

Volume 1 Annex V1-7 Type A Water Licence Applications

Package P4-2

Underground Emergency Responses Plan



UNDERGROUND EMERGENCY RESPONSE PLAN



HOPE BAY, NUNAVUT

DECEMBER 2017

Underground Emergency Response Plan

Plain Language Overview:

The Emergency Response Plan provides all employees and contractors with written guidelines to be followed in the event of an emergency on the Hope Bay Belt.

Hope Bay, Nunavut

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Revisions

Revision #	Date	Section	Changes Summary	Author	Approver
1	July, 2017	Entire Plan	Updated entire Plan	TMAC	TMAC
2	Dec, 2017	Entire Plan	Added in new GM and HS Manager positions	TMAC	TMAC

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1 Introduction

The Underground Emergency Response Plan has been developed to provide an appropriate response to any reasonably foreseeable emergency situation likely to occur underground at the Hope Bay Mine during production and development. This plan defines the responsibilities of key personnel and outlines the general procedures to be followed when responding to emergencies. This plan will apply to all underground personnel including KCMD employees, TMAC personnel and associated contractors and visitors. The plan is intended to address required responses for emergencies that could occur during Development and production mining. If any of Emergencies were to arise the Hope Bay Mine Rescue team will respond.

2 Maintenance of the Plan

The Underground Emergency Response Plan shall be reviewed and updated as required. The plan will also be the focus of a review after each Underground Fire Drill. The TMAC Mine Superintendent and Safety Superintendent will be responsible to facilitate the review with appropriate input from the TMAC Management and personnel.

3 Rapid Response Centre

The Rapid Response Centre shall be located in the Mine Ops Wicket room. The Rapid Response Center will be established for all underground emergencies. This room is equipped with telephone, radio and Femco phone communication.

4 Equipment/Supplies

The Rapid Response Centre shall contain:

- the most current version of the mine plan as well the latest weekly Ventilation Survey;
- emergency site maps and plans;
- emergency contact information;
- communications recording forms;
- telephone;
- radio;
- Femco phone; and
- visual of the tag board.

5 Roles and Responsibilities

All personnel must be fully aware of their individual duties and responsibilities as they are presented in this plan. Specific responsibilities and duties of personnel involved in emergency response are outlined below.

5.1 TMAC Mine Superintendent

The TMAC Mine Superintendent shall coordinate the emergency response team. He shall ensure that all underground personnel are notified by stench gas and/or radio and also call a Code 1 on radio Emergency Channel 1 to notify the rest of site and initiate a work stand down. The TMAC Mine Superintendent shall appoint a Tag Board and Communications Attendant to account for all underground employees.

5.2 TMAC Mine Manager

The TMAC Mine Manager or designate shall advise the TMAC Mine Superintendent on issues regarding the coordination. He will be available to log events and make contact with external regulatory authorities as required. The TMAC Mine Manager or designate will assume the duties of the TMAC Superintendent if he is underground during the emergency. The TMAC Mine Superintendent is the designate for the TMAC Mine Manager

If both the TMAC Mine Manager and TMAC Superintendent are underground during the emergency the KCMD Superintendent or KCMD Safety Coordinator will assume the duties of the TMAC Mine Superintendent In conjunction with the TMAC Safety Superintendent

5.3 Tag Board and Communications Attendant

The Tag Board and Communications Attendant shall account for all personnel underground. When personnel start to arrive at the tag board they shall record their names, arrival times and advise personnel not to leave as their assistance may be required. He shall inform the TMAC Mine Superintendent as soon as all underground personnel are accounted for. He shall establish phone contact with the Underground Refuge Station and request the required information, names of all those present in the refuge station, and any further information from the emergency. The Attendant shall also monitor the radio Underground Channel for any persons calling in to report that they have established refuge behind a barricade or within an air tent. The TMAC Mine Manager or TMAC Mine Superintendent shall assume the role until other personnel are available.

As employees are accounted for underground, their tags shall be placed on the top of the Tag Board by the tag board Attendant. Once a tag is relocated, the location of the employee shall be written on the tag (e.g., 5046 Refuge Station). This shall be done to help identify who is still tagged in for underground but unaccounted for.

5.4 AMS Medic

The Medic shall move to the Rapid Response Center and standby in case any underground personnel returning to surface require medical attention.

5.5 Underground Mine Ops Employees on Surface

Upon notification of an Underground emergency all Mine ops employees must report to the Tag Board Attendant so they can be accounted for by the attendant. If these workers are tagged in on the underground tag board (mechanics/electricians and other workers) they should tag out and remain in the area as their assistance may be required.

6 Types of Emergencies

The list of potential emergencies below has been identified for the development and production phase of the Hope Bay project. It is important to note that there always exists the potential for different types of emergencies. Therefore, additional assessment may be required to identify other possible emergency situations that may arise as a result of project change. Any new potential emergencies will be added to this plan as they are addressed.

1. Serious Injury;
2. Fatality;
3. Fire;
4. Extreme Weather;
5. Significant fall of ground that blocks egress; and
6. In rush of water.

6.1 Serious Injury

In the event of an accident or incident involving personal injury, the degree of treatment and response will depend on the severity of the occurrence. However, in the event of an emergency involving personal injury, the following general actions will be initiated.

1. Assessment of the emergency situation. Ensure personal safety and the safety of people near emergency location.
2. Shutdown/turn off any equipment/machinery that may cause additional safety hazard.
3. Identify yourself to the injured person(s) and attempt first aid only if safe to do so.
4. Activate a Code 1, stating your Name, Nature and Location of the incident.
5. Stay with the injured person until help arrives reassuring the injured worker.
6. Site medic and ambulance to be situated outside the portal. Medic shall have underground gear available in case there is a need to proceed underground to treat an injured employee.

6.2 Fatality

In case of a fatal accident/incident underground, the following procedures will be carried out:

1. Assessment of the emergency situation. Ensure personal safety and the safety of people near emergency location.
2. Shut down/turn off any equipment/machinery that may cause additional safety hazard.
3. The first person on-scene call a Code 1 on the radio Underground Emergency Channel , stating your Name, Nature and Location of the incident.
4. Once identified as a scene of a fatal accident/incident, the employee(s) shall secure all material and equipment involved at the scene to preserve evidence until required investigations are complete and cleared by all regulatory agencies.
5. External services such as the nearest RCMP detachment, the hospital, and/or fire department shall be contacted as required by the TMAC Mine Superintendent. Various other regulators must also be notified as per the instructions of the TMAC Mine Manager and the NWT/Nunavut Health and Safety Act and Regulations.
6. The TMAC Superintendent will also follow the Cementation incident notification protocol.

6.3 Underground Fire

Upon discovering the fire and if safe to do so, check to see where the source of the fire is. If the fire is small, attempt to put it out. Ensure you do not place yourself between the fire and a safe route of escape. Do not use water on an oil or electrical fire. When the fire is out, report it at once to your supervisor.

If you **CANNOT** put the fire out, call a Code 1 on the radio Underground Emergency Channel.

Give the TMAC Superintendent the following information:

1. Your name and company you work for.
2. Location, size and type of fire.
3. Your location and how you can be contacted for further information.
4. All personnel who arrive from underground are to report to the person in charge at the tag board. Tag out but **DO NOT LEAVE** as your assistance may be required.
5. All Mine-ops employees will be trained in the manual activation of the Stench Gas system, as part of the underground orientation. **The manual activation procedure will be used until the auto injection system is commissioned.**

If you are working underground and you smell stench gas:

1. Know your evacuation route to a refuge station, fresh air source or emergency escape route.
Always remember that Carbon Monoxide is a colorless, odorless and tasteless gas and it is always present in an underground fire.
2. Immediately don your W-65 self-rescuer and proceed to the nearest refuge station or surface if it is safe to do so, warning all others along the way.
3. If your route to the refuge station or surface is filled with smoke or otherwise impassable, proceed to a nearby area where you can barricade yourself in as described below.
4. Ocenco breathing apparatus shall be located in cutouts on the main ramp near the working headings.
5. If you are tagged in, but are still on surface, proceed to tag board, tag out, and report to your supervisor. Do not leave as your assistance may be required.

The following procedure should be used in the event of a fire in the ramp:

1. Since ramp headings are typically dead end drives and escape routes are not always available, it is important should a fire occur that your first reaction is to attempt to extinguish the fire if it is safe to do so.
2. Inspect your fire extinguishers and the fire suppression system of the unit you are assigned to operate before using the equipment. Never operate a piece of mobile equipment without a fully functional fire suppression system and a hand held extinguisher. It is important to check the handheld fire extinguishers and the engine compartments for cleanliness (ensure no excess oil residue or leaks) before operating at the start of every shift.
3. If the fire is on a piece of mobile equipment activate the fire suppression system and use the hand held extinguisher as a backup. If the fire suppression system does not extinguish the fire use the hand held extinguisher as a last resort.
4. If these actions do not extinguish the fire, immediately call a Code 1 on the radio Underground Emergency Channel, don your W-65 self-rescuer and proceed to the refuge station, to surface if safe to do so, or to a dead end heading warning others along the way.

The following procedure should be used in the Refuge Station:

1. The first man in the refuge station will take charge until the supervisor or a senior miner arrives.
2. Do not call surface, surface will call you.
3. If you do not receive a call in 30 minutes, attempt to contact the Rapid Response Centre. The emergency numbers are posted in the refuge station.
4. Do not use the mine communication system unnecessarily.
5. The senior man will take charge of all those present and record the appropriate information on the Fire Procedure Information Sheet (names, any relevant training, etc.).

6. The senior man will keep this information available and await communication from surface.
7. Follow the instructions in the Refuge Station manual and the Refuge Station Procedure that is located inside the Refuge Station.

6.4 Extreme Weather

In the event that weather conditions deteriorate to the point where a stand down must be called, contact will be made via the underground radio system to notify all workers of the situation and direct them to surface. If the radio system is disabled because of extreme weather it will fall on the TMAC Mine Superintendent or his designate to make contact with personnel by going into the workplace and advising workers of the situation and have the underground employees stand down.

6.5 Significant Fall of Ground that Prevents Egress

In the event of a significant fall of ground that prevents egress from the mine a specific plan will be developed by the TMAC Superintendent, TMAC Mine Manager and the Mines Inspector.

7 Mine Site Emergency Contact List

Name	Number	Position
Dan Gagnon	867-988-6882 Ext 104	General Manager
Jason McKenzie	867-988-6882 Ext 100	Manager of Mining
Doug Brown	867 988 6882 Ext 138	Manager Health & Safety
Rod Keats / Charlie Riley	867-988-6882 Ext 113	KCMD Mine Superintendent
Lisa Picco/Michael Grsic	867-988-6882 Ext 105	Site Medic
Kelly Schwenning	867-988-6882 Ext 106	Surface Manager
Ron Bertrand	867-988-6882 Ext 101	Electrical Manager
Vince Kapinus	867-988-6882 Ext 155	TMAC Mine Superintendent
Dave Rivers	867-988-6882 Ext 155	TMAC Mine Captain

8 External Emergency Telephone Numbers

WSCC Accident Reporting Line (24 hours)	1-800-661-0792
WSCC General Mines Inspector (Prevention Services)	867-669-4412
WSCC General line (Yellowknife)	867-920-3888
WSCC General line (Iqaluit)	867-979-8500
Stanton Hospital (Emergency)	867-669-4100
Stanton 24 hour hot line	867-669-4115
Stanton Hospital (General Inquires)	867-669-4111
Cambridge Bay Health Center	867-983-4500
RCMP Cambridge Bay	867-983-0123 867-983-1111
RCMP Yellowknife	867-669-1111
RCMP Iqaluit	867-979-0123 867-979-1111
Nunavut Coroner's Office	867-975-7292 867-222-0393
Yellowknife Coroner's Office	867-920-8713
Adlair (Cambridge Bay)	867-983-2569 867-983-2247
Air Tindi	867-669-8218 Ext 8292
Summit Air	867-669-9789 Ext 221
Arctic Sunwest	867-873-4464
Great Slave Helicopters	867-873-2081

9 Approvals

Name	Position	Signature	Date
Jason McKenzie	TMAC Manager of Mining		
Vince Kapinus	TMAC Mine Superintendent		
Dave Rivers	TMAC Mine Capitan		

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