


GRIZZLY/ THUNDER/ OJAY EMERGENCY RESPONSE PLAN

The Grizzly/ Thunder/ Ojay Emergency Response Plan covers the following areas:

Area Name	Location	Sour/ Sweet
Belcourt		
Grizzly North		
Grizzly South		
Little Prairie		
Narraway BC		
Ojay		
Ojay East		
Ojay Main		
Ojay North		
Ojay West		
Thunder		
Triad		

Redacted – NEB Order MO-006-2016, s. 1.a.ii. – Facility / Pipeline technical information, disclosure of which would risk security

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1 SITE SPECIFIC DISTRIBUTION LIST

1.1 INTERNAL COPIES

COPY #	RECIPIENT	POSITION	LOCATION	CONFIDENTIAL INFORMATION INCLUDED (√)
1	[REDACTED]	Foreman	Tumbler Ridge Office	√
2	[REDACTED]	Assistant Foreman	Tumbler Ridge Office	√
3	Tumbler Ridge Office	Tumbler Ridge Office	Tumbler Ridge Office	
4	Dawson Creek Office	Dawson Creek Office	Dawson Creek Office	
5	Grizzly North Plant	Facility	[REDACTED]	
6	Ojay Compressor	Facility	[REDACTED]	
7	Ojay Mole Sieve	Facility	[REDACTED]	
8	[REDACTED]	Superintendent, Fort St. John South	Fort St. John Office	√
9	[REDACTED]	Manager, Northern Field Operations	Calgary Office	
10	[REDACTED]	Safety & Compliance Coordinator	Fort St. John Office	
11	[REDACTED]	Surface Landman	Fort St. John Office	√
12	[REDACTED]	Maintenance Foreman	Fort St. John Office	
13	Emergency Response Mobile Cart	n/a	Calgary Office	
14	Calgary Office Command Center	Calgary Office Command Center	Calgary Office – Room 26002	
*	Roadblock Kit	Grizzly North Plant	[REDACTED]	
*	Roadblock Kit	Thunder Plant	[REDACTED]	
*	Roadblock Kit	Ojay Compressor	[REDACTED]	
*	Roadblock Kit	Ojay Mole Sieve	[REDACTED]	
*	Roadblock Kit	Ojay	[REDACTED]	
*	Roadblock Kit	Murray River Plant	[REDACTED]	
*	Roadblock Kit	Mast Mole Sieve	[REDACTED]	
*	Roadblock Kit	Tumbler Ridge Office	Tumbler Ridge Office	
*	Roadblock Kit	Dawson Creek Office	Dawson Creek Office	
CD* (x6)	Rig Coordinator	Rig Coordinator	Fort St. John Office	

* = Road Block Role Checklist and Information, Road Block Control Log and Map only
 CD* = Complete Emergency Response Plan on CD and a paper copy of the EPZ map

Redacted - NEB Order MO-006-2016 s. 1.a.i. - Personal information


1.2 EXTERNAL COPIES

COPY #	RECIPIENT	ORGANIZATION	LOCATION
15	Emergency Response and Safety Inspector	British Columbia Oil and Gas Commission	6534 Airport Road Fort St. John, BC V1J 4M6
16	NEB – Hard Copy	National Energy Board	517 10 th Avenue SW Calgary, AB T2R 0A8
CD	NEB – Electronic Copy		
*	Manager of Community Services	Peace River Regional District	P. O. Box 810 1981 Alaska Avenue Dawson Creek, BC V1G 4H8 prrd.dc@prrd.bc.ca
CD*	Protective Services Coordinator	Municipal District of Greenview No. 16	Box 1079 Valleyview, Alberta, Canada T0H 3N0
*	Chief Medical Health Officer	Northern Health Authority	600 – 299 Victoria Street Prince George, BC V2L 5B8 [REDACTED]
CD	Shane Hussey	Alberta Health Services – North Zone	11202- 100 Ave. High Level, AB, T0H 1Z0
CD	Wil White	RCMP – Grande Prairie Detachment	10202 99 th Street Grande Prairie, AB T8V 2H4
*	Sgt. Reinink	RCMP – Dawson Creek Detachment	1230 102 Avenue Dawson Creek, British Columbia V1G 4V3 [REDACTED]
<p>* = Received an electronic copy of the complete Emergency Response Plan via email CD = Complete Emergency Response Plan on CD CD* = Complete Emergency Response Plan on CD and a hard copy of the ERP map.</p>			

Any of the following that are affected by the EPZ have been sent an information package:

- Residents
- Registered Trappers
- Grazing Lease Owners
- Grazing Reserves

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1.3 AMENDMENT RECORD

DATE	DETAILS	CHANGED BY
December, 2004	Rev. 0 - Plan converted to new Canadian Natural format	[REDACTED]
August, 2005	Rev. 0-1 - Changes made to contacts and distribution lists to reflect split of Fort St. John District into Fort St. John North and Fort St. John South and resultant personnel re-organization	[REDACTED]
April, 2006	Rev. 1-0 - Annual update: EPZ calculations, gathering system, contact phone numbers and address, contract services etc. 2 new wells and 2 new sour pipelines were added (no new surface development involved)	[REDACTED]
April, 2007	Rev. 2-0 - Annual update: EPZ calculations, gathering system, contact phone numbers and address, contract services etc. 1 new well and 1 new sour pipeline added	[REDACTED]
January, 2008	Rev. 3-0 - Reviewed EPZ calculations, gathering system, contact phone numbers and address, contract services, etc.	[REDACTED]
February, 2008	Foreman change – updated contact lists	[REDACTED]
May, 2008	Rev. 3-1 (requested by OGC) <ul style="list-style-type: none"> • Add facility description to Public Info Package, as well as changed info on health impacts, added evacuation center, added PEP number and amended sheltering instructions • Updated Mutual Aid, WCSS contact info • Added contact for Northern Health Authority, Dawson Creek • Added communication services available from safety companies and added alternate firefighting services • Changed map template 	[REDACTED]
September 2008	Rev. 4-0 Annual update <ul style="list-style-type: none"> • New well b-77-A/93-P-3 and flow line added • New facility added at d-60-A/93-P-3 • Review of existing gathering system – wells, pipelines, facilities, calculations • EPZ area groundtruthed and map updated • Resident info and all contact info updated 	[REDACTED]
September 2009	Rev. 5-0 Annual update <ul style="list-style-type: none"> • Reviewed EPZ calculations and gathering system • Changed pipelines to/from D-60-A Mole Sieve from “to be Constructed” to “Operating” • Added roadblock kit to Mast Mole Sieve D-60-A • Residents contacted and information updated • All emergency contact information verified and updated • Map updated 	[REDACTED]
May, 2010	Rev. 5-1 <ul style="list-style-type: none"> • ERP updated to include two new wells and associated pipelines acquired from BG International EPZ calculations completed • Map expanded to show new wells & pipelines, with associated EPZs and EAZs • 1 Guide/Outfitter added 	[REDACTED]
September, 2010	Rev. 6-0 - Annual update <ul style="list-style-type: none"> • Reviewed EPZ calculations and gathering systems. Update includes 7 new wells acquired from Shell and associated pipelines. • Area groundtruthed and map updated to reflect all new changes • All emergency contact information verified and updated • Residents contacted and information updated 	[REDACTED]



**EMERGENCY RESPONSE PLAN
Grizzly/ Thunder/ Ojay**

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DATE	DETAILS	CHANGED BY
December, 2011	Rev. 6-1 - RP supplement to include assets acquired from ConocoPhillips Canada. Additional map showing acquired wells, pipelines, and facilities with associated EPZs	[REDACTED]
January, 2012	Rev. 7-0 - Annual update <ul style="list-style-type: none"> Reviewed gathering systems and updated EPZ calculations. Area groundtruthed and all residents/ businesses were contacted Map updated to reflect any changes All emergency contact information verified and updated Contract services updated 	[REDACTED]
March, 2013	Rev. 8-0 - Annual update <ul style="list-style-type: none"> Reviewed gathering systems and update EPZ calculations Map updated to reflect all changes Contacted all area residents/ businesses and updated information All emergency contact information verified and updated. 	[REDACTED]
November, 2014	Rev. 9-0 - Annual update <ul style="list-style-type: none"> Reviewed gathering systems and updated EPZ calculations- included wells and associated pipelines acquired from Apache (Ojay area ERP) Map updated to reflect all changes Contacted all area residents/ businesses and updated information All emergency contact information verified and updated. 	[REDACTED]
January, 2015	Rev. 9-1 <ul style="list-style-type: none"> Added 2 National Energy Board (NEB) pipelines to pipeline list Added NEB to distribution list 	[REDACTED]
April, 2015	Rev. 9-2 – National Energy Board (NEB), Transportation Safety Board (TSB) and Emergency Response Assistance Canada (ERAC) Information Update <ul style="list-style-type: none"> Updated external distribution list for NEB from three hard copies to one hard copy and one electronic copy Updated NEB contact information Updated TSB contact Information Amended TDG/LPGS emergency corporation name from LPG Emergency Response Corp. to ERAC 	[REDACTED]
November, 2015	Rev. 10-0 - Annual update <ul style="list-style-type: none"> Reviewed gathering systems and updated EPZ calculations Map updated to reflect all changes Contacted all area residents/ businesses and updated information All emergency contact information verified and updated. 	[REDACTED]
March, 2016	Rev. 10-1 <ul style="list-style-type: none"> Incorporated additional information as required by the NEB Added one recently acquired NEB pipeline 	[REDACTED]

Any comments, suggestions or revisions can be directed to:

Canadian Natural Resources Limited

Attention: [REDACTED]

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2.1.2 OFF-SITE COMMAND CENTER CENTRE / EMERGENCY OPERATIONS CENTRE

DISTRICT OFFICE:	Fort St. John 6744 Airport Road Fort St. John, British Columbia V1J 4H9	
PHONE NUMBERS:	NUMBER	DESCRIPTION
	250-785-3085	Main Office Number
	250-785-3055	Main Fax Number
	[REDACTED]	On-Call Pager

2.1.3 GENERAL LAND USE AND POPULATION DENSITY

Name of Municipal District / County: Forest Region		Peace River Regional District
Land Use of Area Surrounding Facility:		Oil and gas, hunting, trapping, guiding, mining
POPULATION DENSITY (WITHIN EPZ):		
No.	TYPE	DESCRIPTION
10	Residences	9 seasonal, 1 occupied. See Section 4.4 for more information.
17	Businesses / Organizations	See Section 4.5 for more information.
4	Public Facilities / Recreational Areas	4 campsite/ recreation areas. See Section 4.5 for more information.
	Trappers/ Guide Outfitters	8 trap lines. 2 guide outfitters. See Section 4.8 for more information.
0	Grazing Leases/Reserves	N/A
0	Forest Management Areas	N/A
0	First Nation Groups	N/A
Several	Lakes / Rivers	Barber Lake, Red Deer Creek, Wapiti River, Little Praire Creek, Stony Lake, Belcourt Creek, Honeymoon Creek, Fearless Creek, Bokken Creek, Inis Lake, Calliou Lake, Calliou Creek, Gap Lake, Gibson Lake, Rat Lake, Kinuseo Creek, Flatbed Creek, many other lakes, creeks and unnamed tributaries
1	Other	Hunting - Private hunting, as well as guided hunting/fishing, takes place all through the wilderness in this area. In case of emergency, aerial surveillance will be needed to look for any backpackers, day-hikers, cyclists, snowmobilers, skiers or hunters.


2.1.4 SAFE LOCATIONS

On Site Muster Area	Upwind side of incident
Off-Site Staging Area	Depending on Emergency Location

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2.1.5 EMERGENCY EQUIPMENT

TYPE	QUANTITY	LOCATION / NOTES
Personal Gas Monitor	5	3-head 4 way gas monitors used by the operations staff throughout the Grizzly, South Grizzly, Ojay and Thunder fields.
Portable Gas Detector	0	
SCBA	5	One for each operator and crew
SABA	0	
Wheeled Fire Extinguisher	0	
Hand-Held Fire Extinguisher	2	Kept at main plant sites
First Aid Kits	2	Each kept in the run trucks for field ops
First Aid Station	0	
First Aid Room	0	
Eye Wash Station – 15 min. flow	3	Kept at main plant sites
Eye Wash Station – 1 litre bottle	0	
Burn Kit	0	
Ignition Equipment	5	1 flare pistol in the roadblock kit (Grizzly North), 1 flare pistol in each truck (2 Grizzly North trucks & 1 South Run truck), 1 flare shotgun in Assistant Foreman's truck.
Road Block Kit – <i>Consists of:</i> 3 triangular flare / reflector kits 1 traffic vest (mesh with reflective striping) 1 Stop / Slow paddle 3 traffic cones 1 30-minute flare with spike 1 flare gun with flares 1 6-volt flashlight with spare battery 1 12-volt spotlight 1 roll of Caution tape 1 windsock and stand - clipboard, pencils, paper - ERP map(s) - Roadblock Role Checklist & information - Roadblock Control Log form	7	Grizzly North Plant Thunder Plant Ojay Compressor Ojay Mole Sieve Murray River Plant Mast Mole Sieve Tumbler Ridge Office

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2.1.6 EXTERNAL EMERGENCY RESPONSE PLANS / MUTUAL AID

BC - PEACE RIVER REGIONAL DISTRICT

Consulted [REDACTED], *Protective Services Manager/ Emergency Program Coordinator.*

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

It is essential that Canadian Natural's Incident Commander maintain communication with Peace River Regional District Protective Services Manager to ensure that responses are coordinated.

The 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 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 Alert, Order and Rescind
- Assist in a public information service (joint OGC, industry, local government)
- Provide building re-entry procedures

The Peace River Regional District provides enhanced 9-1-1 services to all municipalities and electoral areas of the Regional District. Personnel at the 9-1-1 Public Safety Answering Point (PSAP), located within the RCMP North District Operational Communications Centre (OCC) in Prince George, determine the nature of the emergency and transfer the caller to the appropriate response agency – police, fire or ambulance.

The 9-1-1 Emergency Service also includes fire/rescue radio dispatch for eleven fire departments throughout our region. The fire dispatch centers are located at the Dawson Creek and Fort St John Fire Departments.

The Charlie Lake Fire Department (CLFD), operated by the Peace River Regional District, is staffed by a full time Fire Chief, a full time Deputy Chief and 30+ enthusiastic volunteer firefighters out of one fire hall. The department currently responds to 80 to 100 calls for service a year and protects 125 square km's with a population of 3,700. Full time staff are at the hall 8:30 a.m. – 4:30 p.m. Monday to Friday.

When requested, volunteer Search and Rescue teams are available to support Ground Search and Rescue activities throughout the Peace Region. All members receive search training with some trained in specialized disciplines including Rope Rescue, Tracking and Swiftwater and Ice Rescue and HETS.


AB – MUNICIPAL DISTRICT OF GREENVIEW NO. 16

Consulted [REDACTED]

Any time an emergency occurs which involves the evacuation of more people than Canadian Natural personnel can handle, the MD of Greenview #16 will be notified to assist. If necessary, the Counties will then declare a local state of emergency and take over the evacuation process, including activating and manning their own Reception Centre, and sending county personnel / volunteers to manage an evacuation. It is essential that Canadian Natural's On-Scene Commander maintain communication with the County Coordinators to ensure that responses are coordinated.

The MD of Greenview #16 has an emergency response plan. Their emergency number is included in the Municipal Contacts section of this ERP. They can be called to *assist* CNRL with any emergency notifications, evacuations or procedures that may be required.

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There are two Greenview Fire Departments, located at DeBolt and Grovedale, three Fire Departments on contract from Fox Creek, Grande Cache and Valleyview, each with approximately 20 volunteer firefighters.

NOTE: The Fire Departments are not equipped for Industrial Fire Protection and would be responsible for anything off-site or outside of the Emergency Planning Zone. Some Fire Department resources may be useful for on-site actions such as water tank trucks, potable tanks, etc. and may be made available if requested. Certain areas have limited access or are extremely remote from any Fire Department.

The Alberta Energy Regulator – Peace Wildfire Management Area is responsible for wildland fire protection in these areas. The County has no Special Constables. All policing duties are covered by the RCMP – Fairview Detachment. The Public Works Department employs about six personnel, which expands to 20 employees during the summer.

Emergency Medical Services are under Alberta Health Services; dial 9-1-1.

BC - NORTHERN HEALTH AUTHORITY

Consulted [redacted] *Chief Medical Health Officer.*

The Northern Health Authority' Medical Health Officer is the primary contact in the event of an emergency but works with Environmental Health to investigate the incident and / or liaise with the licensee. Health Emergency Management BC (HEM BC North) will serve as an additional contact, however, the primary contact should always be the Medical Health Officer.

For consultation purposes, HEMBC North can be used as the confirming agency for contact information and roles and responsibilities however, any revised consultation forms will be forwarded to the Chief Medical Health Officer for confirmation signing.

Northern Health Authority Emergency Response – Roles and Responsibilities:

Role:

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 (Protections, 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).

Responsibilities:

- Provide acute care and emergency services at existing Northern Health hospitals/health centre;
- Work with BC Ambulance Service and the BC Patient Transfer Network to transport patients to the appropriate levels of care;
- Activate internal emergency response management plans related to ongoing provision of its services (listed above);
- 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);
- Provide advice/information on the best methods for monitoring health effects from an incident.

AB - ALBERTA HEALTH SERVICES – NORTH ZONE

Consulted [redacted] *, Environmental Public Health Director*


The North Zone has developed an e-mail address NZERP@albertahealthservices.ca that will be used to receive all electronic information relating to oil and gas Emergency Response Planning for the North Zone. If it can be sent electronically please use the e-mail provided.

This e-mail will be checked by designated personnel and all information handled appropriately. There is no longer a need to send information to local offices in the North Zone as it will be distributed internally by our own staff.

Environmental Public Health (EPH) will endeavor to:

- Participate with the Licensee in the development of their Emergency Response Plans as it relates to the EPH

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- 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.

BC - RCMP – DAWSON CREEK DETACHMENT

Consulted [Redacted]

The RCMP:

- 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

AB - RCMP – GRANDE PRAIRIE DETACHMENT

Consulted [Redacted]

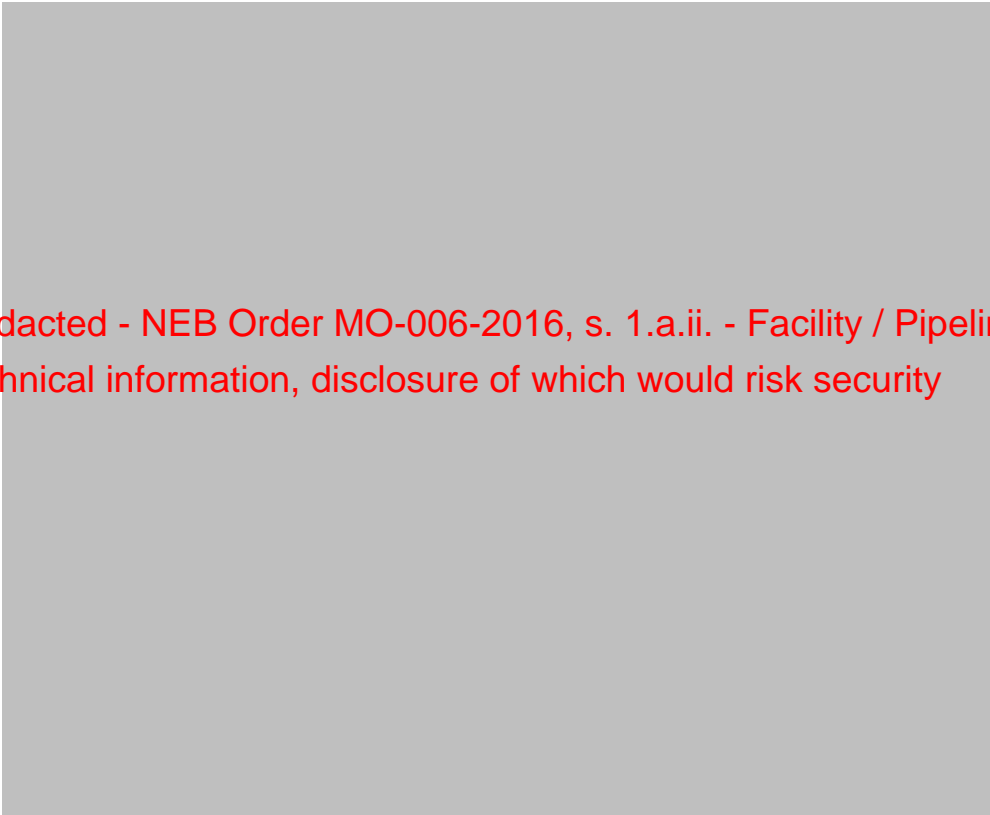
The RCMP:

- 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

MUTUAL AID

It is generally understood that in the event of an emergency if another industrial operator is the first to identify the situation their initial response will be to notify Canadian Natural immediately. In the same vein, if Canadian Natural personnel are the first ones to identify the emergency, they will immediately notify all other industrial operators that may be affected.

Canadian Natural would provide first responder actions for an emergency involving other operated assets, with immediate notification to the well or the pipeline licensee.



Redacted - NEB Order MO-006-2016, s. 1.a.ii. - Facility / Pipeline technical information, disclosure of which would risk security

2.1.8 SPECIAL CONSIDERATIONS FOR EMERGENCY RESPONSE

<p><u>Locating Transients and Recreational Users</u></p> <p>The area around Tumbler Ridge is very popular with recreational users. In an emergency situation, aerial surveillance must be contacted and brought in to sweep the area to look for snowmobilers, hunters, backpackers, skiers or any other recreational transients. Helicopters and Fixed Wing contractors are listed in the contract services section of this manual. Note: helicopters only fly daylight hours; an emergency situation that happens at night will require the services of the fixed wing company.</p> <p><u>Fredlund Guide Services</u></p> <div style="background-color: grey; height: 15px; width: 100%;"></div> <div style="background-color: grey; height: 15px; width: 100%;"></div> <div style="background-color: grey; height: 15px; width: 100%;"></div> <p style="color: red; text-align: center;">Redacted - NEB Order MO-006-2016 s. 1.a.i. - Personal information</p> <div style="background-color: grey; height: 15px; width: 100%;"></div> <div style="background-color: grey; height: 15px; width: 100%;"></div> <div style="background-color: grey; height: 15px; width: 100%;"></div>
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2.2 EMERGENCY DETECTION, NOTIFICATION AND CONFIRMATION SYSTEMS

PRESENT AT FACILITIES	TYPE	DESCRIPTION
Y	24-Hour Emergency Telephone Number	Posted on all facility and pipeline crossing signs. Any operator, landowner or public citizen can call to notify Canadian Natural of an emergency situation. On-call Canadian Natural personnel will then contact appropriate operators to confirm and manage emergencies.
Y	SCADA System (On sales line)	Electronic monitoring equipment on all wells throughout the gathering system will transmit a signal to the central control panel, complete with alarm and call-out system.
Y	Alarm and Call-out Process	Gas detection monitoring equipment throughout facilities that will trigger an alarm to a ProTalk system. It will then use a call-out system to notify appropriate operators.
N	Aerial Surveillance	Pipelines are surveyed on a regular basis to detect leaks.
Y	Landowner Complaint System	Landowners with concerns or who have identified any 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 emergency they detect.
N	24-Hour Manned Stations	Operators continually monitor electronic panels at the facility to detect irregularities.
Y	H ₂ S Monitors – Continuous	Continuous H ₂ S monitors are located throughout the sour facilities. Monitors are calibrated regularly. The detectors alarm at 5 ppm. At 20 ppm the detectors engage a facility shutdown.
Y	H ₂ S Monitors - Handheld	Canadian Natural field personnel are equipped with handheld 4-head personal monitors.
Y	Gas Detection Equipment	Continuous Combustible Gas Detectors are located throughout the facility. The detectors alarm at 20% lower explosive limit (LEL). At 40% LEL, the detectors engage a facility shutdown.
Y	Fire Detection Equipment	An ultra violet fire detection system (Fire Eyes) is installed throughout the facility.

2.3 COMMUNICATIONS

The primary means of communication between the Emergency Response Team personnel and the various Operations Centres / Command Posts will be by cellular telephone. Portable radios will be utilized if practical. Applicable radio frequencies are listed below. In the event that more portable radios are required than are available, contact should be made with service providers as listed below or in the Contract Services section: “Safety Services / Communication Equipment.”

2.3.1 COMMUNICATION EQUIPMENT

EQUIPMENT	COMMENT
Cellular telephones	All personnel carry cellular telephones; however there may be dead spots.
Phones	Phones at all Plant sites
Radio	Two-way radio systems

3 CONTACTS AND TELEPHONE LISTS


3.1 COMPANY EMERGENCY NUMBERS

POSITION	NAME	CELL	OFFICE
Area Foreman	[REDACTED]	[REDACTED]	[REDACTED]
Assistant Foreman	[REDACTED]	[REDACTED]	[REDACTED]
Operations Superintendent	[REDACTED]	[REDACTED]	[REDACTED]
Safety & Compliance Coordinator	[REDACTED]	[REDACTED]	[REDACTED]
Surface Landman	Redacted - NEB Order MO-006-2016 s. 1.a.i. - Personal information		
Health & Safety Manager	[REDACTED]	[REDACTED]	[REDACTED]
Emergency Management Lead	[REDACTED]	[REDACTED]	[REDACTED]
Manager- Northern Field Operations	[REDACTED]	[REDACTED]	[REDACTED]
Vice President West Field Conventional Operations	[REDACTED]	[REDACTED]	[REDACTED]
Calgary Command Centre	[REDACTED]	[REDACTED]	[REDACTED]

3.2 PROVINCIAL GOVERNMENT CONTACTS

BRITISH COLUMBIA

NAME	LOCATION	TELEPHONE NUMBER
Emergency Management BC	Prince George BC	24-Hour Incident Reporting : 1-800-663-3456
		Office : 250-612-4172
BC Oil and Gas Commission	Province-Wide	24-Hour Incident Reporting : 1-800-663-3456
	Fort St. John BC	Office : 250-794-5200
Northern Health Authority	Prince George BC	24-Hour (On-call – MHO) : 250-565-2000
Ministry of Environment: Fish and Wildlife	Fort St. John BC	Office : 250-787-3411
Ministry of Forests and Range: Forests and Range	Dawson Creek BC	Office : 250-784-1200
Forest Fire Reporting	Province-Wide	24-Hour : 1-800-663-5555
Ministry of Transportation: Provincial Roads, Highways and Bridges	Fort St. John BC	Office : 250-787-3237
Yellowhead Road & Bridge (North Peace) Ltd.	Fort St. John BC	Emergency : 1-888-883-6688
Caribou Road Services (South) Ltd.	Dawson Creek / Pouce Coupe BC	Emergency : 1-800-667-2322
WorkSafeBC	Province-Wide	Emergency - Office hours : 1-888-621-7233
		Emergency - After hours : 1-866-922-4357

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ALBERTA

NAME	LOCATION	TELEPHONE	
Alberta Energy Regulator (AER)	Province-Wide	24- Hour	1-800-222-6514
	Grande Prairie Field Centre	24-Hour	780-538-5138
Alberta Emergency Management Agency	Edmonton AB	24-Hour	1-866-618-2362
Alberta Environment and Sustainable Resource Development (AESRD) – Fish & Wildlife	Whitecourt Office	Main Office	780-778-7112
	Report a Poacher	24-Hour	1-800-642-3800
AESRD – Wildfire Reporting	Toll Free	24-Hour	1-866-394-3473
	Province-Wide	24-Hour	403-310-3473
Alberta Transportation	Edmonton AB	24-Hour	1-800-272-9600
Alberta Health Services	Grande Prairie AB	24-Hour	1-866-654-7890
		Main Office	780-513-7517
Workplace Health & Safety	Province-Wide	24-Hour	1-866-415-8690
Workers' Compensation Board	Edmonton AB	24-Hour	1-866-922-9221

3.3 EMERGENCY SERVICE NUMBERS

BRITISH COLUMBIA

SERVICE	LOCATION	TELEPHONE NUMBER	
RCMP – Dawson Creek Detachment	Dawson Creek, BC	24-Hour	9-1-1
		Office	250-784-3700
RCMP – Tumbler Ridge Detachment	Tumbler Ridge, BC	24-Hour	9-1-1
		Office	250-242-5252
Hospital – Dawson Creek	Dawson Creek, BC	24-Hour	250-782-8501
Hospital – Fort St. John	Fort St. John, BC	24-Hour	250-262-5200
British Columbia Ambulance Service	Province-Wide	24-Hour	800-461-9911
		Office	250-651-7700
Fire Department – Dawson Creek	Dawson Creek, BC	24-Hour	9-1-1
		Office	250-782-9898
Fire Department – Tumbler Ridge	Tumbler Ridge, BC	24-Hour	9-1-1
		Office	250-242-3939

ALBERTA

SERVICE	LOCATION	TELEPHONE NUMBER	
RCMP	Grande Prairie	24-Hour Office	9-1-1 780-830-5700
Hospital	Grande Prairie	24-Hour Office	9-1-1 780-538-7100
Ambulance	Grande Prairie	24-Hour Office	9-1-1 780-513-5290
Fire Department	Grande Prairie	24-Hour Office	9-1-1 780-538-0393

3.4 TDG / LPG EMERGENCY NUMBERS

NAME	CONTACT	TELEPHONE NUMBER	
Transport Canada (CANUTEC) – TDG Emergencies	Call Centre	24-Hour	613-996-6666
Emergency Response Assistance Canada (ERAC) Canadian Natural ERAP Number:	Call Centre (Propane and butane emergencies only)	24-Hour	1-800-265-0212
Redacted - NEB Order MO-006-2016 s. 1.a.i. - Personal information			

3.5 MUNICIPAL GOVERNMENT CONTACTS (FOR NOTIFICATION PURPOSES ONLY)

NAME	LOCATION	TELEPHONE NUMBER	
Peace River Regional District	Dawson Creek, BC	Toll free/ 24 Hr.	1-800-670-7773
		Office	250-784-3200
		Fax	250-784-3201
Municipal District of Greenview No. 16	Valleyview, AB	Office	780-524-7600
		24 Hr. Emergency	1-866-524-7608

3.6 FEDERAL GOVERNMENT CONTACTS

NAME	LOCATION	CONTACT INFORMATION	
National Energy Board (NEB) <i>See Corporate ERP: Notification of an Emergency Situation (Federal), Page 5-40 for Incident Reporting Instructions</i>	Online Event Reporting System (OERS)	https://apps.neb-one.gc.ca/ers	
	Incident Line (all other incidents)	24-Hour	403-807-9473
	Calgary Office	Main	403-292-4800
Transportation Safety Board (TSB) <i>See Corporate ERP: Notification of an Emergency Situation (Federal), Page 5-40 for Incident Reporting Instructions</i>	Reporting Hotline	24-Hour	1-819-997-7887
		Fax	1-819-953-7876
	Email Address	PipelineNotifications@tsb.gc.ca	
Indian Oil & Gas Canada	Calgary, AB	Office Fax	403-292-5625 403-292-5618
Health Canada, First Nations & Inuit Health Branch	Prince George, BC	Office	250-561-5370
Environment Canada <i>(will be notified through the respective provincial or territorial government)</i>	National Environmental Emergency Centre	24-Hour	1-819-997-2800 or 1-800-668-6767
	Emergency Management BC	24-Hour	1-800-663-3456

3.7 CONTRACT SERVICES

BRITISH COLUMBIA

COMPANY	LOCATION	TELEPHONE NUMBER	
AIR QUALITY MONITORING			
Firemaster Oilfield Services	Fort St John, BC	24-Hour	403-342-7500
HSE Integrated Ltd.	Fort St John, BC	24-Hour	1-888-346-8260
Promet Environmental Group Ltd.	Calgary, AB	24-Hour	1-877-577-6638
Trojan Safety Services	Fort St. John, BC	24-Hour	1-888-785-9557
AIRCRAFT / HELICOPTERS			
Canadian Helicopters Ltd.	Fort St John, BC	24-Hour	250-787-0431
North Cariboo Air	Fort St John, BC	24-Hour	1-888-735-9464 250-787-0311
Yellowhead Helicopters Ltd.	Fort St John, BC	24-Hour	250-785-2331
SAFETY SERVICES / COMMUNICATION EQUIPMENT			
HSE Integrated Ltd.	Fort St John, BC	24-Hour	1-888-346-8260



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COMPANY	LOCATION	TELEPHONE NUMBER	
Trojan Safety Services	Fort St. John, BC	24-Hour	1-888-785-9557
United Safety Ltd.	Fort St. John / Fort Nelson, BC	24-Hour	1-800-432-1809
WELL BLOWOUT CONTROL			
Firemaster Oilfield Services	Fort St John, BC	24-Hour	403-342-7500
HSE Integrated Ltd.	Fort St John, BC	24-Hour	1-888-346-8260
Safety BOSS	Fort St John, BC	24-Hour	1-800-882-4967

ALBERTA

COMPANY	LOCATION	TELEPHONE NUMBER	
AIR QUALITY MONITORING			
Alberta Energy Regulator <i>(not contract service)</i>	Province-Wide	24-Hour	1-800-222-6514
Firemaster Oilfield Services Inc.	Province-Wide	24-Hour	403-342-7500
HSE Integrated Ltd.	Province-Wide	24-Hour	1-888-346-8260
Promet Environmental	Province-Wide	24-Hour	1-877-577-6638
Trojan Safety Services	Province-Wide	24-Hour	1-888-785-9557
AIRCRAFT / HELICOPTERS			
Airco Aircraft Charters	Edmonton AB	24-Hour	780-471-4771
Canadian Helicopters Ltd.	Edmonton AB	24-Hour	780-429-6900
Central Mountain Air	Province-Wide	24-Hour	1-866-731-7992
North Cariboo Air	Edmonton AB	24-Hour	1-866-359-6222
WELL BLOWOUT CONTROL			
Firemaster Oilfield Services Inc.	Province-Wide	24-Hour	403-342-7500
HSE Integrated Ltd.	Province-Wide	24-Hour	1-888-346-8260
Safety BOSS	Province-Wide	24-Hour	1-800-882-4967
SAFETY SERVICES/ COMMUNICATION EQUIPMENT			
HSE Integrated Ltd.	Province-Wide	24-Hour	1-888-346-8260
United Safety Ltd.	Province-Wide	24 Hour	1-800-432-1809
Trojan Safety Services	Province-Wide	24-Hour	1-888-785-9557

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WESTERN CANADIAN SPILL SERVICES (WCSS) AREA "C"		24 HOUR EMERGENCY 1-866-541-8888	
Dwayne Stone, Clean Harbors Regional Custodian	Fort St. John, BC	Office	250-785-8500
Eric Pike, Clean Harbors Co-op Equipment Custodian	Fort Nelson, BC	24-Hour	250-233-8811


WESTERN CANADIAN SPILL SERVICES (WCSS) AREA "T"		24 HOUR EMERGENCY 1-866-541-8888	
Regional Custodian, Clean Harbors	Grande Prairie AB	24-Hour Cell	780-532-4331 [REDACTED]
Co-op Custodian CNRL Chinchaga Gas Plant	[REDACTED] Grande Prairie AB	24-Hour	780-836-3364 [REDACTED]

WESTERN CANADIAN SPILL SERVICES (WCSS) AREA "E"		24 HOUR EMERGENCY 1-866-541-8888	
Co-op Custodian [REDACTED] Pembina Pipelines	Pembina Valleyview Pump Station [REDACTED]	Office Cell	780-524-3392 [REDACTED] [REDACTED]

3.8 HOTELS / MOTELS

NAME	LOCATION	TELEPHONE NUMBER	
Tumbler Ridge Inn	Tumbler Ridge, BC	24 hour	250-242-4277
Holiday Inn Express & Suites	Dawson Creek, BC	24 hour	1-877-660-8550
Lakeview Inn & Suites	Chetwynd, BC	24 hour	250-788-3000

Redacted - NEB Order MO-006-2016 s. 1.a.i. - Personal information

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4 PUBLIC NOTIFICATIONS

4.1 COMMALERT ACTIVATION – NOT APPLICABLE

IMPORTANT - See Section 4.2 Notification Procedures below for procedures to activate CommAlert system	780-669-0325
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4.2 NOTIFICATION PROCEDURES

***NOTE: COMMALERT IS NOT AVAILABLE FOR THIS PLAN**

If an emergency occurs that will involve only a few residents, the Public Safety Chief will designate Telephone Callers to relay a message of notification, evacuation or shelter. Refer to the Public Safety Chief Tab in the Corporate ERP Manual for procedures and scripts. If an emergency occurs that involves too many residents for Canadian Natural to notify in a timely manner, the CommAlert automated call-out system may be activated. The procedure for initiating a CommAlert call-out follows:

1. Prepare the following information prior to calling CommAlert (the number is shown in Step 2):
 - a. Identify the name of the Emergency Response Plan
 - b. Identify which map quadrants and house letters / numbers are affected by the emergency
 - c. Identify which message is to be relayed (either evacuation or shelter)
 - d. Identify which Reception Centre should be activated
2. Call CommAlert at 780-669-0325 and indicate that there is an emergency situation and that a call-out is required. CommAlert will follow their Standard Operating Procedures (as found in the Corporate ERP Manual Emergency Response Toolbox) and ask for the information outlined therein.
3. After the call-out, CommAlert will send a report of the results within 15 minutes by either email (preferred) or fax. The report will include which residents responded that they would evacuate immediately or stay (shelter) in their home, which require evacuation assistance and which residents did not respond to the message.
4. Canadian Natural will then dispatch Rovers to assist those residents who require evacuation assistance. Residents who did not respond to the message will need to be contacted by a Telephone Caller or a Rover.
5. Once the emergency situation has been resolved, CommAlert, if requested, can relay an All Clear message.

Following are the three (3) message choices that can be sent automatically by the CommAlert system:

Sheltering Message

This is the Canadian Natural emergency communication system. We are calling to advise you that we are experiencing operational difficulties near your residence. You are in no immediate danger; however we advise that you take shelter and remain indoors until we have called you with an All Clear message. Until then, stay inside and close and lock all windows and outside doors. Turn off all appliances and equipment with exterior vents and turn down your furnace to the minimum setting. We ask that you limit the use of your phone so that we can call you with further information. Please listen to the following menu:

- If you will remain in your home until you receive an All Clear message please press 1.
**System response: Thank you we have received your response.*
- If you do not wish to remain in your home, please press 2 to have a Canadian Natural representative call you with further instructions.
**System response: Thank you we have received your response.*
- To replay this message, please press 3.

Evacuation Message

This is the Canadian Natural emergency communication system. We are calling to advise you that we have encountered operational difficulties near your residence. For your safety, we are requesting that you leave the area and proceed to the _____ Reception Centre at _____. It is very important that you check in at this Reception Centre so that we can provide you with more information. Please listen to the following menu:

- If you will proceed to the Reception Centre, press 1. Your concerns will be addressed at that time.
* *System response: Thank you we have received your response.*
- If you require assistance to evacuate, press 2. Keep all your windows and outside doors closed and locked and other outside vents shut. Please remain indoors and limit the use of your phone until we can contact you to see what help you need or that help has arrived.
* *System response: Thank you we have received your response.*
- To replay this message, press 3

All Clear Message

This is the Canadian Natural emergency communication system. We are calling to advise you that we have resolved the operational difficulties we experienced in your area. There is no longer any cause for concern. We apologize for any inconvenience this situation may have caused. Please listen to the following menu:

- To let Canadian Natural know that you have received this message, please press 1.
* *System response: Thank you we have received your response.*
- To replay this message, please press 2.

4.3 RECEPTION CENTRE(S)

Reception Centre(s) has / 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
Tumbler Ridge Inn	275 Southgate Tumbler Ridge, BC	Office : 250-242-4277

4.4 RESIDENT INFORMATION



Redacted - NEB Order MO-006-2016 s. 1.a.i. - Personal information

4.5 BUSINESS INFORMATION



4.6 SCHOOL 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 / guardian are located. Private schools must be contacted directly.



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SCHOOL DIVISION	SCHOOL NAME	TELEPHONE NUMBER
N/A		Office Fax

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	OPERATIONS DESCRIPTION	TELEPHONE NUMBER
BP Canada	Area wells	24 Hour 1-250-787-0341
Canadian Dehua Int. Mines Group Corp.	Mining/ Exploration Wapiti Project- Currently inactive for 2015-2016 season (may be personnel in area doing environmental testing)	VP Exploration [REDACTED]
Centrica	Area wells & facilities	24 Hour 1-888-409-2744
Colonial Coal International Corporation	Mining/ Exploration Huguenot Area- Currently inactive for 2015-2016 season	Senior Project Manager Cell Project Manager Cell [REDACTED]
Conoco Phillips	Area wells & facilities	24 Hour 1-800-661-9525
Fertoz International Inc.	[REDACTED]	Joe Shearer, Project Manager [REDACTED]
Ministry of Forests	Grizzly Air Strip, Thunder Mtn. Fire Tower & Red Deer Air Strip	Prince George Fire Center PEP 250-565-6126 1-800-663-3456
Pacific Northern Gas	Gas utilities Tumbler Ridge Gas Plant located at [REDACTED]	24 Hour 1-800-663-1173
Progress Energy	Area wells & facilities	FSJ Office- 24 Hour Calgary Office- 24 Hour 1-250-263-9900 1-403-216-2510
Shell	Area wells	24 Hour 1-888-361-8040
Spectra Energy	Pipelines Communication tower (Thunder Mountain) at [REDACTED]	24 Hour 250-691-5566 1-800-663-9931
Telus	Communication Tower & Generator building. Wapiti Tower [REDACTED]	24 Hour 1-888-211-0101



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4.8 TRAPPER/ GUIDE OUTFITTER INFORMATION

REGISTERED AREA	NAME	ADDRESS	TELEPHONE NUMBER	DESCRIPTION
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

Redacted - NEB Order MO-006-2016 s. 1.a.i. - Personal information

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

Land Use Disposition Types:

FDL	Farm Development Lease	GRP	Grazing Permit
FGL	Forestry Grazing License	GRR	Provincial Grazing Reserve
GRL	Grazing Lease		

REGISTERED #	NAME	ADDRESS	TELEPHONE #	DESCRIPTION
N/A				

4.10 FOREST MANAGEMENT AREA(S)

REGISTERED #	NAME	ADDRESS	TELEPHONE #	DESCRIPTION
N/A				

4.11 FIRST NATIONS

NAME	CONTACT	TELEPHONE NUMBER	COMMENTS
N/A			

5 GATHERING SYSTEMS INFORMATION

5.1 FACILITY INFORMATION

5.1.1 FACILITY SUMMARY

Facility Name	Grizzly North
Facility Type	Compressor station, Dehy
Facility Code	N/A
Legal Description	[REDACTED]
Facility License Number	N/A
Facility Description	[REDACTED]

Facility Name	Grizzly South
Facility Type	Compressor station, Dehy
Facility Code	N/A
Legal Description	[REDACTED]
Facility License Number	N/A
Facility Description	<p style="color: red;">Redacted - NEB Order MO-006-2016, s. 1.a.ii. - Facility / Pipeline technical information, disclosure of which would risk security</p>

Facility Name	Thunder Plant
Facility Type	Dehy
Facility Code	N/A
Legal Description	[REDACTED]
Facility License Number	N/A
Facility Description	[REDACTED]

Facility Name	Thunder Plant
Facility Type	Compressor station, Dehy
Facility Code	N/A
Legal Description	[REDACTED]
Facility License Number	N/A
Facility Description	[REDACTED]

Facility Name	Ojay
Facility Type	Compressor station, Dehy
Facility Code	N/A
Legal Description	Redacted - NEB Order MO-006-2016, s. 1.a.ii. - Facility / Pipeline
Facility License Number	N/A technical information, disclosure of which would risk security
Facility Description	[Redacted]

5.1.2 ISOLATION EQUIPMENT

ROADBLOCK KIT CONTENTS	QUANTITY	LOCATION
3 triangular flare / reflector kits 1 traffic vest (mesh with reflective striping) 1 Stop / Slow paddle 3 traffic cones 1 30-minute flare with spike 1 flare gun with flares 1 6-volt flashlight with spare battery 1 12-volt spotlight 1 roll of caution tape 1 windsock and stand - clipboard, pencils, paper - ERP map(s) - Roadblock Role Checklist & information - Roadblock Control Log form	7	Grizzly North Plant Thunder Plant Ojay Compressor Ojay Mole Sieve Murray River Plant Mast Mole Sieve Tumbler Ridge Office

**EMERGENCY RESPONSE PLAN
Grizzly/ Thunder/ Ojay**

5.1.3 EMERGENCY CONTROL SYSTEMS

LOCATION	TYPE	NOTES
[REDACTED]	ESD	[REDACTED]
[REDACTED]	ESD	On pipeline
[REDACTED]	ESD	On pipeline
[REDACTED]	ESD	At gas plant
[REDACTED]	Check valve	On pipeline
[REDACTED]	ESD	At compressor
[REDACTED]	ESD	[REDACTED]
[REDACTED]	ESD	At compressor
[REDACTED]	ESD	[REDACTED]
[REDACTED]	ESD	On pipeline
[REDACTED]	ESD	On pipeline
[REDACTED]	ESD	On pipeline
[REDACTED]	ESD	At compressor
[REDACTED]	ESD	On pipeline
[REDACTED]	ESD	[REDACTED]
[REDACTED]	ESD	On pipeline
[REDACTED]	ESD	At compressor
[REDACTED]	Check valve	On pipeline
[REDACTED]	Check valve	On pipeline
[REDACTED]	Check valve	On pipeline
[REDACTED]	Check valve	On pipeline
[REDACTED]	Check valve	On pipeline
[REDACTED]	ESD	At gas plant

5.2 FACILITY, PIPELINE AND WELL INFORMATION

5.2.1 FACILITY RELEASE RATES AND EMERGENCY PLANNING ZONES

FACILITY	LOCATION	[REDACTED]	EPZ (m)
Grizzly North	[REDACTED]	[REDACTED]	3470
Grizzly South	[REDACTED]	[REDACTED]	991
Grizzly South	[REDACTED]	[REDACTED]	4799
Thunder	[REDACTED]	[REDACTED]	2465
Thunder	[REDACTED]	[REDACTED]	2465
Ojay	[REDACTED]	[REDACTED]	7373
Ojay	[REDACTED]	[REDACTED]	7256

Redacted - NEB Order MO-006-2016, s. 1.a.ii. - Facility / Pipeline technical information, disclosure of which would risk security

5.2.2 LEGEND

LEGEND		SUBSTANCE (SUB)		STATUS (STAT)		FROM / TO	
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	Maximum Operating Pressure (kPa)	LV	Low Vapour Pressure Product			RI	River
LEN	Length of Segment (km)	CO	Crude Oil			LA	Lake
H₂S	Licensed Hydrogen Sulphide (mol / kmol)	FW	Fresh Water			S	Satellite
Z	Compressibility Factor = 0.6	SG	Sour Gas			CK	Creek
T	Pipeline Minimum Operating Temperature = 5°C					BE	Blind End
H₂S Release Volume	Total H ₂ S volume between ESD valves (m ³)					B	Battery
IIZ	Initial Isolation Zone (m/km)					CS	Compressor Station
EPZ	Emergency Planning Zone (m/km)					MS	Meter Station
GLR	Gas Liquid Ratio						
GVF	Gas Volume Factor						
Gas Well Volume = 2.232 x 0.000001 * ID * ID * L (MOP + 101.325) * H₂S / [Z * (T+273)]							

NOTE: Discontinued sour pipelines have been given an Emergency Planning Zone of N/A and will be calculated if their status changes.

No sweet natural gas, fuel gas, water or abandoned pipelines have been included, with the exception of Canadian Natural National Energy Board (NEB) lines in operation.

Pipeline Release Volumes and Emergency Planning Zones- Sorted by From Location

**** NEB Regulated pipelines, for any emergency involving these pipelines please contact NEB first, then the Provincial Authorities. Refer to reporting notes and contact information in Section 3.6 Federal Government Contacts – National Energy Board.****


License	Line	Licensee	Substance	Status	From Location	From Facility	To Location	To Facility	OD (mm)	WT (mm)	MOP (kPag)	H2S (mol/kmol)	Length (km)	H2S Rel. Vol. (m3)	Set EPZ (m)
**BC:280413 AB:280135 NEB:AO-003-XG-T077-002-2013	na	Ikkuma (form. Panterra)	NG	O	██████████	WE	██████████	PL	██████	██████	██████	██████	██████	██████	470
**BC:280366-1 AB:280152-1 NEB:AO-001-XG-B105-001-2008	na	CNRL (form. Conoco)	NG	O	██████████	PL	██████████	PL	██████	██████	██████	██████	██████	██████	980
**AB:280044 NEB:AO-003-XG-C357-009-2010	1	CNRL (form. Lone.Pine)	NG	O	██████████	PL-Riser	██████████	PL-Riser	██████	██████	██████	██████	██████	██████	980
**BC:280363 AB:280410 NEB:AO-004-XG-T077-004-2008	na	CNRL (form. Ikkuma)	NG	O	██████████	PL-Riser	██████████	GP	██████	██████	██████	██████	██████	██████	980

Redacted - NEB Order MO-006-2016, s. 1.a.ii - Facility / Pipeline technical information, disclosure of which would risk security

5.2.3 WELL RELEASE RATES AND EMERGENCY PLANNING ZONES

- NOTES:**
- Wells sorted by Surface Location
 - Sweet wells have not been included

License	Licensee	Surface Location	Downhole Location (UWI)	Producing Zone	Substance	Status	H2S (%)	H2S Rel. Rate (m3/s)	EPZ (m)
014112	CNRL	██████████	██████████	BLDN	Gas	Producing	██████	██████	435
014112	CNRL	██████████	██████████		Gas	Producing	██████	██████	82
014112	CNRL	██████████	██████████	TLFL	Gas	Suspended	██████	██████	114
008200	CNRL	██████████	██████████	BLDN	Gas	Producing	██████	██████	739

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	EMERGENCY RESPONSE PLAN Grizzly/ Thunder/ Ojay	Rev. 10-1 May, 2016

6 MAPS AND PUBLIC INFORMATION PACKAGE

Redacted - NEB Order MO-006-2016, s. 1.a.ii. - Facility / Pipeline technical information, disclosure of which would risk security