							Compressor station
ESD / CV							Compressor station
ESD / CV							

5.2 FACILITY, PIPELINE AND WELL INFORMATION

5.2.1 FACILITY RELEASE RATES AND EMERGENCY PLANNING ZONES

LOCATION	FACILITY TYPE	FACILITY LICENSE	FACILITY CODE	SUB	STAT	H ₂ S REL VOL (m ³)	EPZ (m)	E2* EPZ (m)
	Gas plant						980	
	Compressor						100	
	Gas processing plant						100	
	Battery						100	
	Compressor						100	
	Gas plant						1600	1600
	Compressor station						100	
	Compressor station						100	
	Compressor						100	

* "E2" = chemical storage container as defined by CEPA regulations



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5.2.2 PIPELINE LIST LEGEND

LEGEND		SUBSTANCE / SUB		STATUS / STAT		FROM FACILITY (FAC) / TO FACILITY (FAC)	
LICENSE	License Number	OE	Oil Effluent	O	Operational	PL	Pipeline
LINE	Line Number	FG	Fuel Gas	P	To Be Constructed	WE	Well
OD	Outer Diameter (mm)	NG	Natural Gas	D	Discontinued	GP	Gas Processing Plant
WT	Wall Thickness (mm)	SW	Salt Water	S	Suspended	IP	Injection / Disposal Facility
MOP	Max Operating Pressure (kPa)	LV	Low Vapour Pressure Products			RI	River
LENGTH	Length of Segment (km)	CO	Crude Oil			LA	Lake
H ₂ S	Licensed Hydrogen Sulphide (mol / kmol)	FW	Fresh Water			S	Satellite
REL VOL	Total H ₂ S Volume Between ESDs (m ³)	SG	Sour Gas			CK	Creek
IIZ	Initial Isolation Zone (km) – <i>applicable only for Alberta</i>	H₂S CONVERSION: 1% = 10 mol / kmol = 10,000 ppm				BE	Blind End
SET EPZ	Emergency Planning Zone (m)					B	Battery
ESD	Emergency Shut Down Valve					CS	Compressor Station
CV	Check Valve					MS	Meter Station

NOTE: Abandoned assets are not included

5.2.3 PIPELINE RELEASE VOLUMES AND EMERGENCY PLANNING ZONES

NOTES: • Pipelines are sorted by From Location

Provincial LICENSE --- CER Order Number	Line	Licensee	Sub	Stat	From Location	From (Fac)	To Location	To (Fac)	OD (mm)	WT (mm)	MOP (kPa)	H ₂ S (mol / kmol)	Length (km)	H ₂ S Rel Vol (m ³)	Set EPZ (m)
															980
															980
															980

*** CER REGULATED PIPELINE:**

For any emergency involving CER regulated pipelines, contact Transportation Safety Board (TSB) first – they will contact the CER. Contact the applicable provincial authorities with a courtesy call. Refer to TSB / CER contact information / reporting requirements in Section 3.9 Federal Government Contacts.

5.2.4 WELL RELEASE RATES AND EMERGENCY PLANNING ZONES

NOTES: • No well information required

SECTION 6: MAPS & PUBLIC INFORMATION PACKAGE

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6.2	PUBLIC INFORMATION PACKAGE	1

6 MAPS & PUBLIC INFORMATION PACKAGE

6.1 SITE SPECIFIC ERP MAP

An area map showing the gathering system and facilities, surface development (roads, petroleum facilities, petroleum operators and industrial camps, trappers and guide outfitter cabins, as well as known public facilities / areas where the public may gather on a regular basis) within the Emergency Planning Zone (EPZ) and the surrounding area is included within this section.

If applicable, calculated EPZs for production assets are identified on the map as “yellow” shaded areas.

A pre-determined Environmental Emergency (E2) worst case scenario EPZs are identified on the map as the “pink” shaded areas if applicable.

6.2 PUBLIC INFORMATION PACKAGE

A Public Information Package will only be included if assets located in British Columbia have been incorporated into this Site Specific ERP. The following stakeholders who are impacted by an Emergency Planning Zone have been offered an information package as part of the consultation process if applicable:

- Local Indigenous Nation(s)
- Residents / Businesses
- Public Facilities
- Local Airport Operators
- Registered Trappers / Guide Outfitters
- Grazing Lease Holders
- Grazing Reserves
- Forestry Management Areas
- Rights Holders

Map(s) Redacted – CER Order AO-001-MO-006-2016, s. 1.a.ii.
- Facility / Pipeline technical information, disclosure of which would risk security

SECTION 7: CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) 1999 – ENVIRONMENTAL EMERGENCY (E2) PLAN PRINCIPLES

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7.3	SUBSTANCE DATA & EMERGENCY PLANNING ZONE (EPZ).....	1
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7 CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) 1999 – ENVIRONMENTAL EMERGENCY (E2) PLAN PRINCIPLES

7.1 INTRODUCTION

This area specific plan and information contained herein, when used in conjunction with Canadian Natural's Corporate Emergency Response Plan (ERP) establishes an appropriate level of preparedness and response capability for CEPA regulated substances. It meets the requirements of the Environment and Climate Change Canada (ECCC) Environmental Emergency Regulations (E2 Regulations) which came into effect August 24, 2019.

7.2 SCOPE

The E2 Emergency Response Plan provides emergency response guidance for:

- Stationary tank incidents involving Canadian Natural's owned product and locations as required under the Canadian Environmental Protection Act (CEPA)
- Transportation emergencies as required under the Transportation of Dangerous Goods (TDG) Act

7.3 SUBSTANCE DATA & EMERGENCY PLANNING ZONE (EPZ)

Based on the E2 Regulations, the regulated substance(s) located at this facility include:

Substance	Location	Latitude	Longitude	UN#	CAS Registry #	Maximum expected quantity at any time during calendar year	Capacity of single largest container where substance is stored	Hazard Category	Worst Case Scenario EPZ * (m)
Butane									1600
n-Pentane									1600
iso-Pentane									1600

* For Emergency Response Procedures based on incident type, see Section 8.1.5 of this ERP

* NGL / LPG / LNG = Natural Gas Liquids / Liquefied Petroleum Gas / Liquefied Natural Gas

7.4 TRAINING & EXERCISES

See Canadian Natural's Corporate Emergency Response Plan (ERP), Section 7.0 Plan Principles and Manual Maintenance. Exercises are held based on E2 Regulations. Annual tabletop exercises are held annually while major full scale exercises are held every 5 years.

SECTION 8: On Site E2 Regulated Substance(s) Overview & Response Procedures

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8 ON SITE E2 REGULATED SUBSTANCE(S) OVERVIEW & RESPONSE PROCEDURES

8.1 NATURAL GAS CONDENSATE / PETROLEUM CRUDE OIL / PENTANE

8.1.1 CHARACTERISTICS – FIRE OR EXPLOSION

- **HIGHLY FLAMMABLE:** Will be easily ignited by heat, sparks or flames
- Vapours may form explosive mixtures with air
- Vapours may travel to source of ignition and flash back
- Most vapours are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
- Vapour explosion hazard indoors, outdoors or in sewers
- Runoff to sewer may create fire or explosion hazard
- Containers may explode when heated
- Many liquids will float on water
- Substance may be transported hot

8.1.2 HEALTH IMPACTS

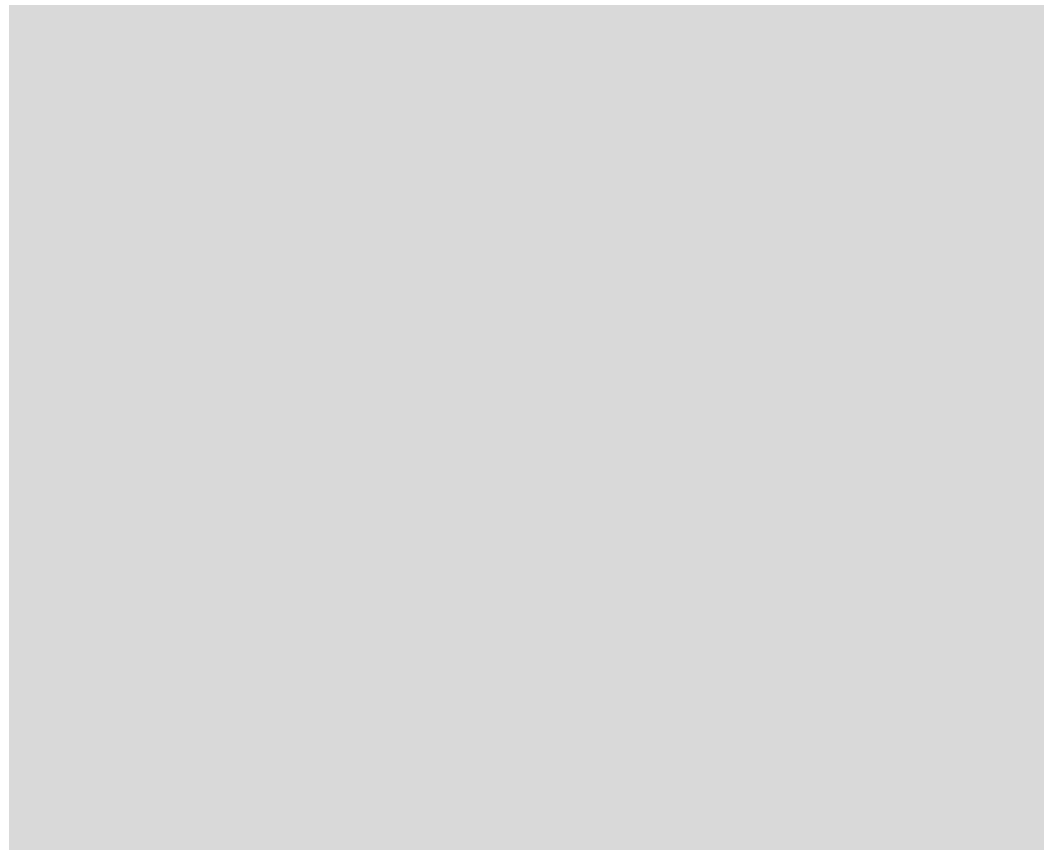
CAUTION: Petroleum crude oil (UN1267) may contain **TOXIC** hydrogen sulphide gas

- Inhalation or contact with material may irritate or burn skin and eyes
- Fire may produce irritating, corrosive and / or toxic gases
- Vapours may cause dizziness or suffocation
- Runoff from fire control or dilution water or spill may cause pollution
- May be harmful to aquatic life

NOTE: Access Canadian Natural's [sdsBinders](#) () for the most current Safety Data Sheet (SDS)

8.1.3 FACILITY OVERVIEW

8.1.3.1 Facility Plot Plan –



8.1.3.2 Description of Industrial Processes Involving Regulated Substance

n-Pentane & iso-Pentane is stored at the above location and in quantities as outlined in Section 7.

The bullet is used as storage of LPG, then shipped down pipeline to Pembina.

8.1.3.3 Containment System

The containment system is comprised of one bullet, and vessel protection systems are in place for this vessel.

8.1.4 SUMMARY OF IDENTIFIED ENVIRONMENTAL EMERGENCIES

8.1.4.1 Worst Case Scenario

The worst-case scenario of a BLEVE explosion with subsequent off-site blast and heat radiation effects will be used for Canadian Natural facilities storing CEPA regulated substances.

The worst-case scenario is based on an adopted EPZ of 1,600 m. This is the standard hazard zone applied to Canadian Natural facilities where organic compounds such as ethane, propane, butane, pentane and octane are stored at maximum quantities below 650 tonnes.

To determine this standard, the ALOHA software (ver 5.4.7) and several scenarios using different tank capacities was used to model the release rates or distances to overpressure endpoints for these flammable and / or explosive substances. The scenarios assumed a) BLEVE explosions that consumed the maximum quantity of substances stored

in the largest container system and b) subsequent fire (thermal radiation). The resulting models demonstrate a maximum of 650 tonnes with an EPZ of 1,600 m. This EPZ is equivalent to thermal radiation of 5.0 kW/m that will cause second degree burns within 60 seconds.

DISCLAIMER: Given the considerable number of Canadian Natural facilities that may periodically store these products throughout the western provinces, this worst-case scenario will be assigned to those sites unless 1) there is more than 650 tonnes of product stored in one container / container system or 2) there is a need to reduce the EPZ (i.e. product stored on site is significantly less than 650 tonnes and the standard 1,600 m EPZ impacts a heavily populated area). In both these cases, the modelling will be recalculated using the site specific data and the resulting EPZ applied to the plan.

8.1.4.2 Alternate Worst Case Scenario

Reasonable alternative worst-case scenarios were identified through a risk analysis of scenarios provided by field operations. Canadian Natural assumes the full tank amount leaks from the tank and is ignited in a pool fire. Modeling was conducted for ethane, propane, butane, pentane, and octane and given a 650 tonne tank, the adopted alternative EPZ is 800m.

8.1.5 EMERGENCY RESPONSE PROCEDURES

** Transport Canada Emergency Response Guidebook*

PUBLIC SAFETY

- **Call 9-1-1.** Isolate spill or leak area immediately for at least 50 meters (150 feet) in all directions
- Keep unauthorized personnel away
- Stay upwind
- Keep out of low areas
- Ventilate closed spaces before entering **but only if properly trained and equipped**

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA)
- Structural firefighters' protective clothing provides thermal protection **but only limited chemical protection**

EVACUATION – Large Spill

- Consider initial downwind evacuation for at least 300 meters (1000 feet)

EVACUATION – Fire

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions

FIRE RESPONSE

- **CAUTION:** All these products have a very low flash point. Use of water spray when fighting fire may be insufficient.

Small Fires

- Dry chemical, CO₂, water spray or regular foam

Large Fires

- Water spray, fog or regular foam
- Avoid aiming straight or solid streams directly onto the product
- If can be done safely, move undamaged containers away from the area around the fire

Fire Involving Tanks or Car / Trailer Loads

- Fight fire from a maximum distance or use unmanned hose holder or monitor nozzles
- Cool containers with flooding quantities of water until well after the fire is out
- For petroleum crude oil, do not spray water directly into a breached tank car. This can lead to a dangerous boil over

- Withdraw immediately in case of rising sound from venting safety devices or discolouration of tank
- ALWAYS stay away from tanks engulfed in flames
- For massive fire, use unmanned hose holder or monitor nozzles; if this is not possible, withdraw from the area and let fire burn

SPILL OR LEAK

- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames) from immediate area
- All equipment used when handling the product must be grounded
- Do not touch or walk through spilled material
- Stop leak if you can do it without risk
- Prevent entry into waterways, sewers, basements or confined areas
- A vapour suppressing foam may be used to reduce vapours
- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers
- Use clean non-sparking tools to collect absorbed material

Large Spill

- Dike far ahead of liquid spill for later disposal
- Water spray may reduce vapour but may not prevent ignition in closed spaces

FIRST AID

- CALL 9-1-1 or emergency medical service
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves
- Move victim to fresh air if it can be done safely
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- Remove and isolate contaminated clothing and shoes
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes
- Wash skin with soap and water
- In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin.
- Keep victim warm and quiet

8.1.6 RECOVERY / RESTORATION

As soon as possible following an E2 emergency involving this substance, Canadian Natural will develop, in cooperation with local governments and other impacted stakeholders as required, a plan for the recovery and restoration of the site to a condition that is reasonably safe and acceptable and situation-specific.

Canadian Natural will be responsible for this project which will include but is not limited to:

- Post incident investigation and evaluation, including but not limited to:
 - emergency response Debrief Report
 - preservation of evidence
 - root cause analysis
 - other Company incident investigation protocols
- Stakeholder post incident notification and engagement - damage assessment and communication
- Support of stakeholder recovery protocols – including Critical Incident Stress Debriefings if required
- Site restoration – including disposal / waste management (resources to be determined as needed)

8.2 NGL / LPG / LNG – BUTANE

8.2.1 CHARACTERISTICS

➤ **EXTREMELY FLAMMABLE**

- Will be easily ignited by heat, sparks or flames
- Will form explosive mixtures with air
- Vapours from liquefied gas are initially heavier than air and spread along the ground
- Vapours 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

8.2.2 HEALTH IMPACTS

- Vapours may cause dizziness or asphyxiation without warning
- Some vapours 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

NOTE: Access Canadian Natural's [sdsBinders](#) () for the most current Safety Data Sheet (SDS)

8.2.3 FACILITY OVERVIEW

8.2.3.1 Facility Plot Plan –



8.2.3.2 Description of Industrial Processes Involving Regulated Substance

Butane is stored at this facility and in quantities as outlined in Section 7.

The bullet is used as storage of LPG, then shipped down pipeline to Pembina.

8.2.3.3 Containment System

The containment system is comprised of one bullet, and vessel protection systems are in place for this vessel.

8.2.4 SUMMARY OF IDENTIFIED ENVIRONMENTAL EMERGENCIES

8.2.4.1 Worst Case Scenario

The worst-case scenario of a BLEVE explosion with subsequent off-site blast and heat radiation effects will be used for Canadian Natural facilities storing CEPA regulated substances.

The worst-case scenario is based on an adopted EPZ of 1,600 m. This is the standard hazard zone applied to Canadian Natural facilities where organic compounds such as ethane, propane, butane, pentane and octane are stored at maximum quantities below 650 tonnes.

To determine this standard, the ALOHA software (ver 5.4.7) and several scenarios using different tank capacities was used to model the release rates or distances to overpressure endpoints for these flammable and / or explosive substances. The scenarios assumed a) BLEVE explosions that consumed the maximum quantity of substances stored

in the largest container system and b) subsequent fire (thermal radiation). The resulting models demonstrate a maximum of 650 tonnes with an EPZ of 1,600 m. This EPZ is equivalent to thermal radiation of 5.0 kW/m that will cause second degree burns within 60 seconds.

DISCLAIMER: Given the considerable number of Canadian Natural facilities that may periodically store these products throughout the western provinces, this worst-case scenario will be assigned to those sites unless 1) there is more than 650 tonnes of product stored in one container / container system or 2) there is a need to reduce the EPZ (i.e. product stored on site is significantly less than 650 tonnes and the standard 1,600 m EPZ impacts a heavily populated area). In both these cases, the modelling will be recalculated using the site specific data and the resulting EPZ applied to the plan.

8.2.4.2 Alternate Worst Case Scenario

Reasonable alternative worst-case scenarios were identified through a risk analysis of scenarios provided by field operations. Canadian Natural assumes the full tank amount leaks from the tank and is ignited in a pool fire. Modeling were conducted for ethane, propane, butane, pentane, and octane and given the 650 tonnes tank the adopted alternative EPZ is 800m.

8.2.5 EMERGENCY RESPONSE PROCEDURES

** Transport Canada Emergency Response Guidebook*

PUBLIC SAFETY

- Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions
- Keep unauthorized personnel away
- Stay upwind, uphill and / or upstream
- Many gases are heavier than air and will spread along the ground and collect in low or confined areas (sewers, basements, tanks, etc.)

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA)
- Structural firefighters' protective clothing provides thermal protection but only limited chemical protection
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids

EVACUATION

- **Immediate precautionary measure** – isolate spill or leak area for at least 100 meters (330 feet) in all directions

EVACUATION – Large Spill

- Consider initial downwind evacuation for at least 800 meters (1/2 mile)

EVACUATION – Fire

- If tank, rail car or tank truck is involved in a fire, **ISOLATE** for 1600 meters (1 mile) in all directions; also consider initial evacuation for 1600 meters (1 mile) in all directions
- In fires involving Liquefied Petroleum Gases (LPG) (UN1075), Butane (UN1011), Butylene (UN1012), Isobutylene (UN1055), Propylene (UN1077), Isobutane (UN1969), and Propane (UN1978), also refer to **THE FOLLOWING:**

Boiling Liquid Expanding Vapour Explosion (BLEVE)

- **If safe to do so**, attempt to extinguish any fires before they come in contact with any storage bullets
- Call applicable service provider (i.e. FireMaster, etc.) to obtain assistance with fire suppression
- Ensure all responders are made aware of the hazards
- Evacuate all personnel and isolate area to a 1600 m radius
- Evaluate tank from a safe distance away. Choose an upwind position to side of tank if possible

- Flowing water can be used to cool tanks in order to prevent or delay a BLEVE; however, this requires a significant amount of water and should not be attempted unless an unlimited water supply can be located and tank can be approached safely
- Leave area immediately if you hear a hissing sound from venting safety devices or see discoloration of the tank

FIRE RESPONSE

➤ DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED

Small Fires

- Dry chemical or CO₂

Large Fires

- Water spray or fog
- If it can be done safely, move undamaged containers away from the area around the fire
- **CAUTION:** For **LNG – Liquefied natural gas (UN 1972)** pool fires, DO NOT USE water. Use dry chemical or high-expansion foam.

Fire Involving Tanks

- Fight fire from a maximum distance or use unmanned master stream devices or monitor nozzles
- Cool containers with flooding quantities of water until well after the fire is out
- Do not direct water at the source of leak or safety devices; icing may occur
- Withdraw immediately in case of rising sound from venting safety devices or discolouration of tank
- ALWAYS stay away from tanks engulfed in fire
- For massive fire, use unmanned master stream devices or monitor nozzles; if this is impossible, withdraw from the area and let fire burn

SPILL OR LEAK

- **ELIMINATE** all ignition sources (no smoking, flares, sparks or flames) from immediate area
- All equipment used when handling the product must be grounded
- Do not touch or walk through spilled material
- Stop leak if you can do it without risk
- If possible, turn leaking containers so that the gas escapes rather than fluid
- Use water spray to reduce vapours or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material
- Do not direct water at spill or source of leak
- **CAUTION:** For **LNG – Liquefied natural gas (UN 1972)**, DO NOT apply water, regular or alcohol-resistant foam directly on spill. Use a high-expansion foam if available to reduce vapors.
- Prevent spreading of vapours through sewers, ventilation systems and confined areas
- Isolate area until gas has dispersed
- **CAUTION: When in contact with refrigerated / cryogenic liquids, many materials become brittle and are likely to break without warning**

FIRST AID

- CALL 9-1-1 or emergency medical service
- Ensure that medical personnel are aware of the materials involved and take precautions to protect themselves
- Move victim to fresh air if it can be done safely
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- Remove and isolate contaminated clothing and shoes

- Clothing frozen to the skin should be thawed before being removed
- In case of contact with liquefied gas, thaw frosted parts with lukewarm water
- In cases of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin
- Keep victim calm and warm

8.2.6 RECOVERY / RESTORATION

As soon as possible following an E2 emergency involving this substance, Canadian Natural will develop, in cooperation with local governments and other impacted stakeholders as required, a plan for the recovery and restoration of the site to a condition that is reasonably safe and acceptable and situation-specific.

Canadian Natural will be responsible for this project which will include but is not limited to:

- Post incident investigation and evaluation, including but not limited to:
 - emergency response Debrief Report
 - preservation of evidence
 - root cause analysis
 - other Company incident investigation protocols
- Stakeholder post incident notification and engagement - damage assessment and communication
- Support of stakeholder recovery protocols – including Critical Incident Stress Debriefings if required
- Site restoration – including disposal / waste management (resources to be determined as needed)