

August 14, 2019

Office of the Regulator of Oil and Gas Operations (OROGO)  
Department of Justice  
Government of the Northwest Territories  
P.O. Box 1320  
Yellowknife NT  
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Canada

**VIA Email Only**

**Attn: Pauline de Jong**  
**Chief Conservation Officer**

**Re: Information Request No. 2: MGM Energy Application for an  
Operations Authorization for Well Abandonments (OA-2019-002-MGM)**

In response to your letter of June 25, 2019 and the extension granted, MGM Energy (MGM) provides the following responses. For clarity, the responses will reference the numbering in the Information Request No. 2.

**2.1 Safety Plan – Regulatory Framework**

Attached please find a revised Safety Plan which references the applicable NWT legislation. It has also been updated to outline the scope of work as requested.

**2.2 Safety Plan – Project Specific Information**

The Project Specific Information has been updated in Appendix 2 (page 38) in the Safety Plan submitted as part of item 2.1 above. This includes a list of the equipment critical to safety and the names of the personnel responsible for the Project Site Safety Plan

The Appendix #3 – Project Risk Register (pages 40-45) forms initially supplied were generic. A completed Project Risk Register in a slightly different format is included in Appendix #3 (page 40-43) of the Safety Plan, attached to this response.

**2.3 Emergency Transportation Plan**

Attached is a copy of the Emergency Transportation Plan (with an included copy of the Emergency Contacts from the Site-Specific Safety Plan).

## 2.4 Environmental Protection Plan – Project Scope

An Environmental Protection Plan covering the abandonment operations for the six wells in the Colville Lake Area was included in the initial submission. The abandonment of East Mackay I-78 is hereby removed from this application to facilitate compliance with the requirements for an Operations Authorization as required by the OROGO letter of January 9, 2019. An Operations Authorization for the abandonment of I-78 will be submitted under a separate cover.

## 2.5 Gas Flaring and Venting

a) The wells currently have a tubing plug in or near the packer (except C-49) and full of fluid. This effectively seals the wellbore from the formation pressure and/or fluids. In the event that the plug is not holding or not present (C-49) a replacement plug will be set by wireline. Wells will be filled with water prior to any bleed off from the tubing or casings. This process may result in a small volume of gas (typically less than 1 m<sup>3</sup>) in the wireline lubricator and/or residual gas at surface in the well. This will be bled off to a P-tank and flare system if required. Once the plugs are set and the wells are dead, no additional gas is expected to be present.

To minimize any risk to personnel or the environment during wireline operations, venting the well will be done with the master valves closed (minimizing the potential volume of gas). The volume is anticipated to be small and when venting, the flow rate will be limited to allow gas to disperse naturally. Gas concentrations will be monitored to ensure they are kept below 10% of the lower explosive limit as per Paramount's Site-Specific Safety Plan. Bleed off rates and/or methods will be adjusted if needed.

b) As above the wells are anticipated to be full of liquid, and no testing is planned, the volumes of gas to be flared and/or vented are very small. The "worst case" (maximum gas volume) is calculated by assuming the tubing in all the wells was completely evacuated of liquid. The maximum volume of gas contained in the tubing is 750 m<sup>3</sup> per well. This equates to a maximum potential gas volume of 3 10E3M<sup>3</sup> for the project. The actual gas volumes are expected to be significantly smaller.

## 2.6 Benefits Plan

MGM held community consultation in July that are ongoing and is preparing a Benefits Plan for the work associated with this project. MGM anticipates submission of the Plan to the Department of Industry Tourism and Investment by October 31, 2019.

Please contact the undersigned at (403) 817-5074 or [john.hawkins@paramountres.com](mailto:john.hawkins@paramountres.com) if you have any questions regarding this project and application.

Respectively,



John Hawkins, P. Eng.  
 Director, Asset Management  
 MGM Energy Ltd  
 403-817-5074



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## 1 PURPOSE

The purpose of this Project Site Safety Plan is to exhibit that Paramount Resources Ltd. understands the regulatory expectations and will conduct its operations with diligence to ensure that all reasonable steps are taken to maintain risk levels as low as reasonably practicable. As per Part 2, Section 8 of the NWT Oil and Gas Drilling and Production Regulations, the Project Site Safety Plan sets out the procedures, practices, resources, sequence of key safety-related activities and monitoring measures necessary to ensure the safety of the proposed work or activity.

It is expected that all project personnel will meet or exceed the requirements described in this plan. This is not an all-encompassing document; subcontractors are expected to comply with any additional regulatory requirements applicable to their work and must adhere to their own company policies and procedures.

The intent of this Project Site Safety Plan is to be a living document that will grow with the project to address hazards and controls. Any questions regarding intent or interpretation of this document may be directed to the Paramount Site Supervisor for clarification. Requests for variances or suggested changes must be put in writing and sent to the Paramount HSE Director for review and approval.

## 2 SCOPE

This Project Site Safety Plan applies to any work site where work is being conducted by Paramount employees or contractors. This includes new installations, tie-ins, re-entries, installations, repairs, reclamation, construction and any other work.

The Project Site Safety Plan addresses the items listed below.

- a) a summary of and references to the management system that demonstrate how it will be applied to the proposed work or activity and how the duties set out in these Regulations with regard to safety will be fulfilled;
- b) a summary of the studies undertaken to identify hazards and to evaluate safety risks related to the proposed work or activity;
- c) a description of the hazards that were identified and the results of the risk evaluation;
- d) a summary of the measures to avoid, prevent, reduce and manage safety risks;
- e) a list of all structures, facilities, equipment and systems critical to safety and a summary of the system in place for their inspection, testing and maintenance;
- f) a description of the organizational structure for the proposed work or activity and the command structure on the installation, which clearly explains
  - I. their relationship to each other, and
  - II. the contact information and position of the person accountable for the Project Site Safety Plan and of the person responsible for implementing it; and
- g) a description of the arrangements for monitoring compliance with the plan and for measuring performance in relation to its objectives

### 3 TERMS, DEFINITIONS AND ACRONYMS

Term	Description/Definition
<b>ALARP</b>	<p>An acronym for “As Low As Reasonably Practicable”. A term often used in the regulation and management of safety-critical and safety-involved systems. The ALARP principle is that the residual risk shall be reduced as far as reasonably practicable.</p> <p>For a risk to be ALARP, it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The ALARP principle arises from the fact that infinite time, effort and money could be spent in the attempt of reducing a risk to zero. It should not be understood as simply a quantitative measure of benefit against detriment. It is more a best common practice of judgement of the balance of risk and societal benefit.</p>
<b>Critical Task</b>	Means a job/task which has a high potential for serious loss or injury
<b>Direct Supervision</b>	The Supervisor in the immediate vicinity of work being performed and intimately aware of the job scope and its steps, capable of halting the work at any instant should the need arise.
<b>FLHA (Field Level Hazard Assessment)</b>	Field Level Hazard Assessment is a method that individuals and crews use to eliminate or minimize potential losses before, during or scope change during the course of work on site. This form of hazard assessment is done at the beginning of a work task.
<b>Ground Disturbance</b>	<p>“Ground Disturbance” means any work, operation or activity that results in a disturbance of the earth including, without limitation, excavating, digging, trenching, plowing, drilling, tunneling, auguring, backfilling, blasting, topsoil stripping, land levelling, peat removing, quarrying, clearing and grading, but does not include, except as otherwise provided in sub clause:</p> <ul style="list-style-type: none"> <li>• A disturbance of the earth to a depth of less than 30 cm that does not result in a reduction of the earth cover over the pipeline or utility to a depth that is less than the cover provided when the pipeline was installed;</li> <li>• Cultivation to a depth of less than 45 cm below the surface of the ground;</li> <li>• Any work, operation or activity that is specified in the rules not to be a ground disturbance; i.e. Routine minor road maintenance.</li> </ul>
<b>Ground Disturbance Supervisor</b>	An employee, a consultant, or a contractor the company has deemed competent by formal examination or certification and has sufficient knowledge and experience to competently serve as the ground disturbance supervisor for ground disturbance activities.
<b>Hazard</b>	A hazard means a situation, condition or thing that may be dangerous to the safety or health of workers, damage to property, damage to workplace environment, or a combination of these
<b>Hazard Assessment</b>	An assessment made to identify existing and potential hazards before work begins at the work site or prior to the construction of a new work site.
<b>Hazard Control</b>	The process of determining a suitable means of controlling identified hazards.

Term	Description/Definition
<b>Hazard Identification</b>	Techniques for identifying and reporting hazards.
<b>Inspection</b>	The careful examination of people, equipment, material, and the environment; the close and critical scrutiny for comparison with standards.
<b>JSA (Job Safety Analysis)</b>	Job Safety Analysis is a procedure which helps integrate accepted safety and health principles and practices into a particular task or job operation. In a JSA, each basic step of the job is to identify potential hazards and to recommend the safest way to do the job. Other terms used to describe this procedure are job hazard analysis (JHA) and job hazard breakdown.
<b>POEMS</b>	Paramount Operations Excellence Management System
<b>Procedure</b>	A step-by-step sequence of actions that must be carried out to complete a specific task (i.e., Step 1 must be completed before going to Step 2).
<b>Risk</b>	The chance of a loss occurring; a measure of the probability and potential severity of harm or loss.
<b>Safe Work Practice (SWP)</b>	A prevailing standard that is not site specific yet gives direction to a specific task to ensure the safety of personnel and equipment. If the task requires a deviation from the SWP then a 'Written Hazard Assessment' must be completed for the specific task.
<b>Training</b>	Is the act or process that meets a specific requirement to verify competency.

## 4 ROLES AND RESPONSIBILITIES

The **Visitor(s)** is responsible to:

- Complete a site-specific orientation;
- Wear the required PPE;
- Have the necessary safety training certification dependent on the site hazards and activities;
- Immediately report potential and suspected hazards to the Site Supervisor;
- Stay with assigned supervisor/ project partner employee (assigned by the site supervisor) at all times; and
- Adhere to the identified site safety requirements.

The **Employee(s) and Contractor(s)** are responsible for:

- Understanding the risks prior to starting work, including the hazards to be controlled, the methods or means to implement the controls;
- Conducting pre-job safety meetings to discuss potential hazards and controls prior to starting work;
- Following site-specific guideline and procedures (where applicable);
- Conducting site-specific hazard assessments;

- Wearing appropriate PPE as per hazard assessment;
- Developing site-specific procedures that identify potential hazards. Discuss the procedures and hazards in pre-job safety meetings;
- Communicating known hazards to co-workers, contractors and their supervisor;
- Correcting unsafe conditions immediately or tag the hazard to prevent others from being unknowingly exposed to the hazard and notify their supervisor to schedule repairs;
- Refusing to do something that is unsafe even if told to do so (Stop Work Authority);
- Evaluating the effectiveness of controls; and
- Ensuring an activity does not proceed if they believe there are risks to the environment and/or theirs or others health or safety

The **Supervisor(s)** is responsible for:

- Taking a visible and proactive leadership role in developing a strong HSE culture in their area of responsibility;
- Participating in the review and revisions of the risk register when requested;
- Ensuring the communication, implementation and maintenance of the Hazard Identification and Control Practice within their area of responsibility;
- Leading by example and demonstrating the importance of HSE of its workers (both employees and Contractors);
- Documenting corrective actions;
- Correcting unsafe conditions immediately;
- Ensuring pre-job safety meetings are conducted to discuss potential hazards & controls prior to starting work;
- Communicating HSE objectives throughout their area of responsibility;
- Ensure only workers trained and competent in their work are conducting the specific task;
- Ensuring employees and contractors are trained:
  - To identify hazards;
  - To understand the hazards that they are exposed to (chemical and physical); and
  - How to control or minimize hazards.
- Ensure that all work activities have been coordinated with all workers on site to avoid conflict leading to unmitigated risk;
- Ensuring an activity does not proceed if they believe there are risks to the environment and/or theirs or others health or safety.

The **Manager(s)** is responsible for:

- Implementing the Hazard Identification and Control Practice;
- HSE performance of all personnel working at Paramount work sites;



- Reviewing and discussing HSE performance and trends with the HSE Director;
- Ensuring that sufficient resources are available to effectively mitigate risks.

The **HSE Team** is responsible for:

- Taking a visible and proactive leadership role in developing a strong HSE culture;
- Developing and assisting with the implementation of the Hazard Identification and Control Practice;
- Providing technical support for Hazard Identification and Control Practice implementation;
- Monitoring the effectiveness of the Hazard Identification and Control Practice;
- Reviewing all incident investigations to ensure completeness and recommending actions to identify trends or areas of high risk at work sites;
- Observation/assurance of Contractor work plan execution; and
- Serve as a resource for employees to obtain information regarding health and safety

## 5 TRAINING AND COMPETENCY

The minimum requirements for the project are outlined in Table 1 below. Proof of current training and certification must be provided to the Paramount project manager and Paramount Site Supervisor before starting work and must be available onsite. Contractors must ensure that employees selected for this project are certified and competent for the required task and have received adequate instruction on dealing with common field work hazards (e.g., identification of hazards, necessary mitigation).

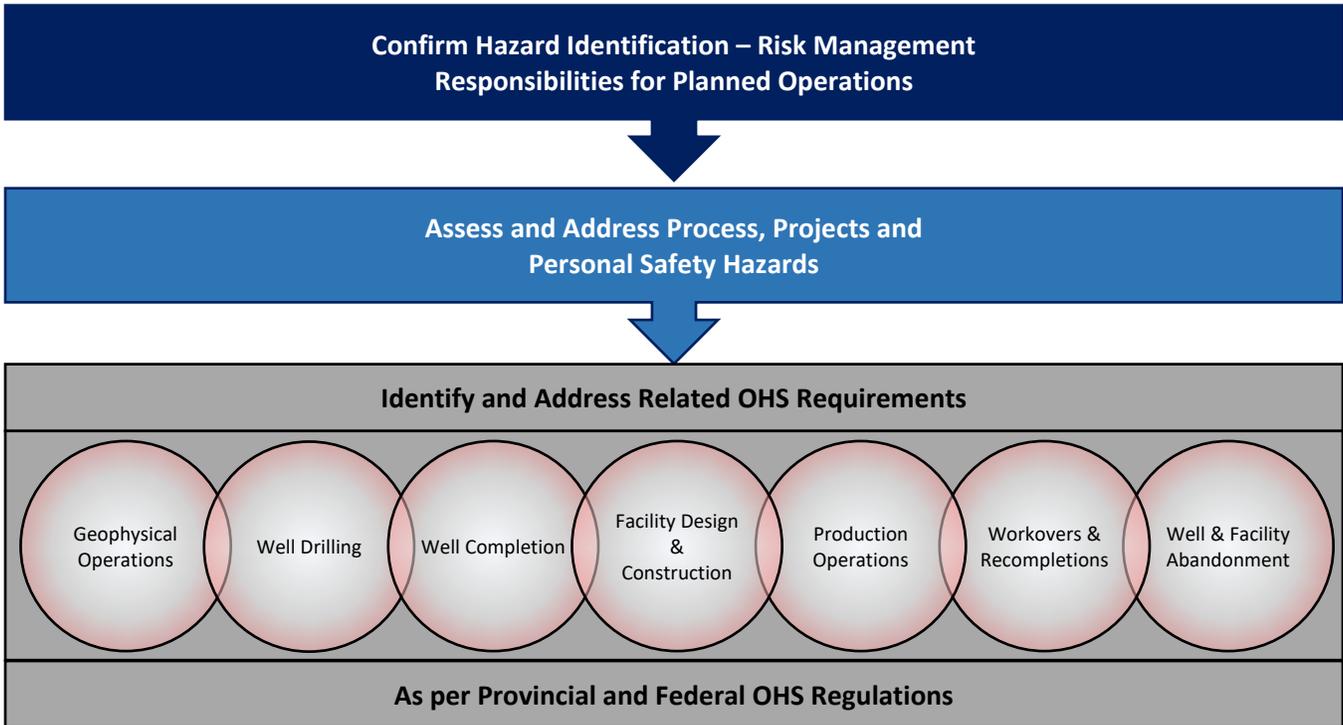
Training requirements for third party contractors are the responsibility of the third-party contractor. Paramount's expectation as identified in the COR-HSE-PRT-017 Contractor HSE Management Practice and on ComplyWorks outlines that they ensure that all their workers have training that meets regulatory requirements based on their work activity

**TABLE 1 – HSE TRAINING MATRIX**

Description	Contractor Site Personnel	Paramount Site Personnel
Project Orientation and Review of Health and Safety Plan	Required	Required
Paramount Orientation	Required	Required
Site-specific Orientation	Required	Required
Energy Safety Canada CSO	Required	Required
Work Permit Review	Required	Required
Standard First Aid and CPR*	Required	Required
WHMIS	Required	Required
Wildlife Awareness	Required	Required
Hands-On Bear Deterrent Training	Recommended	Required
Defensive Driving	Per company's driving policy	Required
TDG	Required if carrying, consigning, or receiving dangerous goods	Required if carrying, consigning, or receiving dangerous goods
Ground Disturbance Level II	Recommended	Required for all workers directly involved with ground disturbance work (e.g., supervisors, equipment operators)
Well Service Blow Out Prevention	Not required	Required: Drillers, Rig Managers and Well site supervisors
H2S Alive	Required for Sour Sites	Required
Back Country Safety Training	Recommended	Required
Pleasure Craft Operator Card (Boat Safety)	Required, if operating watercraft	Required, if operating watercraft
Swift Water Safety	Required if working near swift water bodies, excluding Water Taxi commute	Required if working near swift water bodies, excluding Water Taxi commute

## 6 HAZARD IDENTIFICATION AND CONTROL

Paramount has established requirements for completing hazard assessments. The following diagram highlights the levels of these requirements.



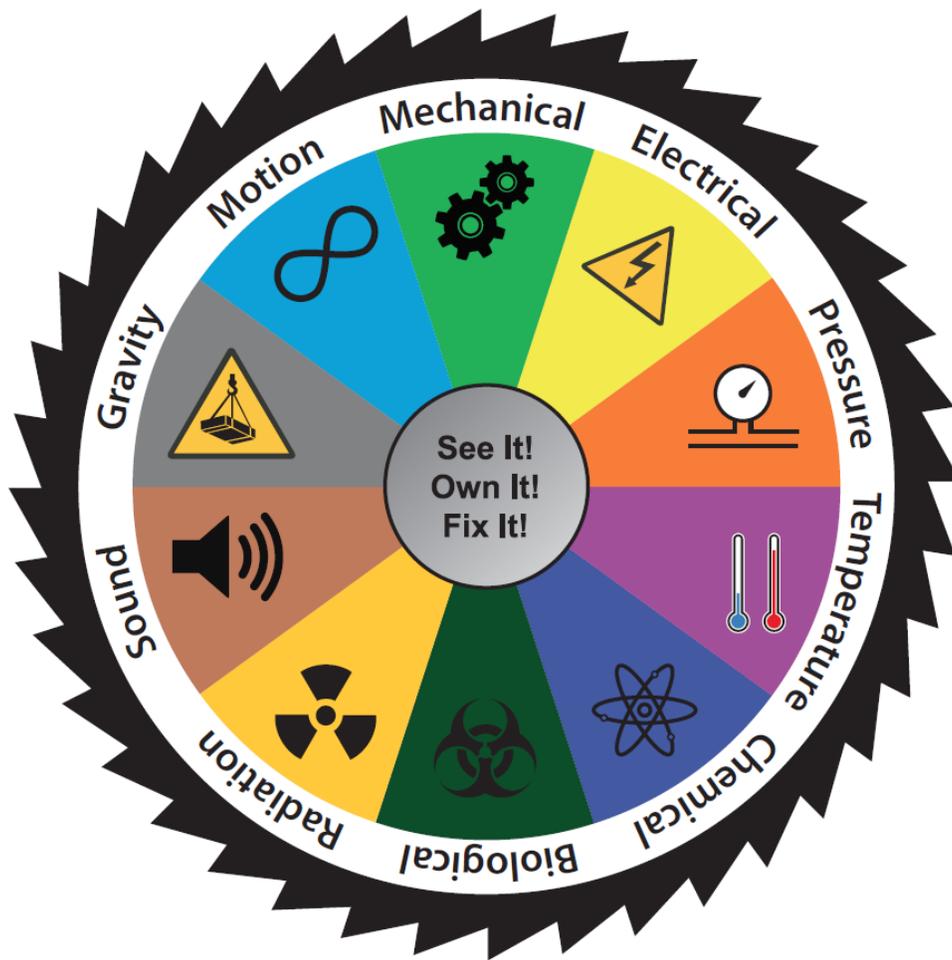
Hazard controls are methods used to eliminate or limit workers' exposure to occupational hazards. If an existing or potential hazard to workers is identified during a hazard assessment, measures must be taken to eliminate the hazards, or if elimination is not reasonably practicable, control the hazard.

It is through the control of hazards that the following can be accomplished:

- Reduced frequency and severity of incidents
- Reduced financial costs
- Reduced human suffering

### 6.1 Hazards

To help safeguard against serious injury and fatality in the workplace, Paramount uses the human performance-monitoring tool commonly known as the Energy Hazard Wheel. This tool is designed to help personnel to identify and control the significant potential hazards unique to each activity and job. Preventing serious injuries and fatalities requires operational discipline. This means performing every task the right way every time, from initial hazard assessment through each step of the job, including post-activity review. Typical Worksite Safety & Environmental Hazards, include but not limited to:



<b>Mechanical</b> – rotating equipment, compressed springs, drive belts and motors	<b>Electrical</b> – power lines, transformers, static charges, lightning, energized equipment, wiring and batteries
<b>Pressure</b> – piping, compressed cylinders, control lines, vessels, tanks, hoses, pneumatic, and hydraulic	<b>Biological</b> - animals, bacteria, viruses, insects, blood-borne pathogens and contaminated water
<b>Chemical</b> – flammable vapours, reactive hazards, carcinogens, corrosives, pyrophoric, combustibles, oxygen-deficient, welding fumes and dust	<b>Temperature</b> - open flame, ignition sources, hot or cold surfaces, liquids, gases, steam, friction and general environmental (weather) conditions
<b>Radiation</b> – lighting issues, welding arcs, solar rays, lasers, X-rays and NORM	<b>Sound</b> – equipment noise, impact noise, vibration, high pressure release and communication impacts
<b>Gravity</b> – falling object, collapsing roof and trip, slip fall	<b>Motion</b> – vehicle, equipment, flowing water, wind and body positioning when lifting

## 6.2 Controls

A control is a suitable means of controlling identified risks. Applying this hierarchy is a systematic approach to identify the most effective method of risk reduction. The preferred method is to first ask “is there another way we can do this task (elimination or substitution)”? If not, implement engineering controls and then follow with administrative controls as they are less dependent on human behaviour. Lastly, the use of PPE can minimize the severity of the hazard but must not be used as the sole hazard control.

**NOTE:** Controlling one hazard can create another hazard. Be sure to repeat the process to identify if any additional hazards have been created from adding a control.

### 6.2.1 Elimination of the Hazard

The first consideration for controlling hazards is to **eliminate** the hazard or **substitute** a less hazardous material or process.

Elimination is the process of removing the hazard from the workplace. It is the most effective way to control a risk because the hazard is no longer present. The job is redesigned or the substance is eliminated so as to remove the hazard. However, the alternative method should not lead to a less acceptable product or less effective process. It is easier to prevent the specific hazard from entering the workplace or eliminating hazards while a work process is still in the development stages. Elimination is the best option.

Examples of elimination are changing the process in a way that will get rid of a hazard, agreement on purchasing of equipment and chemicals before installation or use and having workers perform tasks at ground level rather than working at heights

When it is not possible to eliminate or substitute the hazard, then the following control methods shall be used in the following order:

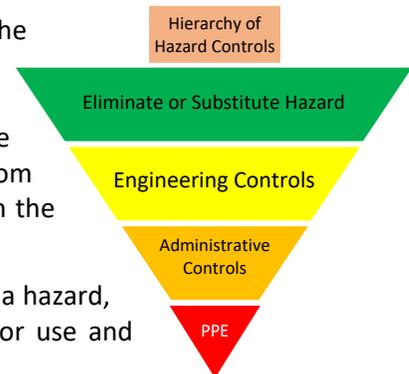
- Engineering Controls
- Administrative Controls
- Personal Protective Equipment (PPE)
- Stop Work Authority, if hazards cannot be controlled to an acceptable level

### 6.2.2 Engineered Controls

Engineering Controls are physical changes to the work area or process that effectively minimize a worker’s exposure to hazards. Engineering controls can be implemented to deal with risks. Hazards can sometimes be “engineered out” through redesign of the work site, work stations, work processes and jobs.

The basic types of engineering controls are:

1. **Process Control** involves changing the way a job activity or process is done to reduce the risk. Some processes can be automated or mechanized. Monitoring should be done before as well as after the change is implemented to make sure the changes did result in lower exposures.



Examples of process changes include but not limited to: the use of electric motors rather than diesel ones to eliminate the exhaust emissions; decrease temperatures of a process so less vapours are released; use automation - the less workers have to handle or use the materials, the less potential there is for exposure; use mechanical transportation rather than manual methods, etc.

2. **Isolation** completely separates the worker from the area of risk. Hazards can sometimes be isolated through containment or enclosure. For example, negative-pressure fume hoods in laboratory settings or sound reducing enclosures for noisy equipment.
  - **Enclosure** indicates that the area of risk is in the same area as the worker, but enclosed in another room or structure to physically limit the exposure. For example, the furnace in a building may be located in another room in the same facility.
  - **Containment** applies to the storage and handling of a hazardous material. For example, in a chemical process, the product could be contained in its original vessel, instead of being transferred to a storage vat. This would eliminate one of the steps, or exposures, where workers could be impacted by the hazard.

If engineering controls are not feasible then implementation of Administrative Controls must be considered.

### 6.2.3 Administrative Controls

Administrative controls can be used to control the hazard to a level that is as low as reasonably practicable (ALARP). Administrative controls are less effective than engineering controls. These control measures have many limitations because the hazard itself is not actually removed or reduced. When necessary, methods include, but not limited to:

- Access Control;
- Alarms and Signs;
- Area Classifications;
- Buddy system;
- Emergency Response Equipment;
- Evacuation Plans;
- Guidelines;
- [JSA](#) / [FLHA](#);
- Limit time to exposure to hazards;
- Limiting hours of work;
- Management of Change;
- Operational Readiness Review;
- Policies and Rules;
- Safe Work Procedures;
- Training;
- Warning Signs;
- Wash Facilities; and
- Work/rest schedules.

#### Education and Training

Employee education and training on how to conduct their work safely helps to minimize the risk of exposure and is a critical element of any complete workplace health and safety program. Training must cover not only how to do the job safely but it must also ensure that workers understand the hazards of their job. It must also provide them with information on how to protect themselves and co-workers.



### Good Housekeeping

Good housekeeping is essential to prevent the accumulation of hazardous or toxic materials (e.g., build-up of dust or contaminant on ledges, or beams), or at risk conditions (e.g., poor stockpiling).

### Emergency Preparedness

Being prepared for emergencies means making sure that the necessary equipment and supplies are readily available and that employees know what to do when something unplanned happens such as a release, spill, fire or injury. These procedures shall be written and employees should have the opportunity to practice their emergency response skills regularly.

### Occupational Hygiene

Occupational hygiene is another effective way to reduce the amount of a hazardous material absorbed, ingested or inhaled by a worker. They are particularly effective if the contaminant(s) can accumulate on the skin, clothing or hair. Examples of personal hygiene include:

- Washing hands after handling material and before eating, drinking or smoking;
- Avoiding touching your lips, nose and eyes with contaminated hands.
- No smoking, drinking, chewing gum or eating in the work areas - these activities should be permitted only in a "clean" area; and
- Not storing hazardous materials in the same refrigerator as food items

When hazards cannot be eliminated through engineering or administrative controls PPE controls must be considered necessary for employee protection.

## **6.3 Personal Protective Equipment**

Personal protective equipment (PPE) is a physical barrier between the worker and the hazardous exposure. As a last line of defense, workers may need to use PPE to reduce the potentially harmful effects of exposure to a known hazard. Personal protective equipment should never be the only method used to reduce exposure except under very specific circumstances because PPE may "fail" (stop protecting the worker) with little or no warning. For example: "breakthrough" can occur with gloves, clothing, and respirator cartridges.

### Personal Protective Equipment (PPE) Selection

The selection of Personal Protective Equipment starts with a hazard assessment to identify the need for PPE that is correct for the hazard and protects the workers. Personal protective equipment includes items such as respirators, protective clothing such as gloves, face shields, eye protection, hearing protection and footwear that serve to provide a barrier between the wearer and the chemical or material.

If chosen, PPE should be selected and fitted to the worker who uses it. Workers must be trained in the function and limitation of each item of PPE. PPE must be worn if exposure to a risk is necessary but is above the safe levels as regulated by Occupational Health and Safety legislation. Refer to the NWT OHS Act, Regulations (Schedules O, P & O) for further information regarding acceptable levels of contaminants and related regulations. Refer to COR-HSE-PRT-024 Respiratory Protection, COR-HSE-PRT-022 Personal Protective Equipment and COR-HSE-PRT-019 Noise Exposure Control for further detail.

## 7 EMERGENCY RESPONSE PLAN & EMERGENCY TRANSPORTATION PLAN

The Paramount CORE Emergency Response Plan will be the foundational plan as it relates to emergency response to an unplanned event. The Emergency Transportation Plan and Emergency Contacts List will be developed prior to any project works to ensure the information is site specific and applicable to the work location. Appendix # 1 is an example template of the Emergency Contacts List. The Plans will outline the location of the nearest hospital and emergency contact phone numbers. All injured workers will be assessed by an on-site Medic who will assess the injury and determine the appropriate medical facility. The Plans will be updated as required. Field work locations and transportation to sites will vary; therefore, field crew leads must identify and document the following location-specific details at the daily tailgate meeting:

- the muster area;
- the evacuation route; and
- the location of emergency supplies and equipment (e.g., first aid kit and fire extinguishers)

In the event that emergency evacuation (medical emergency, fire, etc.) via aircraft is required;

- Medical evacuation capable aircraft will be identified within the site-specific Emergency Contacts List; and
- The aircraft will upon the direction of the Medic, transport the injured person to the appropriate medical facility where further assessment and transport will be assessed and conducted at the discretion of the assessing medical personnel.

## 8 HEALTH AND SAFETY COMMUNICATIONS AND MEETINGS

Meetings will be held to communicate health and safety information as outlined in Table 2. Any person working on this project may call additional meetings to address situations as they arise (e.g., new tasks, identified serious near misses).

**TABLE 2 – HEALTH AND SAFETY MEETINGS**

Meeting	Description	Frequency	Required Attendees
Kick-off meeting	Review of the project-specific health and safety plan and ERP	Once, before the start of the project fieldwork component	Site Supervisor, health and safety advisor, field technical lead, field crew lead, ground disturbance supervisor, field crew, subcontractors
Pre-job meetings	Review of the project-specific hazard assessment and control forms and JSAs	Before the start of a new job/task.	Project manager, field technical lead, field crew lead, ground disturbance supervisor, field crew, subcontractors

Meeting	Description	Frequency	Required Attendees
Tailgate meetings	Review of the work site and associated work tasks, and the associated hazards and mitigative controls including the ERP, applicable to the day	At the start of each shift involving fieldwork	Field crew lead(s), field crew (including Paramount and all contractors/subcontractors)

### Tailgate Safety Meetings

Tailgate safety meetings will be held onsite at the start of each day and/or when the job scope changes during the shift. The objective of the meeting is to ensure all workers involved with the work understand the hazards and associated control measures that are in place and are familiar with the ERP. Topics of discussion should include but are not limited to the following:

- The required PPE and emergency response equipment/plans available for use;
- A review of the ERP including information such as alarms, designated first aiders, location of emergency equipment, and evacuation procedures;
- The identified hazards, risks, and mitigative measures for the identified hazards and risks;
- Third-party equipment and subcontractor requirement to meet legislative, regulatory, industry, client, and/or Paramount standards;
- Familiarize personnel with the work to be conducted each day, including the associated hazards and necessary mitigative measures;
- Ensure all personnel are aware they must provide valid safety certificates, as required, by government and Paramount regulations/policy;
- Shared learnings from the project will also be reviewed; and
- The meeting minutes documented on the safety documentation forms and signed by all workers and visitors on the site (e.g., the field crew and subcontractors).

## **9 INCIDENT REPORTING AND INVESTIGATION**

All incidents, near misses, and hazards must be verbally reported immediately to the Site Supervisor and formal documentation for the incident must be received within 24 hours.

### **9.1 Reporting**

Reporting hazards, near misses, and incidents is an important mechanism to review the effectiveness of the Health and Safety Management System and allows modification to operating practices to reduce hazards and the potential for incidents to occur in the future. Examples of hazards, near misses, and incidents are provided in Table 3.

**Table 3 – Hazard, Near Miss, and Incident Definitions**

Occurrence	Definition	Examples
Hazard ID	A condition or practice that has the potential to harm people, damage property, damage the environment, or cause loss to process.	<ul style="list-style-type: none"> <li>• Wet, slippery river bank.</li> <li>• Burnt out headlight on a truck.</li> </ul>
Near Miss	An occurrence that under slightly different circumstances could have resulted in harm to people, damage to property, damage to the environment, or loss to process.	<ul style="list-style-type: none"> <li>• Worker slipped while working near river but did not fall and was not injured</li> <li>• Worker was nearly hit by a tree branch while driving ATV but managed to avoid it at the last minute.</li> </ul>
Incident	An occurrence that results in harm to people, damage to property, damage to the environment, or loss to process.	<ul style="list-style-type: none"> <li>• Worker tripped and twisted their ankle.</li> <li>• Workers were involved in a motor vehicle incident.</li> </ul>

All workers must report the occurrence of all incidents including vehicle collisions, near misses, and ANY injury immediately to the supervisor. The supervisor will inform the Paramount Site Supervisor and Health and Safety Advisor for further reporting. Paramount will determine if additional notifications or an incident investigation is required. Once onsite emergency response is underway, the supervisor must immediately notify the project manager who will notify, as required, the health and safety advisor, and Paramount.

Written reports and supporting photos must be submitted to the Paramount HSE team and Site Supervisor, as soon as possible (i.e., no later than the end of the shift). Near misses and incidents may be reported using the Near Miss/Incident report. Hazards may be reported in writing in any format (e.g., email and field notes) or on Hazard ID Cards. All contractors are expected to have their own hazard and incident reporting system and documentation; however, the Paramount reporting system may be used by any project personnel.

Additional records (e.g., reports) are required for injuries and illnesses as outlined in Table 4. All records pertaining to injuries must be maintained for at least 3 years and kept confidential.

**Table 4 – Additional Reporting Requirements for Injuries**

Type of Report	Description*	Completed By
First Aid Register	A first aid register must be completed for any injury where first aid was applied. A copy must be given to the worker and a copy kept for 3 years by the employer.	Supervisor
Workers' Safety & Compensation Commission (WSCC) Worker's Report of Injury	A WSCC Worker's Report of Injury form must be completed for every injury involving medical aid, lost time, or modified work.	Prepared by injured worker
Workers' Safety & Compensation Commission (WSCC) Employer's Report of Incident	<p>WSCC Employer's Report of Injury Form must be completed and submitted within 3 business days for any injury, illness, or exposure or "dangerous occurrence"</p> <p>An accident causing "serious bodily injury" or a "dangerous occurrence" must also be called in to the 24-hour Incident Reporting line at 1-800-661-0792 as soon as reasonably possible.</p> <p>"Serious bodily injury" and "dangerous occurrence" are as defined in Section 1 of the NWT Occupational Health and Safety Regulations).</p> <p>Notification to OROGO at 867-445-8551 (24 hour) is required "as soon as circumstances permit"</p>	Employer

## 9.2 Investigation

The Paramount Site Supervisor and onsite workers must ensure that the scene of an incident is not disturbed, except to provide emergency aid to injured workers. The scene must be left as is until the required investigations have been completed or the project manager (in consultation with the Paramount HSE Representative and if applicable the Regulator) advises the field crew lead that it is okay to continue with field work. Anyone leading an incident investigation must be trained in incident investigation techniques.

Formal investigations of serious incidents must be conducted by Paramount (or as designated) and any applicable regulatory authorities (e.g., police, OROGO, OH&S, WSCC) notified by Paramount under the direction of the Paramount Site Supervisor in consultation with the Paramount health and safety advisor. Serious incidents include occurrences that:

- Are Reportable events as defined by the applicable legislation, including the following;
- Result in a death (or could reasonably be expected to cause a death)
- Cause a worker to be admitted to hospital for a period of 24 hours or more;
- Involve an unplanned or uncontrolled explosion, fire, or flood that causes or has the potential to cause a serious injury;
- Loss of containment of any fluid from a well;



- Result in a major release of a hazardous substance;
- A significant pollution event
- Involve the collapse or upset of a crane, derrick, or hoist; or
- Involve the collapse or failure of any component of a building or structure necessary for the structural integrity of the building or structure

All incidents and near misses with high potential for a serious incident will be investigated and a report will be issued. Each employer will be accountable for ensuring incidents requiring investigation are investigated and a report issued. Paramount and contractors will review and participate in incident investigations, as necessary. Project workers must cooperate with investigation requirements. The intent of all investigations is to determine the root cause of the occurrence and develop preventive measures to prevent recurrence, never to assign blame or as a tool to enact punishment.

Any project-wide communications (e.g., hazard alerts and lessons learned) will be passed on by the project manager to Paramount, subcontractors, and the field crew.

## **10 INSPECTIONS AND AUDITS**

All project work sites, equipment, vehicles, camp, property, and associated activities will be subject to inspections and audits by Paramount.

The field crew lead must conduct informal health and safety inspections as part of their daily activities at each work location. Health and Safety inspection results will be documented and reviewed at tailgate safety meetings. Any significant concerns discovered during the inspection will be immediately corrected. If corrective actions cannot immediately correct the concern, an action plan, up to and including shutting the job down, will be developed. The job will only be started again if it is considered safe and all applicable permits, procedures, JSA's and FLHA's have been reviewed and Paramount Site Supervisor has approved to resume work.

Equipment and vehicles must be inspected before use. Inspection requirements are described in the safe work procedures and guidelines or equipment operating manuals. Log books and daily inspection forms must be complete and available, onsite, for inspections.

## **11 POLICIES**

### **11.1 Health and Safety Policy**

Paramount is committed to providing a work environment that protects the health and safety of our employees, others we work with, and the general public. The Paramount Health and Safety Policy is available and will be posted at the well sites, camp and any other buildings that are in use for the duration of the project.

### **11.2 Obligation to Refuse Unsafe Work**

Paramount will support and encourages the obligation of all employees to refuse work that they believe would create imminent danger to the health and safety of any person. This includes but is not limited to work processes and operation of tools or equipment.

The following steps must be taken when work is refused:

- STOP WORK. (Simply ask for a Time-Out to review the task and controls)
- Explain the reason for work refusal to the work site supervisor.
- The designated supervisor involved with the situation will ensure that nobody is assigned to perform the task until the hazard is mitigated.
- The employer is required to complete an investigation and provide a formal report to Paramount highlighting the stop work activity and resulting actions completed to continue with work operations

The worker has an obligation to express their continued concern if they believe the recommended controls do not adequately address the imminent danger. A member of the HSE team must further investigate the issue.

Refusal to work situations are reportable occurrences and must be immediately reported to the Paramount Project Managers and in some instances to the Regulator.

### **11.3 Substance Abuse**

All workers must report fit for duty and remain fit for the duration of their work shift. Fit for duty means workers are not impaired or suffering from the after effects of alcohol, illegal drugs, and/or over the counter or prescription medications.

Anyone who is in possession of or under the influence of alcohol, drugs, or any other substance that affects their ability to work will not be allowed on the work site. Disciplinary action will be taken which could range from verbal reprimand to termination of employment. All workers must adhere to Paramount Substance Abuse Policies.

### **11.4 Enforcement**

The Paramount enforcement policy contains three main requirements:

- Employees must be aware of the project safety rules and work procedures.
- Safe work practices must be reinforced by field crew leads and supervisors.
- Violations of safety rules or work procedures must be immediately corrected.

The goal of this enforcement policy is to reinforce the benefits of safe work performance. When violations of safety rules or work procedures occur, field crew leads should look for the root cause of the violations before determining corrective actions. By providing necessary correction, violations can be prevented.



Where employees continually or intentionally work unsafely, disciplinary actions will be taken by the field crew lead and/or the site supervisor. Depending on the circumstances, the response to violations may include the following actions:

- verbal reprimand;
- written reprimand;
- suspension without pay from the project;
- discharge from the project.

A Paramount representative may dismiss individuals or subcontracted companies from the project for serious violations, or failure to provide proof of required certificates until they are provided. Any of the following may constitute grounds for dismissal from the project:

- reporting to work under the influence of alcohol or illegal drugs;
- driving a company vehicle during a license suspension or while impaired by alcohol and/or illegal drugs;
- harassment of wildlife;
- unauthorized possession of firearms on the project site;
- disregard for environmental conservation and/or regulatory requirements;
- disregard for the safety policy by bypassing, modifying, or removing safety devices, switches, or guards;
- violence or threats, harassment, horseplay, or practical jokes that pose a threat to the health and safety of individuals or damage property;
- theft, vandalism, or any other abuse or misuse of Paramount property;
- repeatedly failing to conduct work in accordance with safe work practices and procedures or the direction of the field crew lead.

## **12 SAFE WORK PROCEDURES AND GUIDELINES**

### **12.1 Aircraft**

Companies supplying fixed wing air transport and helicopters for this project will comply with legislative requirements for the operation and maintenance of airplanes/helicopters and the necessary training for pilots. Field crews will adhere to the operator's safety procedures and requirements. Particular attention should be paid to weight restrictions, transport of hazardous materials, and relevant weather/daylight restrictions. Prior to boarding any helicopter an orientation for the particular aircraft will be conducted by the pilot.

### **12.2 Biological Hazards and Controls**

#### **12.2.1 Insects and Allergies**

Any bite or sting can become infected or cause an allergic reaction. Employees and contractors who have known allergies to bites or stings are responsible for carrying their own medication (e.g., epi-pens). If a bite or sting is unusually sore, red, or not healing properly, medical attention should be sought to ensure the wound is treated and infection prevented. Insects such as mosquitoes and ticks can cause disease (e.g., Lyme disease, Rocky Mountain spotted fever, tick paralysis, and West Nile virus).

The following safe work practices should be implemented when insects are a concern:

- Minimize standing water around the work area and when possible, avoid working at dusk and dawn when mosquitoes are most active;
- Wear insect repellent containing DEET on exposed skin and clothing;
- Wear long sleeved shirts, long pants, and socks;
- Do not handle dead animals. If you must handle an animal carcass, use tools such as shovels to avoid direct contact with the animal and wear PPE (e.g., gloves and respirator) that provide a protective barrier);
- Avoid walking or resting in areas overgrown with vegetation;
- Closely examine your body and clothes for ticks (e.g., hairline and warmer locations);
- Remove ticks immediately upon discovery. Consult with the medic for removal.
- Carefully follow the insect repellent label directions for safe use and handling requirements.

**Important** - DEET and other insect repellents must not be used on hardhats and fire-resistant work wear because they deteriorate the protective properties of the hat and reduce fire resistance.

#### **12.2.2 Animal Hazards**

The worksites may have bears, wolves, cougars, and ungulates (including bison). Control measures that will be used to reduce encounters with wildlife include:

- Check wildlife activity in the area before leaving for the field (e.g., contact site wildlife monitor or the Paramount Site Supervisor);
- Include wildlife hazards and control measures in the pre-job hazard analysis and control process;
- Review wildlife hazards and controls at the tailgate safety meeting;
- Review the ERP for handling wildlife encounters at the tailgate safety meeting;
- Ensure each field member carries bear spray and air horn; and
- Feeding or harassing wildlife is prohibited.

#### **12.2.3 Wildlife Control and Monitoring Service Provider Requirements**

Paramount has developed a guiding framework for predator and dangerous wildlife control and monitoring service providers (bear watches). This framework is summarized below. Wildlife monitors will be in place at all work areas and at the camp facility. The wildlife monitors will be the only workers on-site that will be approved to carry firearms.

#### **12.2.4 Predator and Dangerous Wildlife Control and Monitoring Practices**

Predator and dangerous wildlife control and monitoring will be done in accordance with the following:

- Firearms brought to site for the purpose of predator control will be limited to shotguns and short range, defensive caliber rifles (45-70);
- Monitoring and assessment of animal activity is to be used to guide work activities and formulate a first line of defense;

- In the event of a chance bear or other dangerous wildlife encounters (bison, moose, etc.) resulting in concerns for human safety, warning shots are to be fired in attempts to scare the animal from the immediate area;
- If there is an imminent danger to human safety, shots intended to kill may be fired. All reasonable efforts must be made to ensure wildlife is not left in an injured state;
- All animal activity observations, encounters, and shots discharged must be reported to the Paramount Site Supervisor and logged on the Wildlife Sighting Cards; and
- Activity resulting in injury or death to wildlife is to be immediately reported to the local conservation office.

#### **12.2.5 Wildlife Conservation Related Requirements**

The onsite presence of Wildlife Monitors is for the strict purpose of predator and dangerous wildlife control with the primary concern being grizzly bear encounters. In order to avoid chance encounters, a secondary function of the Wildlife Monitors will be to assess and monitor wildlife activity in the area and provide guidance based on collected information, prioritizing wildlife conservation only second to human safety. The following requirements must be met:

- Completion of training and certification as a Wildlife Monitor by the local Renewable Resources Council or equivalent (upon approval by Paramount);
- Holder of a current and valid hunter number, if required by local regulations; and
- Knowledge of the territorial and Canadian Wildlife Acts and their applicable Regulations.

#### **12.3 Communications**

This specific site has poor or no cellular phone coverage. Communication, while onsite, will be completed via satellite phone. The site supervisor and medic will have satellite phones. Refer to ERP for Paramount Site Supervisor, Paramount Safety & On-site Paramedics Satellite numbers.

Hand-held two-way radios will be used onsite for area communications. At a minimum, the following personnel must have a two-way radio:

- site supervisors;
- wildlife monitor;
- medic; and
- one radio per work group.

#### **12.4 Ergonomics and Material Handling**

Ergonomics is the science of fitting the work to the worker. When correcting or eliminating ergonomic hazards, the focus should be on designing the task or workplace to better suit the worker.

Ergonomic risk factors include:

- repetitive motions;
- awkward postures;
- excessive force;

- contact stresses (i.e., parts of the body in contact with hard surfaces);
- manual material handling (e.g., lifting, carrying, pushing, and pulling);
- environmental stresses (e.g., hot, cold, wet, inadequate, or excessive light); and
- physical and psychological stressors (e.g., working under tight deadlines).

Ergonomic risk factors should be considered when planning tasks during the pre-job hazard assessment and should be assessed by workers at the field level.

Ergonomic injuries may develop suddenly or over a period of time and are a result of not correcting one or a combination of risk factors. Symptoms are usually easier to address and correct in the early stages. It is essential that early symptoms are promptly reported to the field crew lead. Symptoms of ergonomic injuries include:

- pain;
- swelling;
- redness;
- tingling; and/or
- difficulty moving a part of the body.

## 12.5 Flammable, Explosive, or Hazardous Atmospheres

The worksite has the potential for combustible and toxic gases in the atmosphere. Personal gas monitors are required PPE on this site. Workers using personal gas monitors must be trained in their use, care, and limitations.

The hydrogen sulphide Safe Work Practice must be followed to manage the risks associated with hydrogen sulphide. It is to be used in conjunction with the Safety Data Sheets for hydrogen sulphide and/or products containing hydrogen sulphide.

All gas monitors used for atmospheric testing must have proof of calibration and be function/bump tested daily. The sensors and alarms recommended for this site are listed in Table 5

**Table 5 – Personal Gas Monitor Sensors and Alarms**

Sensor	Low Alarm	High Alarm	Time Weighted Average	Short-term Exposure Limit
Hydrogen Sulphide (H <sub>2</sub> S)	5 ppm	10 ppm	10 ppm	15 ppm
Carbon Monoxide (CO)	25 ppm	125 ppm	25 ppm	50 ppm
Oxygen (O <sub>2</sub> )	19.5%	23%	n/a	n/a
Lower Explosive Limit (LEL)	10%	20%	n/a	n/a

n/a = not applicable

Response to a personal gas monitor's high alarm - evacuate the site. Re-entry onto the site is only permitted after the area is cleared by the site supervisor or their designate, who is equipped to enter and test the atmosphere.

The site work must be put on hold until proper controls can be put into place to mitigate the risk. High alarms must be reported to the Paramount Site supervisor and a new risk assessment completed for work to continue.

Response to a personal gas monitor's low alarm - stop work and assess what is causing the alarm. Correct the cause of the alarm. If the cause of the alarm cannot be determined or cannot be corrected, respond as if it was a high alarm. Any low alarm or greater must be identified to the Paramount Site supervisor and a new risk assessment completed for work to continue.

As noted above, when a personal gas monitor alarms onsite, the safety at the work site must be reassessed. A tailgate safety meeting a safe distance from the work area (e.g., muster point) is usually warranted to assess the newly identified hazard and to determine the next course of action.

No one is permitted to enter an explosive atmosphere (i.e., >20% LEL) and no hot work is allowed to occur when LEL is > 10%. Supplied air or a self-contained breathing apparatus is required for personnel entering a high alarm atmosphere that is not deemed to be explosive. Hot work (i.e., work that involves using an ignition source or work that may generate a spark) may only be done in an environment that has < 10% LEL.

The worker using the monitor must ensure the monitor has been calibrated according to the manufacturer's recommendations, at least monthly, and that the calibration has been performed using a gas mixture that is appropriate to exposures that will be measured in the field (e.g., methane).

Workers are responsible for performing a bump test (i.e., function test). It is possible to have a gas monitor that is not functioning properly, even if it passes the battery check and a visual check; therefore, it is essential that employees using gas monitors bump test the monitor before each shift. The results of the test must be documented and made available to Paramount upon request. A gas monitor that fails the bump test must be repaired or replaced.

## **12.6 Firearms and Ammunition Possession Related Requirements**

Requirements for possessing firearms and ammunition onsite include the following:

- Completion of the Canadian Firearms Safety Course as a prerequisite to issuance of a firearms licence;
- Holder of a current and valid Possession and Acquisition Licence;
- Firearms must be registered; and
- Intimate knowledge of the Canadian Firearms Act and its applicable Regulations.

### **12.6.1 Firearms and Ammunition Transportation, Handling, and Storage Requirements**

- Transportation of ammunition shall be in accordance with the TDG regulations.
- Firearm(s) will be unloaded and locked during storage, transport, and onsite handling with a secured locking device such as a trigger or cable lock applied, or the bolt removed so the firearm cannot be fired.
- Ammunition will be in a separate locked container during transport to site.
- Unrestricted firearms can be unlocked with ammunition readily accessible once onsite and in a wilderness area in order to provide adequate predator protection and control.
- Firearms and ammunition are not to be stored onsite and must be removed from site on a daily basis. A manifest of incoming and outgoing firearms and ammunition must be maintained daily.



## **12.7 Green Hands**

Contractors will be expected to have a new or young worker policy in place which covers tasks, mentoring and new worker identification.

## **12.8 Ground Disturbance**

Any work, operation, or activity without limitation, that results in a disturbance of the earth or that reduces the initial cover over an underground facility is considered to be ground disturbance. Due to multiple buried facilities at the site, compliance with the Paramount ground disturbance practice is critical.

Ground disturbances for this project may include excavation (remediation phase), surface equipment supports removal and hand auguring (assessment phase).

Plot plans, land titles, and onsite operator interviews will be reviewed before any ground disturbance. Private locators will be used to locate all underground utilities within a 30 m radius of the work area. Hydrovacing will be used to expose any facilities located within 5 m of drilling locations.

All personnel involved with ground disturbance activities will review the Paramount Excavation Specification and the Ground Disturbance Checklist before starting ground disturbance.

The ground disturbance supervisor will monitor all ground disturbance activities until completion.

## **12.9 Hours of Work and Fatigue**

Twelve-hour work days will be used as a guideline, including travel, field work, and reporting work. Project managers and field crew leads must take an active role in monitoring worker fatigue and proactively avoiding fatigue by scheduling reasonable work hours and days off. All project personnel are responsible for taking actions to reduce the hazards associated with fatigue. Working more than 12 hours in a day needs to be discussed and approved by the site supervisor. The effects of fatigue and sleep debt on worker performance is a major influence on job quality and safety. Studies show that lack of sleep on human performance is similar to being under the influence of alcohol. Workers suffering from sleep deprivation can have difficulties finding words for their thoughts, take more risks in attempt to avoid additional effort, and micro sleep (i.e., napping for 4 to 5 seconds in duration).

## **12.10 Housekeeping**

All work areas will be kept free of trip and slip hazards. When slip hazards (e.g., ice, water, and mud) are a concern the hazard will be removed or a traction aid added to reduce the risk of slipping.

Smoking is only permitted in designated areas. Smoking is not permitted in work areas, work vehicles, or in the site buildings. Smoking materials must not be disposed of on the ground.

Hand sanitizer will be available onsite. Workers must not eat in areas where contamination from the worksite (e.g., dust from drilling) is a concern.

## **12.11 Heavy Equipment**

Work involving heavy equipment must meet the Paramount heavy equipment standards. Operators must be deemed competent to operate equipment by their employer. Equipment must be equipped with:

- a 20 lb. ABC fire extinguisher
- a first aid kit (Level 1 First Aid Kit, as a minimum)
- a spill kit appropriate to the type of spills that may occur (e.g., hydraulic oil)

- a backup alarm
- an operable emergency shutdown device
- lights visible at 150 m distance if working within half an hour of sunrise or sunset

Initial inspections (when equipment first arrives onsite) and daily inspections are required at the start of each day and must be available if requested. Equipment that isn't in compliance regarding safety, condition, or performance will not be permitted to start or continue work at the site.

There shall be no refueling of equipment within 100 m of a watercourse.

Onsite traffic will be monitored by the Paramount Site Supervisor or designate. A sign showing that there is heavy equipment moving and people working will be posted in the area for people entering the work site. All heavy-equipment signage will be provided and maintained by the heavy equipment/trucking contractor.

### **12.12 Overhead Power Lines**

Work around power lines must be in compliance with the Regulator Overhead Power Line and High Voltage Electrical Safety. When working around power lines (including when moving equipment under lines), the following tasks must be undertaken:

- determine voltage and safe limit of approach;
- mark the safe limit of approach with signs or barricades;
- place signs at entrances to the site warning of overhead hazards;
- review safe work procedures and emergency response at tailgate meetings; and
- keep non-essential personnel outside the area.

### **12.13 Security**

The project work environment will be respectful and free from abuse. Violence and harassment will not be tolerated, whether it is committed by or against any employee, contractor, client, or member of the public.

The Paramount Site Supervisor must consider work site security exposures and the associated potential hazards during the pre-job hazard assessment.

If at any time a worker is uncomfortable with the conduct of another worker, they should report the situation to the Paramount Site Supervisor or field crew lead.

The following proactive measures should be implemented by workers:

- Report unauthorized visitors or vehicles to the Paramount Site Supervisor;
- Do not engage in loud and aggressive discussions. These can escalate into physical violence;
- Take verbal threats seriously. Report all threats to the supervisor;
- Strictly adhere to the Paramount drug and alcohol policy; and
- Ensure emergency contact numbers are conspicuously available at strategic locations at the site including the muster points. All workers have a copy of the ERP contact list.

All employers working on the site are responsible for all security requirements necessary for the protection of their tools and equipment.



## **12.14 Vehicles**

All drivers must hold a valid driver's licence. All drivers who will be driving as part of their work duties for this project must comply with their company's driving policy and training requirements. The use of cell phones, including hands-free units, while driving a vehicle is prohibited.

Drivers must conduct and document a vehicle walk-around to ensure their vehicle is in a safe condition before the start of their work shift. Drivers must assess the risks of driving and check the weather and road conditions before starting their trip.

Vehicles will be equipped with:

- a 20 lb. ABC fire extinguisher;
- a first aid kit (#1 First Aid Kit, as a minimum); and
- a vehicle breakdown kit that includes road flares (if available on location).

Vehicles not meeting Paramount expectations regarding safety, condition, or performance will not be permitted to start or continue work at the site.

Before towing or recovering a stuck vehicle, a FLHA form or JSA must be completed, the risk assessed, and the Paramount vehicle recovery procedure reviewed. Paramount Site Supervisor must be notified prior to recovering a stuck vehicle.

## **12.15 Waste and Hazardous Materials Management**

The Paramount Waste Management Plan must be followed in order to ensure waste generation is minimized and to ensure wastes are handled and transported appropriately.

The Paramount Site Supervisor must ensure that waste materials are appropriately characterized, disposed of, and transported. If the materials are considered dangerous goods and must be transported offsite, TDG requirements must be adhered to.

All materials being pulled from the well sites such as tubulars will be tested for NORMS in accordance with all local regulations and the Paramount NORM Safe Work Practice.

## **12.16 Water Safety**

### **12.16.1 Barging**

The barging company will be responsible to load and unload all equipment and vehicles onto and off of the barge. No project personnel are allowed on the barge at any time including while the barge is in transit. The barging company does have exemptions for vehicles that require an operator such as a service rig. In these instances barging company has a policy that requires the operator to review and provide acknowledgment of the safe loading practice.

### **12.16.2 Boating**

The boat operator must have appropriate certification to operate the boat and carry passengers. The boat operator must perform and document a visual check of the boat to ensure it is in safe operating condition, and check and document the forecasted weather and water conditions.

All boaters must wear an approved life jacket having reflective material on front and back. Boat operators must have Valid Boating license.

Boat work will not be undertaken if water or weather conditions are deemed unsafe.

### **12.16.3 Swift Water Safety**

Should personnel (excluding barge crew) need to work near swift water all workers require swift water safety training and have the necessary PPE, Rescue Equipment and Rescue Plan. The procedures must be verified and signed off by the Paramount Site Supervisor before working near swift water.

## **12.17 Weather**

### **12.17.1 Hot and Cold Temperatures**

Factors affecting how hot or cold a person feels include the following:

- temperature - measured with a thermometer, this is the temperature of the air around us air speed - also known as wind
- humidity - this is the amount of water in the air
- physical activity - body temperature increases with physical activity
- clothing - clothing can shield a worker from radiant heat, prevent sweat from evaporating, and shield the body from cold

### **12.17.2 Inclement Weather, Fog, and Low Ceiling**

Aircraft are limited by atmospheric conditions, particularly those conditions affecting visibility. Low ceiling and foggy conditions may prohibit flight activities completely. In autumn and at the project location, flight conditions may often be inhibited. Emergency supplies, including shelter, blankets, food, and water must be available onsite in sufficient quantities for all field staff for 2 days.

### **12.17.3 Thunderstorms**

The time frame that this project will be completed in will be during the summer and adverse storm conditions may occur. In the event of adverse weather, Paramount will shut down all outdoor work activities until the weather conditions permit return to work. All signs of lightning or thunder on all work locations needs to be reported to Paramount Site Supervisor. Ways to protect yourself indoors and outdoors are listed below.

#### **IF YOU'RE OUTDOORS:**

- Keep an eye at the sky. Look for darkening skies, flashes of lightning, or increasing winds. Lightning often proceeds rain, so don't wait for the rain to begin. If you hear the sound of thunder, go to a safe place immediately.
- The best place to go is a sturdy building or a vehicle, but make sure the windows in the vehicle are shut. Avoid sheds,
- If there is no shelter around you, stay away from trees. Do not lie flat, crouch down in the open area, keeping twice as far away from a tree as it is tall. Put your feet together, your head down and place your hands over your ears to minimize hearing damage from thunder.
- If you're with a group of people stay about 5 metres from each other.
- Stay out of water. It's a great conductor of electricity, also, don't stand in puddles.
- Avoid metal. Stay away from fences, wellheads and facilities.

#### **IF YOU'RE INDOORS:**



- Avoid water. It's a great conductor of electricity.
- Do not use a corded telephone. Lightning may strike exterior phone lines.
- Do not use electric equipment like computers and appliances during a storm.
- Stay away from anything that will conduct electricity such as radiators, stoves, sinks and metal pipes.
- Stay away from windows and doors and stay off porches.
- If you were working outdoors, wait at least 30 minutes after the last observed lightning strike or thunder before returning to your work activity.

**12.18 Workplace Hazardous Materials Information System**

The Paramount Site Supervisor will disclose known hazardous products that the field crew may be working with or potentially exposed to. Safety data sheets (SDS) for products contained at the work site should be provided in a binder clearly labelled and up to date. Paramount also uses a digital storage system called CHAMP that has a digital version of the SDS forms.

Subcontractors are responsible for providing the Paramount field crew lead with a current SDS for all controlled products brought onsite and for ensuring the products are properly labelled.

**12.19 Working Alone**

Personnel must not work alone without consenting the Paramount Site Supervisor prior to completing the working alone work task.

**13 LEGISLATION AND INDUSTRY GUIDELINES & STANDARDS**

The following legislative references were used in development of this Practice. However, except where noted, this Practice has adopted a “best practice” approach that will take the most restrictive reference in the development of specific requirements.

Field work associated with the project will take place primarily in the Northwest Territories but may also require travel through British Columbia, and/or Alberta. Paramount and all contractors must comply with the applicable provincial and territorial legislation. The NWT Occupational Health and Safety Act and Regulations and the NWT Oil and Gas Occupational Safety and Health Regulations set the minimum requirement for regulating the health and safety component of the Project.

The well abandonment program will comply with the NWT Oil & Gas Drilling and Production Regulations and specifically with the OROGO Well Suspension and Abandonment Guidelines and Interpretation Notes. Copies of the required legislation should be made readily available to all personnel at the work site.

Legislation	Remarks
National Energy Board	<ul style="list-style-type: none"> <li>▪ Regulates operational aspects of oil and gas activities in the Inuvialuit Settlement Region (ISR) of the Northwest Territories, Nunavut and offshore northern Canada</li> <li>▪ Regulates transboundary pipelines</li> </ul>

Legislation	Remarks
NWT Lands	<ul style="list-style-type: none"> <li>▪ Responsible for the protection of the land and water resources of the NWT and to ensure the interests of Indigenous governments, the general public and industry are considered.</li> </ul>
OROGO	<ul style="list-style-type: none"> <li>▪ OROGO is a division the Department of Industry, Tourism and Investment (ITI). It is responsible for regulation the petroleum exploration and development in the NWT (excluding the Inuvialuit Settlement Region) in accordance with the NWT Oil &amp; Gas Operations Act and the regulations enabled by it               <ul style="list-style-type: none"> <li>○ Oil and Gas Drilling and Production Regulations</li> <li>○ Oil and Gas Geophysical Operations Regulations</li> <li>○ Oil and Gas Operations Regulations</li> <li>○ Oil and Gas Spills and Debris Liability Regulations</li> <li>○ Oil and Gas Diving Regulations</li> <li>○ Oil and Gas Installations Regulations</li> <li>○ Oil and Gas Certificate of Fitness Regulations</li> </ul> </li> <li>▪ OROGO receives technical support and expertise through service agreements with the Alberta Energy Regulator and the National Energy Board.</li> </ul>
NWT Legislation	<ul style="list-style-type: none"> <li>▪ The following legislation governs workplace health and safety in the Northwest Territories and Nunavut.               <ul style="list-style-type: none"> <li>○ The Petroleum Resources Act</li> <li>○ The Oil and Gas Operations Act</li> <li>○ Safety Act and Regulations</li> <li>○ Mine Health and Safety Act and Regulations</li> <li>○ Explosive Use Acts and Regulations</li> <li>○ Summary Convictions Procedures</li> </ul> </li> <li>▪ The Petroleum Resources Act sets the rules around how a company can get permits to explore for and produce oil on N.W.T. lands.</li> <li>▪ The Oil and Gas Operations Act regulates what happens once a company starts exploring for or producing oil and gas</li> </ul>

## 14 REFERENCE

### Paramount Documents

- COR-HSE-PRT-001 Norm Exposure Control
- COR-HSE-PRT-002 Permit to Work
- COR-HSE-PRT-003 Hazard Assessment, Elimination and Control
- COR-HSE-PRT-004 Incident Management
- COR-HSE-PRT-005 Control of Hazardous Energy
- COR-HSE-PRT-006 Fire Prevention and Control
- COR-HSE-PRT-007 Ground Disturbance
- COR-HSE-PRT-009 Hydrogen Sulfide (H<sub>2</sub>S) Exposure Control
- COR-HSE-PRT-010 HSE Orientation
- COR-HSE-PRT-011 Vehicle Operations

- COR-HSE-PRT-014 Working at Heights
- COR-HSE-PRT-015 Confined or Restricted Space
- COR-HSE-PRT-017 Contractor HSE Management
- COR-HSE-PRT-022 Personal Protective Equipment
- COR-HSE-PRT-023 Stop Work Authority
- COR-HSE-PRT-024 Respiratory Protection
- COR-HSE-PRT-028 Hazardous Materials
- COR-HSE-PRT-029 Bio Hazards and Blood Borne Pathogens
- COR-HSE-PRT-030 Ergonomics
- COR-HSE-PRT-032 Wildlife Awareness
- COR-HSE-PRT-035 Boats and Vessels
- COR-HSE-PRT-036 Cold Environments (Working in)
- COR-HSE-PRT-037 Dangerous Tree Assessment
- COR-HSE-PRT-038 Extreme Weather
- COR-HSE-PRT-039 Heat Stress
- COR-HSE-PRT-043 Safety System Impairment
- COR-HSE-PRT-045 Lifting and Rigging
- COR-HSE-PRT-046 Asbestos

## 15 DOCUMENT HISTORY/ REVISION LOG

Date	Description / Revision Details	Reviser
08-May-18	Combination of ACL, TEC and PRL Site Safety Plans into a single document	White, Jim
23-July-19	Revision to reflect well abandonment activities in the NWT	Heenan, Richard
14-Aug-19	Document reviewed and approved	Wood, Tim

## 16 APPENDICES



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## APPENDIX # 1: EMERGENCY RESPONSE PLAN (ERP) CONTACT LIST

Appendix # 1 to be confirmed and updated as required prior to commencement of operations

<b>EMERGENCY CONTACTS</b>				
EMERGENCY CONTACTS	Name	Phone Number	Satellite Phone #	
Site Supervisor	TBD			
MGM/Paramount Supervisor	John Hawkins	(403) 817-5074		(403) 512-9670
HSE Advisor	Jim White	(403) 261-1205		(403) 813-0910
Environment Advisor	Larry Yoon	(403) 290-6242		(403) 554-6702
	OROGO	867-767-9097		867-445-8551 -24-hour incident
	Norman Wells Hospital (also for medevac request)	867-587-3333		867-587-3333 – 24 hr.
	Northwest Territories Spill Reporting	867.920.8130		
	NWT Lands – Sahtu Region (Norman Wells)	867-587-7200		
	Norman Wells RCMP	867-587-1111		
	Fort Good Hope RCMP (also for Colville Lake)	867-598-1111		
	Canadian Helicopters (helicopter medevac)	867-587-2136	780 429 6900 (24 hr. Emergency)	867-445-1592
	NEB (pipeline incident only)	1-800-899-1265		403-807-9473 -24 hr. incident
	Air and Marine Search and Rescue	1.800.267.7270		
	Colville Lake Office	867-709-2200		
	Transport Canada (aviation emergency)	1.800.272.9600		
	CANUTEC - TDG Emergency			613-992.4624
	Stanton Hospital (Yellowknife)			867 669-4111
	Colville Lake Airport	(867) 587-2451		
	Norman Wells Airport	(867) 587-2451	867-587-2555 (Tower Emergency)	877-989-1400 (Emergency)
	North Wright (Fixed wing)	867-587-2288		
SITE CONTACTS	Full Name	Radio	Business Phone	Other
On-site Paramedic	TBD	Medic, Medic, Medic		
On-site Environmental	TBD			

## IN THE EVENT OF AN EMERGENCY

1. SOUND ALARM	Ensure your own safety and that of others working with and/or around you. Sound the alarm to notify crew members and other nearby people (shout, air horn x3, radio).
2. ASSESS AND MUSTER	Stop all work. Protect self and others. Evacuate to pre-determined muster point and assess the situation for potential hazards. Conduct a head count. Assess injuries and impacts, and emergency response required. Determine protection necessary for individuals evacuated and/or the rescuers.
3. CONTACT On-site Paramedic	Make first call as per emergency notification structure identified on Figure 1 (flow chart). a. Give your <b>name, phone number, and location</b> . If using Paramount radio call Medic, Medic, Medic b. Describe the incident (medical, fire, spill, sour gas release, etc.) c. Ask what response is coming, expected arrival time, and are there any other requirements for emergency service arrival. d. Advise personnel if there is a hazard in the emergency area. e. If it is an injury emergency, provide <b>(Nature of injury - fall, laceration, etc.), Airway, Bleeding, Circulation, Current treatment being administered</b> . f. Provide directions, and then send someone to meet MTC at the meeting point. <b>Confirm communication method with ambulance.</b>
4. PROTECT AND RESCUE	As per site-specific emergency information identified in this form. Ensure that only adequately protected and trained rescuers respond to the incident. <b>Do not attempt to transport a seriously injured person without guidance from emergency services.</b>
5. SECURE SCENE	Secure site, do not disturb the scene, and prevent access, except to provide first aid and emergency response. Sequester witnesses, collect statements, document site (photos, sketches); initiate a time and event log.
6. NOTIFY	When safe to do so, notify emergency contacts as required on Page 1. Record details of who was notified and at what time.

## APPENDIX # 2: PROJECT SPECIFIC INFORMATION

The project is the permanent abandonment of six wells in the Sahtu region of the NWT, specifically in the vicinity of Colville Lake.

### Location:

- Two wells are approximately 50 km northeast of Colville Lake (Lac Manoir E-35 and C-34). Four wells are approximately 50 km south of Colville Lake (Nogha M-17, C-40, B-23 & K-14).
- All locations are only accessible by helicopter or by a winter road from the GNWT winter road to Colville Lake.

### Project Scope:

- Construction of winter access roads to location(s) & wellsite ice pads from the vicinity of Colville Lake – GNWT winter road.
- Installation and operation of temporary camp(s) for construction and wellsite operations.
- Permanent abandonment of the six specified wells in accordance with the Oil and Gas Drilling and Production Regulations and OROGO Well Suspension and Abandonment Guidelines and Interpretation Notes.

### Operational and Emergency Support:

- This operation will be supported with local resources from Norman Wells and Colville Lake and Fort Good Hope (limited availability). Specialized oilfield services (e.g. service rig, cement unit, wireline) will likely be brought from Alberta and/or BC.
- Helicopter support (where applicable) will be supplied from Norman Wells.
- Fixed wing support will be to/from Norman Wells (1800m asphalt) and Colville Lake (1200m gravel).
- There will be a medic and MTC on site and medevac would be by ground, helicopter, or fixed wing to Norman Wells Hospital (or direct to Yellowknife/Edmonton as required).



## **Equipment Critical to the Safety of the Operation**

### **Service Rig**

The service rig will be used to remove tubing, set cement plugs, and related abandonment operations. It will be maintained, operated, and inspected in accordance with the Recommended Practices and Procedures of the Canadian Association of Drilling Contractors (CAODC) – Service Rig Division

### **Pressure Pumping (cementing) Equipment**

This equipment will be used to mix and spot (circulate) cement as required for abandonment. No cement squeezing is currently anticipated for these wells, so circulating pressures will not be excessive.

In any case all equipment will be tested to a pressure equal to or greater than any pressure encountered during operations. Maintenance and operating procedures will be in accordance with the requirements of the service company selected.

### **Gas Test Separator (for well bleed of)**

This unit will be used only to bleed off small volumes of gas head from the wells prior to and during abandonment operations.

It will be maintained and operated in accordance with Industry Recommended Practice # 4 – Well Testing and Fluid Handling (where applicable)

## **Responsible Personnel**

Mr. Jim White, HSE Manager – Paramount Resources Ltd.

has overall responsibility and is accountable for the Project Site Specific Safety Plan

Mr. John Hawkins, Director Asset Management – Paramount Resources Ltd.

is responsible for implementing Central Mackenzie Valley well abandonments



## APPENDIX # 3: PROJECT RISK REGISTER

Rank	Asset Risk/ Hazard	Region	Location		Unmitigated Risk Assessment						Risk Mitigation Plan(s)	Mitigated Risk Assessment						Responsibility	Comments/Action Items	Due Date	Risk Owner	Updates	
			Affected areas	Brief Description	Likelihood	Safety	Environ	Reputation	Asset	Result		Likelihood	Safety	Environ	Reputation	Asset	Result						
	Spills			Potential exists during all activities for spills to occur	Possible (3)	Minor (2)	Serious (3)	Serious (3)	Negligible (1)	Negligible (1)	Medium Risk (9)	1. Company and Contractor implementation plans, training, procedures, rules, guidelines, task assessment, daily pre-job safety meetings, contingency plan, inspections, supervision and audits. 2. Specific spill contingency planning and equipment if deemed necessary 3. Emergency Response Plans and WCS knowledge of the area 4. Spill response team is established and ready for deployment if required	Unlikely (2)	Negligible (1)	Minor (2)	Minor (2)	Negligible (1)	Negligible (1)	Medium Risk (4)	Project Team, HSE		Larry Yoon Project Manager	
	Waste Management			Waste management liability (landfills, effluents). Mismanagement of wastes could require remediation of disposal sites.	Frequent (5)	Minor (2)	Serious (3)	Negligible (1)	Negligible (1)	High Risk (15)	Waste Management Plan	Unlikely (2)	Minor (2)	Minor (2)	Negligible (1)	Negligible (1)	Negligible (1)	Medium Risk (4)	Project Team, HSE		Larry Yoon Project Manager		
	Access to our locations			Cancelled or non-existent road use agreements (RUA) with government  Inadequate load bearing ice on ice bridges  Ice road degradation during warmer days	Likely (4)	Minor (2)	Minor (2)	Minor (2)	Serious (3)	High Risk (12)	Reviewed all RUAs and identify the lead time required to receive these for scheduling and critical steps of sequencing.  Contractor ice bridge construction procedures and policy  Monitoring	Remote (1)	Serious (3)	Negligible (1)	Negligible (1)	Negligible (1)	Negligible (1)	Low Risk (2)	Project Team		Project Manager		
	Wellhead pressure			Wells may have pressure under BPV and/or trapped in lubricator	Likely (4)	Minor (2)	Minor (2)	Negligible (1)	Negligible (1)	Medium Risk (8)	Use contractor SOP/JSA	Likely (4)	Negligible (1)	Medium Risk (4)	Project Team		Project Manager						
	Pumping fluids circulating or squeezing			Potentially high-pressure release Failure if incorrect/sub-standard/damaged components incorporated	Unlikely (2)	Minor (2)	Minor (2)	Negligible (1)	Negligible (1)	Medium Risk (4)	Pre-job meeting with all involved. Use contractor SOP/JSA. Inspect/pressure test as required	Unlikely (2)	Negligible (1)	Low Risk (2)	Project Team		Project Manager						
	Accumulator & Hydraulic Pressure			Potentially high-pressure release	Remote (1)	Minor (2)	Minor (2)	Negligible (1)	Negligible (1)	Low Risk (2)	Use contractor SOP/JSA	Remote (1)	Negligible (1)	Negligible (1)	Negligible (1)	Negligible (1)	Negligible (1)	Low Risk (1)	Project Team		Project Manager		
	Wildlife			Working in an area with many types of migratory birds & wildlife; need to plan timing and mitigation measures to reduce our impact to all  Possibility of running into wildlife (bear, Wolves, Moose, etc.) that can injure or kill a worker	Frequent (5)	Critical (5)	Negligible (1)	Remote (1)	Remote (1)	Very High Risk (25)	Environmental Protection Plan	Possible (3)	Serious (3)	Negligible (1)	Negligible (1)	Negligible (1)	Negligible (1)	Medium Risk (9)	Project Team, HSE		Larry Yoon Project Manager		
	Fit for Duty (Personnel under the influence or exhausted)			Personnel suffering from over consumption of alcohol, under the effects of drugs or unable to work due to exhaustion.  Personnel not physically fit to conduct the work due to illness, injury or personnel reasons	Frequent (5)	Major (4)	Minor (2)	Negligible (1)	Minor (2)	Very High Risk (20)	Paramount's drug & alcohol policies outline the fit for duty requirements. These will be implemented and followed for anything happening in the project operations.  Paramount supervision will remove or prevent workers from completing work if they suspect any contravention is present	Unlikely (2)	Serious (3)	Minor (2)	Negligible (1)	Minor (2)	Negligible (1)	Medium Risk (6)	Project Team, HSE		Larry Yoon Project Manager		

Rank	Asset Risk/ Hazard	Region	Location		Unmitigated Risk Assessment						Risk Mitigation Plan(s)	Mitigated Risk Assessment						Responsibility	Comments/Action Items	Due Date	Risk Owner	Updates
			Affected areas	Brief Description	Likelihood	Safety	Environ	Reputation	Asset	Result		Likelihood	Safety	Environ	Reputation	Asset	Result					
	Heat / Cold Working in these conditions can result in negative health effects			People respond differently to heat and cold, it is important to know the common risk factors that may increase the chance of a worker developing heat stress or hypothermia.  The two factors that are the most important in helping workers to handle heat and cold are: 1. Proper acclimatization and 2. Physical fitness	Frequent (5)	Major (4)	Negligible (1)	Remote (1)	Remote (1)	Very High Risk (20)	Company and Contractor plans, training, procedures, rules, guidelines, and daily pre-job safety meetings.  Paramount Safe Work Practices	Possible (3)	Serious (3)	Negligible (1)	Negligible (1)	Negligible (1)	Medium Risk (9)	Project Team, HSE			Larry Yoon Project Manager	
	Hygiene Conditions			Inadequate hygiene at camps resulting in illness or epidemic	Unlikely (2)	Serious (3)	Negligible (1)	Minor (2)	Negligible (1)	Medium Risk (6)	1. Review procedures regarding tasks associated with camp activities. 2. Review Training records of camp staff. 3. Food handling courses for all cooks	Remote (1)	Serious (3)	Negligible (1)	Minor (2)	Negligible (1)	Low Risk (3)	Project Team, HSE	Monitor as project progresses		Larry Yoon Project Manager	
	Contractor Management (Training, Fit for Duty, PPE, etc.)			Inadequate training of employees and contractors related to de-construction, as well as general safety and environmental hazards that could result in injury, illness or death; non-compliance with laws, regulations, and policies; social non-conformity; rework; project delay; and additional cost.	Likely (4)	Major (4)	Minor (2)	Negligible (1)	Minor (2)	High Risk (16)	1. Company and Contractor implementation plans, training, procedures, rules, guidelines, task assessment, daily pre-job safety meetings, contingency plan, inspections, supervision and audits. 2. Comply/Works 3. Working closely with Procurement 4. Onsite supervision	Unlikely (2)	Serious (3)	Minor (2)	Negligible (1)	Minor (2)	Medium Risk (6)	Project Team, HSE			Larry Yoon Project Manager	
	Driving			Driving has been identified as one of the most dangerous tasks we will do, as it exposes our workers to an environment in which we have minimal control.  This activity is conducted in the general public which exposes the general public to dangers, as well as our workers to the actions of the public and the wildlife that also crosses, and uses these passageways.	Likely (4)	Major (4)	Negligible (1)	Negligible (1)	Negligible (1)	High Risk (16)	POEMS Management System, contractor management plan, vehicle specifications, worker training, supervision, rules and guidelines and trend analysis. Added emphasis with introduction of safety meetings dedicated to driving safety.  Hazard assessments conducted to identify risks and controls.	Possible (3)	Serious (3)	Negligible (1)	Negligible (1)	Negligible (1)	Medium Risk (6)	Project Team, HSE	Systems are already in place		Larry Yoon Project Manager	
	Weather/Environment			Weather conditions which will not allow for evacuation of an injured worker, or delay in evacuation of an injured worker.  Weather conditions that result or have the potential to result in worker injury such as severe storms.	Likely (4)	Major (4)	Negligible (1)	Minor (2)	Negligible (1)	High Risk (16)	1. Company and Contractor implementation plans, training, procedures, rules, guidelines, task assessment, daily pre-job safety meetings, contingency plan, inspections, supervision and audits. 2. Alternate means of transporting injured worker 3. Emergency Response Plans 4. Extreme Weather SWP	Unlikely (2)	Serious (3)	Negligible (1)	Minor (2)	Negligible (1)	Medium Risk (6)	Project Team, HSE			Larry Yoon Project Manager	
	Lost Workers & Working Alone			Workers becoming confused along the route and/or are unable to find their way back to camp.  Working Alone	Frequent (5)	Serious (3)	Negligible (1)	Serious (3)	Negligible (1)	High Risk (15)	1. Company and Contractor implementation plans, training, procedures, rules, guidelines, task assessment, daily pre-job safety meetings, contingency plan, inspections, supervision and audits. 2. Journey Management (communication and check-in) 3. Working Alone Procedures in place 4. Emergency Response Plans	Remote (1)	Serious (3)	Negligible (1)	Negligible (1)	Negligible (1)	Medium Risk (4)	Project Team, HSE			Larry Yoon Project Manager	
	Security Risks to assets random acts of property damages (Vandalism, Theft and Violence)		All Facilities and Pipelines	Vandalism/Theft causing property, equipment or vehicle damages  Violence towards the workforce  Personnel with anger management issues working in remote locations and staying at camp	Possible (3)	Serious (3)	Serious (3)	Serious (3)	Major (4)	High Risk (12)	Having a presence through project execution  Company policies are in place concerning violence in the work place. These policies are reviewed and agreed to by all staff and contractors prior to commencing work.	Unlikely (2)	Negligible (1)	Minor (2)	Negligible (1)	Minor (2)	Medium Risk (4)	Project Team, HSE			Larry Yoon Project Manager	
	Load Management			Unsecured load (improper loading resulting in equipment movement)	Likely (4)	Serious (3)	Minor (2)	Unlikely (2)	Remote (1)	High Risk (12)	1) Training, procedures, orientation in place 2) Contractors have load securement policies in place 3) Supervisors are monitoring crews to ensure policies and procedures and being adhered to 4) Hazard ID and job observation program in place	Possible (3)	Minor (2)	Minor (2)	Minor (2)	Negligible (1)	Medium Risk (6)	Project Team, HSE			Larry Yoon Project Manager	

# **MGM Energy – Emergency Transportation Plan**

## **Central Mackenzie Valley Well Abandonment Project**

To be posted conspicuously in Medic Quarters, First Aid Room(s) & Supervisor's Office

Due to the remote location, a medic and a Mobile Treatment Facility (MTC – ambulance) will be located at the wellsite or supporting camp as required.

### **Immediate Response to Accident or Medical Emergency**

1. **SOUND THE ARLAM**  
Warn others – get immediate help  
Shout – call on radio - sound vehicle or rig horn etc.
2. **TAKE IMMEDIATE LIFESAVING ACTION**  
Protect the casualty / Eliminate the hazard without taking unreasonable personal risk  
Administer first aid / CPR etc.
3. **CONTACT MEDIC (if not already done)**  
Radio call MEDIC MEDIC MEDIC  
Give brief description of incident/injury/exact location  
Confirm medic ETA

Upon arrival Medic will evaluate/ treat / transport casualty as below.

### **Medical Evacuation Procedure**

In the event of an on-site medical emergency or injury, the medic will perform the following:

- Immediate assessment and treatment/stabilization of the casualty.
- Transportation via MTC to the First Aid Room (anticipated to be located at the base camp).
- Further treatment and evaluation as needed.
- Arrange with on-site Supervisor for medevac (if required) as below

In the event that medical evacuation is required, the on-site Supervisor in conjunction with the medic will determine the best means of transport and destination. The options include:

1. Transportation to Norman Wells by conventional ground vehicle (non-serious case only).  
The Health Center in Colville Lake is typically not staffed and can not provide care that is significantly better than the on-site medic.
2. Transportation to Norman Wells by MTC with medic in attendance (typically only if air medevac is precluded by weather, night, or other circumstances)  
Note: Road access is +/- 600km of difficult winter road (+/- 12 hours) – a second vehicle must accompany the MTC in case of difficulty.
3. Helicopter to Norman Wells  
The helicopter contractor (Canadian Helicopters – Norman Wells) will provide the helicopter for medevac.  
Confirmation of contact and preparation must be made at the beginning of operations.

The round-trip time for the helicopter from Norman Wells (including fueling, preparation, etc.) is 3-4 hours.

The helicopter can only fly “Visual Flight Rules” – I.E. Daylight and reasonable weather.

As the Norman Wells Health Center has limited facilities, it is likely that a patient would be transferred to Yellowknife for any serious event. Plans should be made for that (see below) once immediate medevac has been organized.

4. Fixed wing from Colville Lake Airport to Yellowknife

In the event that a helicopter cannot fly (e.g. darkness), medevac will be arranged with North-Wright Air (out of Norman Wells).

Confirmation of contact and preparation must be made at the beginning of operations.

North-Wright offers 24/7 emergency service at 867-587-2299. The time to get a medevac plane to Colville Lake Airport is estimated at 1.5 – 2 hours from callout.

Due to the limited care available in Norman Wells, a patient would normally be transported to Yellowknife (Stanton Regional Hospital). Depending on the plane, the time to Yellowknife is 1.5-2.5 hours. North-Wright’s planes can travel from Norman Wells to Yellowknife via Colville Lake without refueling, provided they know the destination prior to departing.

The Inuvik Regional Hospital is the alternate hospital location. Although it is closer than Yellowknife, it has more limited facilities and is further from additional care (e.g. Edmonton).

Attachment:

Emergency Contact List from Site Specific Safety Plan

DH - 20190809

## CONTACT LIST FROM APPENDIX # 1 OF THE EMERGENCY RESPONSE PLAN (ERP)

Appendix # 1 to be confirmed and updated as required prior to commencement of operations

EMERGENCY CONTACTS				
EMERGENCY CONTACTS	Name	Phone Number	Satellite Phone #	
Site Supervisor	TBD			
MGM/Paramount Supervisor	John Hawkins	(403) 817-5074		(403) 512-9670
HSE Advisor	Jim White	(403) 261-1205		(403) 813-0910
Environment Advisor	Larry Yoon	(403) 290-6242		(403) 554-6702
	OROGO	867-767-9097		867-445-8551 -24 hour incident
	Norman Wells Hospital (also for medevac request)	867-587-3333		867-587-3333 – 24 hr
	Northwest Territories Spill Reporting	867.920.8130		
	NWT Lands – Sahtu Region (Norman Wells)	867-587-7200		
	Norman Wells RCMP	867-587-1111		
	Fort Good Hope RCMP (also for Colville Lake)	867-598-1111		
	Canadian Helicopters (helicopter medevac)	867-587-2136	780 429 6900 (24 hr Emergency)	867-445-1592
	NEB (pipeline incident only)	1-800-899-1265		403-807-9473 -24 hr incident
	Air and Marine Search and Rescue	1.800.267.7270		
	Colville Lake Office	867-709-2200		
	Transport Canada (aviation emergency)	1.800.272.9600		
	CANUTEC - TDG Emergency			613-992.4624
	Stanton Hospital (Yellowknife)			867 669-4111
	Colville Lake Airport	(867) 587-2451		
	Norman Wells Airport	(867) 587-2451	867-587-2555 (Tower Emergency)	877-989-1400 (Emergency)
	North Wright (Fixed wing)	867-587-2288		
SITE CONTACTS	Full Name	Radio	Business Phone	Other
On-site Paramedic	TBD	Medic, Medic, Medic		
On-site Environmental	TBD			