

Mine Emergency Response Plan

Guidelines for the Mining Industry

**Ministry of Energy, Mines and Natural Gas
Mines and Mineral Resources Division**

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A Mine Emergency Response Plan is a valuable organizational tool for preparing personnel to respond to a mine emergency and is a requirement under Section 3.7.1 of the Health, Safety and Reclamation Code for Mines in British Columbia.

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INTRODUCTION

A Mine Emergency Response Plan (MERP) outlines the response procedures and preventive measures that are essential for effective and timely management of an emergency situation. Prompt action and advance preparation can help save lives and protect financial investments in the event of emergencies such as mine fires, explosions, entrapments or inundations. A MERP ensures that supervisory and other personnel are prepared to prevent and/or control an emergency by helping to determine the following:

- what actions can be taken to prevent an emergency;
- what precautions would minimize the effects of an emergency, should one occur;
- what immediate actions mine personnel should take to contain an emergency;
- whether mine employees have the skills necessary to carry out the procedures outlined within the MERP;
- who will assume temporary command of the emergency effort;
- who is in charge of which parts of the emergency operation;
- what kinds of special services and mutual aid support are available to sustain rescue actions;
- how key personnel will obtain information and assess reports to make critical decisions; and
- what media relations procedures are necessary in the event of an emergency.

A MERP can be applied to a single mine or to a group of mines, as long as it successfully addresses the unique conditions and requirements of each mine site. Emergency response procedures help to organize and prepare personnel for emergency situations by:

- assisting personnel in responding quickly and effectively to an emergency;
- providing a common set of practices that govern the activities needed for an orderly response;
- outlining strategies for early containment and control of an emergency; and
- establishing a common set of rules for training all emergency response personnel.

Periodic reviews of an existing MERP are necessary to assess a company's current level of readiness by identifying areas for improvement or any new or altered conditions. MERP reviews can be conducted for a department, a mine or a group of mines. Based on these reviews, management can then develop specific goals to improve the company's emergency preparedness program or adapt it to changed circumstances.

This document outlines the requirements pursuant to Section 3.7.1 of the Health, Safety and Reclamation Code for Mines in British Columbia (the Code) and offers recommendations for the creation and evaluation of mine emergency preparedness programs. These guidelines suggest approaches for preparing, training and organizing all personnel for managing a mine emergency operation and include substantial information about what people and resources are needed; how and where to mobilize personnel and supplies; and what actions must be taken to secure the mine site, safeguard the operation and protect personnel.

For additional clarification or assistance, please contact:

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EMERGENCY PREPAREDNESS RESPONSIBILITIES

Ministry of Energy, Mines and Natural Gas (EMNG)

a) Regulatory Responsibilities

Mines and mining plans are regulated by the Mines Act and the Health, Safety and Reclamation Code for Mines in British Columbia (the Code). Section 3.7.1 of the Code outlines the requirements for personnel safety and emergency preparedness.

In summary, the Mines Act and the Code state that

- the mine manager shall develop and maintain a Mine Emergency Response Plan (MERP);
- the mine manager is responsible for ensuring that sufficient personnel, equipment and facilities are available for emergencies;
- the mine manager is responsible for providing training to all personnel involved in emergency operations;
- whenever mine rescue personnel are required at a mine, the mine rescue teams come under the direction of the mine manager unless otherwise directed by the Chief Inspector of Mines;
- the mine manager has the financial responsibility for all costs related to establishing, equipping, operating and maintaining mine rescue teams, mine rescue apparatus and equipment as prescribed by the Chief Inspector.

b) Mines and Mineral Resources Division Mandate

The Mines and Mineral Resources Division (MMRD) ensures that thriving mineral resource development in British Columbia is globally competitive, safe and environmentally responsible.

MMRD's emergency preparedness responsibilities include the following:

- enforcement of the Code with respect to emergency preparedness;
- standardization of mine rescue training via the B.C. Mine Rescue Manual;
- standardization of MMRD emergency management procedures; and
- acquisition and maintenance of supplementary mine rescue equipment and supplies at a government mine rescue cache.

c) MMRD Emergency Preparedness Committee

The Emergency Preparedness Committee is appointed by the Chief Inspector to ensure coordinated development and maintenance of effective provincial mine emergency preparedness, response and recovery measures. This Committee is comprised of Inspectors of Mines with expertise in mine disasters and emergency preparedness.

The Emergency Preparedness Committee is responsible for revising and updating these MERP Guidelines annually.

Mining Company

Mine managers are responsible for ensuring compliance with the Code's emergency response provisions and for directing emergency procedures.

It is the responsibility of the owner, agent or mine manager of an operation to

- conduct safe and efficient mine operations;
- ensure compliance with the requirements for emergency preparedness as per Part 3 of the Code, including but not limited to the preparation of a MERP;
- communicate with MMRD as required for effective rescue efforts during an emergency and timely reporting of incidents (the minimum requirements for this are outlined in Section 1.7.1 of the Code); and
- in the event of an emergency, halt all activities not related to the emergency that may endanger other persons and focus on properly controlling and containing the emergency. This may include halting unrelated activity in order to supply the required emergency personnel and equipment.

PREPARING A MINE EMERGENCY RESPONSE PLAN

Overview

A MERP is a mine operation's guide to all procedures and courses of action that should be followed in the event of a mine emergency and addresses advance preparation and preventive measures for potential emergencies. It identifies those responsible for taking action immediately after the discovery of and during the response to an emergency, as well as their respective duties.

MERPs are separate from, but parallel to, mine rescue programs. Mine rescue is a single rescue resource, whereas a MERP applies to all possible emergencies. Developing a MERP requires firm management commitment to pre-planning, plan development, on-going review and personnel training.

The contents of a MERP, including procedures and information on equipment, training and personnel, are unique to each mine. References and information provided must be tailored to suit the company's unique concerns and situation.

By maintaining a complete and up-to-date MERP, management can ensure personnel are prepared for a mine emergency, resulting in a smooth and professional response should one occur.

As per Section 3.7.1 of the Code, the MERP shall be filed with the Chief Inspector of Mines.

Elements of a Mine Emergency Response Plan

The elements listed below shall be included in the MERP. If an element does not apply to a particular mine site, the MERP shall clearly explain the reason/s for omission. Each of the following is discussed in detail within these guidelines:

- a) Policy Directive
- b) Mine Emergency Response Plan Coordinator and Planning Group
- c) Emergency Identification, Prevention and Protection
- d) Duties and Responsibilities of Personnel
- e) Emergency Notification Plan
- f) Emergency Management Organization for Incident Command
- g) Emergency Operations Centre
- h) Emergency Response Procedures
- i) Action Plans
- j) Mine Plan and Operation Maps
- k) Evacuation Plan and Map of Escape Routes
- l) Check-in/Check-out Procedure for Emergency Operations
- m) Mine Rescue Equipment Inventory
- n) Mutual Aid Agreement
- o) First Responders Consultation
- p) Communication Services
- q) Public and Media Relations
- r) Training Plan
- s) Practice Drills Plan
- t) Plan for Review and Updating
- u) Costs

- a) Policy Directive

The policy directive shall highlight the company's commitment to and support for the MERP. The policy directive shall concisely address specific, actionable points that must include, but are not limited to, the following:

- long-range goals and purpose of the plan;
- management commitment to and support for the plan;
- appointment of a MERP Coordinator and a company planning committee;
- budget and incentives for the emergency response program; and
- employee involvement in training programs.

- b) Mine Emergency Response Plan Coordinator and Planning Group

A MERP Coordinator shall be appointed to assist the mine manager in developing the MERP. The appointed Coordinator should be an individual with appropriate managerial and operational skills. The position specifically calls for

- a well-rounded knowledge of each department or unit within the company/operation;
- enough authority to ensure cooperation and participation at all levels in the organization;
- the respect of management, employees and others involved in mining, safety and training; and
- good management, interpersonal and communications skills.

Management support is essential for the Coordinator to successfully implement the MERP. Management shall also assist in selecting a company planning group or committee to divide the workload of organizing and implementing the MERP. The Occupational Health and Safety Committee could be a logical choice for this planning group.

c) Emergency Identification, Prevention and Protection

Developing a MERP involves examining each area of the mine for potential eventualities as well as possible means of prevention and protection. This pre-planning exercise shall be repeated periodically, as conditions may change over time.

First, all areas and processes of the mine shall be inspected to determine what risks are associated with the work environment. These risks shall include all potential events such as mine fires, explosions, rockbursts, falls of ground, runs of muck, liquefied backfill, inrushes of water, bulkhead fractures, etc. They should also include uncommon and unlikely events such as earthquakes, bomb threats, sabotage, etc.

Once all risks are identified, control measures shall be considered to prevent emergency situations. Prevention measures could include improved ground support and pillar design and/or the introduction of fire suppression systems. Appropriate training and procedures, safe working practices, an effective housekeeping program and first aid training are all examples of measures that will help prevent a minor emergency from becoming a crisis or a disaster. This section should explore measures to ensure that, if an emergency does occur, lives will not be lost. For example, it should answer the following questions about an underground mine:

- Are refuge stations properly located?
- Is there an alternate escape route?
- Are escape routes properly marked?

The Coordinator may ask supervisors and workers to help identify hazards and develop prevention and protection procedures. Safety meetings could be used to generate interest and discussion.

A sample template for recording potential hazard situations and associated prevention and protection steps is shown in Table 1 below.

Table 1: Hazard Identification, Prevention and Protection

HAZARD IDENTIFICATION, PREVENTION AND PROTECTION	
MINE:	DEPARTMENT AND AREA:
EVALUATOR:	DATE:
IDENTIFIED POSSIBLE HAZARD SITUATION:	
MEANS OF PREVENTION:	
MEANS OF PROTECTION:	
ACTION ITEMS :	
PERSON RESPONSIBLE: _____	
DUE DATE: _____	
SIGNED WHEN COMPLETE: _____	
DATE: _____	
COMMENTS:	

d) Duties and Responsibilities of Personnel

Key emergency personnel shall be named in the MERP either as individuals or as per their job titles, depending on the size of the operation. Their corresponding duties and responsibilities will also be included in the MERP. Emergency personnel should be able to verbally state their responsibilities in the event of an emergency.

e) Emergency Notification Plan

A plan shall be in place to support the efficient notification or call-out of key emergency personnel in the event of an emergency.

f) Emergency Management Organization for Incident Command

Emergency operations as laid out in the MERP shall follow the Incident Command System (ICS), consistent with the B.C. Emergency Response Management System (BCERMS), to facilitate any coordinated emergency response across multiple jurisdictions. . This system clearly defines roles, reporting structure and communication protocol essential when coordinating a response and when liaising with other first responders and agencies involved.

To this end, the MERP shall include an ICS Emergency Management Organization defining a chain of command with the mine manager or a designate as Incident Commander, as shown in Figure 1. The ICS Emergency Management Organization may expand or contract to meet the response needs of an incident. For example, during a small-scale emergency, the response operation may only require a single rescue team with correspondingly less need for organizational support, and mine management and key personnel may be assigned multiple responsibilities. Conversely, a large-scale emergency may require an expanded organizational structure to support multiple and diverse teams and agencies, and supporting services. In all cases, each individual must be able to state verbally their responsibilities in the event of an emergency.

Incident Command System (ICS) training can be obtained online and via classroom instruction through the Justice Institute of B.C. Training Program:

Justice Institute of British Columbia
715 McBride Boulevard
New Westminster, BC V3L 5T4
www.jibc.ca

Emergency Management Division
Course: CMD 110
Incident Command System Level 100

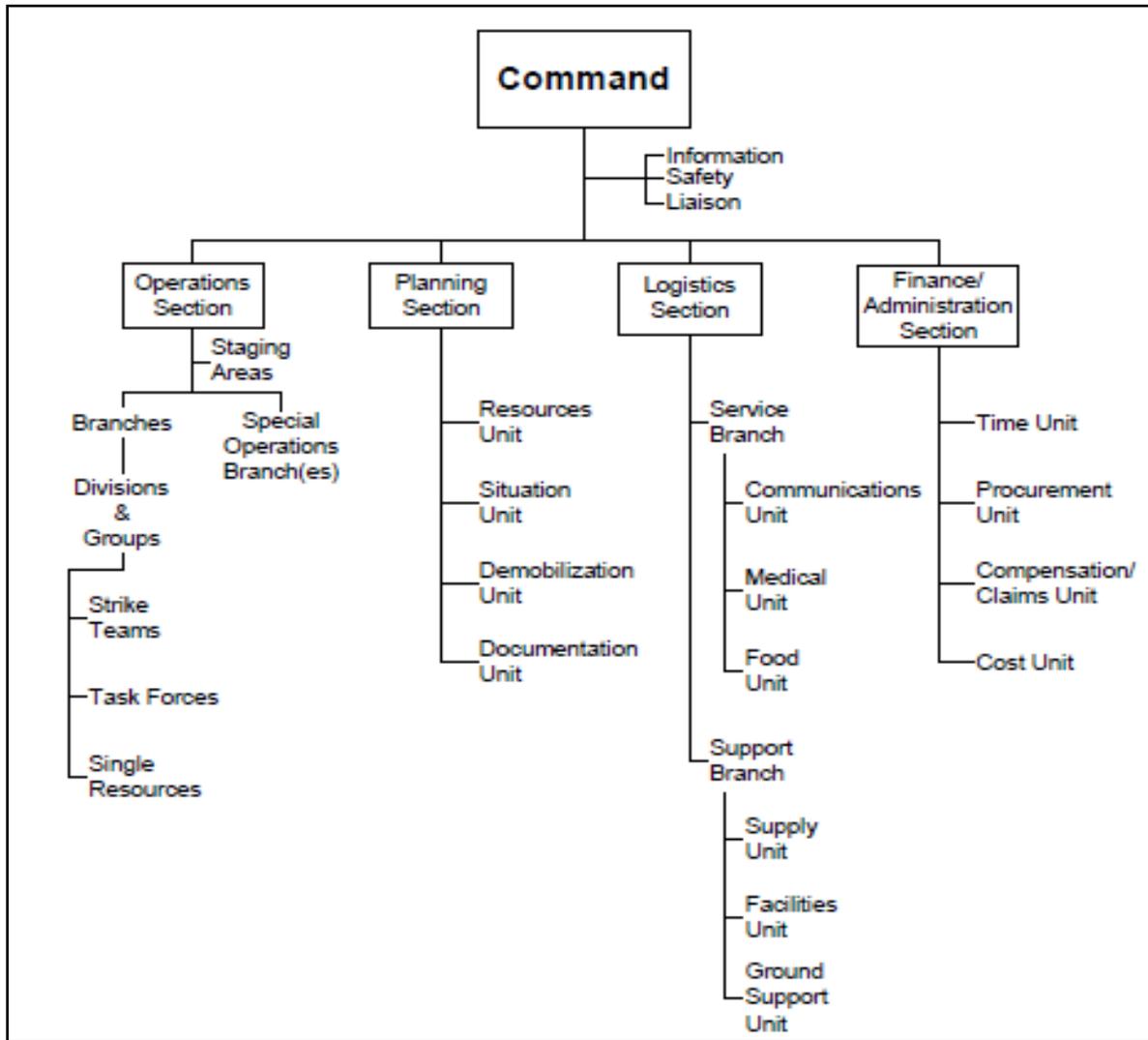


Figure 1: Fully Expanded ICS Organization¹

¹Source: Incident Command System Orientation, I-100 Student Manual for BC. Justice Institute of British Columbia, Emergency Management Division.
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g) Emergency Operations Centre

An Emergency Operations Centre (EOC) is established during an emergency at a pre-determined location to provide site support to the Incident Command System (ICS) Emergency Management Organization. Its pre-determined physical location and telephone numbers shall be identified in the MERP.

The location of the EOC must be carefully selected for ease of access and communication, and be separate from an Incident Command Post so as not to interfere with command operations. The EOC may also be located offsite in a pre-designated facility.

h) Emergency Response Procedures

Emergency Response Procedures address three levels of response in a mine emergency operation: containment, notification and mobilization.

Containment Level

Containment is the initial step in a company's effort to control a mine emergency, beginning from the moment a problem is discovered until emergency response personnel are notified. At this level, on-site mine personnel must be prepared to follow concise Emergency Response Procedures immediately.

Most mine emergencies are successfully contained by mine personnel and do not progress beyond this level. Major events, such as an explosion or extensive roof fall, bypass Containment and immediately proceed to the Notification Level.

Specifically, the Containment Level consists of the following actions:

- discovery and reporting of the problem;
- monitoring the situation; and
- early and immediate action.

At the Containment Level, frontline supervisors must obtain precise information about the issue and evaluate the situation before they can initiate Emergency Response Plans. This information comes from the individuals who discovered the problem and/or are reporting on conditions (e.g., ventilation, weather) in the affected area. Supervisory personnel then evaluate the information and initiate an appropriate and immediate response to control the problem. Action is taken immediately to minimize hazards to all persons and to get assistance as quickly and easily as possible. If the supervisor determines that the appropriate response requires additional personnel, resources or services, the emergency proceeds to the Notification Level.

Notification Level

An emergency enters the Notification Level if outside help is needed to handle a situation or if additional notification is necessary. Managers should notify their own workers of the hazards and, if required, get them to safety, and notify key personnel in order to mobilize the Emergency Response Procedures. All procedures must be clear and concise to avoid confusion or delays.

All supervisors and persons named in a notification process must be trained in what to do to initiate the Notification Level. This is a crucial period when normal operating procedures cease to apply. The Notification Level Procedures must be kept simple, and the Notification Plan should contain only those names absolutely required.

Mobilization Level

The Mobilization Level takes effect when the Emergency Operations Centre has been established and senior management has taken over directing emergency operations. All key persons shall report to the Incident Command Post upon arrival at the mine site. The mine manager or a designate shall assume the role of Incident Commander on arrival.

i) Action Plans

Establishing concise action plans for each level of the Emergency Response Procedures ensures that all personnel are aware of the tasks needed to control an emergency situation. Action plans based on a thorough assessment of the levels of response required shall be included in the MERP and assigned to those responsible for the execution of Emergency Response Procedures.

Action plans may contain the following types of information and documents (please note that this list is not exhaustive):

- Copies of all documents for recording events
- Lists of emergency support groups with names of contacts and telephone numbers (e.g., police department, fire department, ambulance service, doctors and medical specialists, paramedics, hospitals; transportation services such as airlines, air charters, helicopters, etc.)
- List of mine rescue equipment available on site
- List of EMNG contacts
- List of EMNG Mine Rescue Cache equipment available
- List of other key Provincial personnel contacts, B.C. Government Resource Agencies
- Additional schedules as appropriate
- List of specialized equipment and where it can be obtained (e.g., lifting bags or hydraulic jacks)

- Lists of special consultants, technical advisors, contractors (e.g., diving contractors)

j) Mine Plan and Operation Maps

The MERP will include a copy of the physical layout of the mine (mine plan as per Part 3.7.11 of the Code) as well as maps covering all underground and surface operations.

k) Evacuation Plan and Map of Escape Routes

The MERP shall include a copy of the evacuation plan and map of escape routes, which should be consistent with the up-to-date mine plan as per j) Mine Plan and Operation Map.

l) Check-in/Check-out Procedure for Emergency Operations

The MERP shall include a check-in/check-out procedure for emergency operations. If this procedure is the same as regular operations, this should be clearly indicated in the MERP.

m) Mine Rescue Equipment Inventory

Mines are required to complete a Mine Rescue Equipment Inventory report once a year and submit it via the Regional Inspector to the MMRD Emergency Preparedness Committee in Victoria. This up-to-date inventory shall be included in the MERP. Specialized equipment (i.e., equipment not readily available) is of specific interest.

A summary of all Mine Rescue Equipment Inventory reports will be kept by the Emergency Preparedness Committee in Victoria with copies provided to the appropriate Regional Office and the Mine Rescue Cache in Kamloops.

Please Note: While it is a requirement to submit an inventory of mine rescue equipment that may be available in the province, it is not a requirement to supply mine rescue equipment to an emergency.

n) Mutual Aid Agreement

Operations shall establish customized mutual aid agreements with other first responders, including other mine rescue teams, should their respective emergency response plans require it. Agreements shall be in writing and address capabilities for a response, back-up teams, travel time and payment of costs incurred. Costs do NOT include WorksafeBC coverage. Mine Rescue teams or personnel providing back-up remain under the coverage of the mine of which they are employed, assuming they are being paid at the time of their assistance.

o) First Responders Consultation

To ensure first responders are prepared to respond to a mine emergency, the mine manager shall consult with identified agencies to provide a copy of the MERP and current mine plans including an up-to-date map identifying appropriate and safe route(s) of travel to the mine. A review of any hazards which may affect first responders should also be provided.

These agencies include, but are not limited to, the British Columbia Ambulance Service and local fire departments. The MERP shall identify these agencies, and list the consultation measures taken.

p) Communication Services

Proper communication is essential for control of a mine emergency operation. An effective communications system

- provides for the flow of information that occurs during the entire operation;
- affects all orders, reports and assignments;
- ensures the timely assessment of changing conditions;
- speedily transmits reports used to monitor underground conditions and actions;
- helps command officials keep track of available personnel, resources and services.

The flow of calls and reports can increase at an alarming rate during the Notification Level and Mobilization Level as on-site personnel try to assess the severity of the situation and attempt to monitor changing conditions. The technical components of the system could also be damaged during the incident.

As per f) Emergency Management Organization for Incident Command, the Emergency Response Planning Coordinator should identify personnel who are knowledgeable in the operation and maintenance of communication technology. A Communications Coordinator who has a broad background in mining communications should be appointed. Additional personnel should also be assigned as back-up support. The MERP's ICS Emergency Management Organization shall reflect these appointments.

The Communications Coordinator will be responsible for the following:

- evaluating the existing communication system and assessing its capacity for handling calls during a mine emergency;
- determining and selecting technical and logistical components of the emergency communication system;
- developing back-up and alternative means of communication;
- establishing a policy to govern authorized use of telephone lines at peak periods of a mine emergency;

- identifying and selecting personnel to activate the communication system and check to ensure it is operating;
- setting up a rotation schedule and confirming the assignment of personnel who must monitor and record all calls during each shift; and
- establishing a standardized system for recording calls, messages and information.

q) Public and Media Relations

Every mine shall have a formal plan in place for disseminating information in the event of a serious or fatal accident. It is critical that only accurate and consistent information is released to workers, relatives of workers and the media.

Protocols to be followed in communicating to the public about incidents include

- Families must be informed as early as possible and prior to any media releases.
- When people are trapped, it is necessary to establish and maintain regular contact to update families on the progress of rescue/recovery efforts.
- The names of the people affected shall not be released publicly until they have been rescued or recovered, and authorization from their families has been received.
- All outside calls should be directed through the person designated as responsible for public and media relations.
- As the emergency becomes of interest to the media, it may be desirable to establish formal information sessions. These should be pre-scheduled on a regular basis for the duration of the crisis, and news releases should be issued as major new developments occur.
- Media conferences should be attended by knowledgeable representatives or persons involved in the rescue, management, union representatives, etc., and are best held at some convenient location nearby, but not on, the property.

r) Training Plan

The MERP shall outline a training plan for all individuals named in the emergency procedures to ensure key personnel will know how to react. All personnel must be able to state verbally what their duties are in an emergency.

s) Practice Drills Plan

Management shall test procedures and evaluate performance of personnel in practice drills on a regular basis to develop and build upon a reliable response system. The MERP shall include a plan for conducting and reviewing practice drills.

Drills should cover all actions ranging from the moment of discovery to the marshalling and deployment of emergency response teams, and should include setting up both the

Incident Command Post (ICP) and the Emergency Operations Centre (EOC) and establishing communications.

t) Plan for Review and Updating

The MERP shall include a plan for its own revisions and updates. As frequent revision of all elements is a key part of the MERP's effectiveness, the Mine Manager shall ensure that the MERP is revised and updated at least annually.

u) Costs

All costs pertaining to rendering assistance to other mines or jurisdictions are the responsibility of the mine seeking assistance. WorksafeBC coverage is the exception, as it remains the responsibility of the mine whose rescue team is under employ.

Appendices

The following appendices are presented for information and consideration only. Each individual mine and situation should be assessed independently with revisions to the MERP made as necessary.

In developing a MERP, each mine will need to establish specific procedures depending on needs and staffing. All people identified in the plan will need to be properly trained to carry out their duties in the event of a mine emergency.

Persons should be able to state verbally their responsibilities during an emergency.

Appendix A1 Sample Procedures for an Emergency

General

1. Evacuate according to established company procedures, and obtain a head count confirming location of those accounted for and those missing.
2. Notify supervisor or other senior official.

Underground

1. Any person who detects smoke or locates a fire that cannot be immediately extinguished shall notify the supervisor or a designate on the surface.
2. The designated person alerts all personnel underground using the stench warning or other approved warning system.
3. Upon receiving a warning, all persons underground shall proceed to a predetermined area as stated in the evacuation procedures.
4. Workers required to proceed to a refuge station will follow the procedure established for that refuge station.
5. Workers required to proceed to a shaft or fresh air station will follow the appropriate established evacuation procedures.
6. Designated persons assist in the evacuation to the predetermined safe area, count and record names of workers to determine whether any individuals are missing.

Surface

1. Any person who detects smoke or locates a fire shall attempt to extinguish it with the closest available extinguisher.
2. If the fire cannot be immediately extinguished, the person shall raise the alarm by shouting "fire" and initiating the nearest fire alarm pull station.
3. Check the evacuation plan and procedures for the building exits in proximity to your work station and exit the building.
4. Once clear of the building, proceed to a predetermined fire assembly area.
5. A supervisor or other senior official will conduct a head count and advise the Emergency Control Centre.

Appendix A2
Supervisor in Charge or Shiftboss of Affected Area
SAMPLE Duties

1. Evacuate to the predetermined safe area, record all names of workers, and check numbers to determine whether any individuals are missing.
2. Request emergency response team services from senior official as required.
3. Start combat measures to control the situation and minimize the danger.
4. Secure all dangerous areas by posting guards at all access points that are or may become dangerous due to the incident.
5. Maintain communications with the senior official and/or Incident Command Centre. Direct a responsible individual to monitor the nearest communication point.
6. Maintain a constant record of events.

SAMPLE

Appendix A3
Senior Official On Site and In Charge at Time of Emergency
SAMPLE Duties

Note: This must be a person who at the time of the emergency is in a position to take charge until such time a senior official assumes or appoints an alternate Incident Commander.

1. Assume command of the emergency operation as the Incident Commander until relieved by another qualified individual. Form a temporary mine emergency organization from personnel evacuated or on hand. Outline a plan of action. Assign qualified personnel specific tasks.
2. Evacuate to the predetermined safe area, record all names of workers, and check numbers to determine whether any individuals are missing.
3. Arrange for the safety of personnel.
 - a) Ensure that personnel travel immediately via safe routes to a safe location.
 - b) Prevent personnel from entering areas that are or may become affected.
4. Do not delay in requesting the services of an emergency response team if they may be necessary.
5. Maintain communications! Under no circumstances should the switchboard and/or control room be unattended. Instruct personnel to remain at their posts, and to give priority to calls from
 - a) the affected area, and
 - b) the senior official.
6. Establish the Incident Command Post. Move to the pre-selected location, and post notices to clearly mark its location.
7. Post security at all entrances to the affected area. Have them
 - a) record the name, date and time of all persons who enter and exit;
 - b) bar unauthorized people from the area; and
 - c) report any unusual conditions or events to the senior official.
8. In the event of an underground emergency, dispatch a person to each mine fan to
 - a) examine the fan and report its condition;
 - b) keep the fan operating;
 - c) close explosion doors if necessary;
 - d) ensure against fan stoppage or reversal unless instructed by the Incident Commander; and
 - e) arrange communication to persons at fan.

9. Assess the situation. Decide whether to disconnect electric power from affected area. If disconnected, lock out and guard power centres. Monitor situation to determine whether power should be restored.
10. Activate notification system. Contact management and state the status of the situation. Continue to notify key persons listed in the notification plan. Confirm and log all calls.
11. Keep a record of events. Arrange for an individual to record time and details of all events, names of personnel, locations, and reports and instructions given and received, as they occur.

SAMPLE

Appendix B1
Mine Emergency Notification Plan

Customized Notification Plan to be inserted here.

SAMPLE

Appendix C1
Mine Manager or Designate*
SAMPLE Duties

1. Report to the Incident Command Centre at the mine site.
2. Obtain briefing from senior official and consult with advisory committee.
- 3. Designate another, or assume command, as the Incident Commander.**
4. Confirm resource personnel contracts and activate other plans of action as necessary.
5. Take charge of the deployment effort.
6. Confirm arrival and assignment of emergency operations personnel.
7. Confirm availability of personnel in the rotation schedules.
8. Consult with task coordinators from technical/safeguarding and surface support divisions.
9. Develop a plan of action and assign mine rescue teams and other operations personnel appropriate to the situation.
10. Obtain outside assistance or equipment, as required. (See Schedule 1 for a list of key EMNG personnel and contact numbers.)

*If the mine manager is not on site when event occurs, the designate as defined in Section 22 of the Mines Act shall assume these duties.

Appendix C2
Mine Superintendent
SAMPLE Duties

1. Report to the Incident Command Centre.
2. Get briefing from person in charge.
3. Confirm all resource personnel contacts. Assign an individual to phone/contact operations personnel not previously contacted.
4. Assume command of the emergency operation if manager or designate is not onsite. Follow company policy regarding the temporary rescue action director.
5. Confirm plans for security, emergency medical services and transportation.
6. Confirm security at affected areas.
7. Consult with advisory committee members about conditions in the affected area.
8. Confirm Emergency Operations Centre arrangements and preparations. Assign persons responsible for keeping
 - a) the activity log and
 - b) the emergency communications log.
10. Assign persons to act as messengers and runners.
11. Withdraw personnel not directly involved in the emergency operation.

Appendix C3
First Aid
SAMPLE Duties

1. If necessary, notify a doctor about the emergency.
2. Notify ambulance services and mobilize, if required.
3. Prepare first aid facilities and any additional accommodation required to receive and treat casualties.
4. Prepare emergency responder kits, if required.
5. Consult with doctor for obtaining the following:
 - a) nurse and/or Emergency Health Services Paramedics;
 - b) additional medical equipment; and
 - c) adequate ambulances and transportation (e.g., medivac).
6. Confirm arrangements with the Emergency Operations Centre for additional first aid supplies.

Appendix C4
Supervisor In Charge at Time of Emergency
SAMPLE Duties

1. Implement emergency response plan.
2. Check to what extent the supervisor in the affected area has been able to comply with instructions from the Incident Command Centre.
3. Notify personnel nominated for specific duties under the emergency plan.
4. Keep a record of events until the arrival of the operations log recorder.
5. Establish and maintain communications with the senior official onsite and the supervisor in charge of the affected area.
6. When necessary,
 - a) instruct employee deployment office to terminate normal checking system, and initiate emergency check control (upon receipt of authorization only);
 - b) suspend self-service lamp issue, and initiate emergency lamp issue control (as per duty card); and
 - c) instruct supervisor on surface to allow only authorized personnel into affected area.

Appendix C5
Safety Supervisor
SAMPLE Duties

The Safety Supervisor's basic role in an emergency is to assure the evacuation procedure is activated when required, and that trained rescue teams, technicians and all special equipment are quickly and continuously available.

1. Assure the evacuation procedure is activated.
2. Assure security is notified
3. Notify and mobilize fire and rescue organizations.
4. Schedule successive rescue teams and technicians.
5. Assure first aid and ambulance capability.
6. Keep a log of activities by time and event.

SAMPLE

Appendix C6
Communications
SAMPLE Duties

The telephone or dispatcher's basic role in an emergency is to rapidly notify key personnel about the incident and to place calls and orders as directed by the Incident Command Centre. Specifically,

1. Inform the Mine Manager or designate, about the circumstances.
2. Notify the Safety Supervisor.
3. Notify senior official and have emergency notification plan readily available for reference (Appendix B1, page 18).
4. Keep a log of all calls and activities by time and event.
5. Write and read back all messages to the Incident Command Centre.
6. If an individual is out, ask the person taking the call to write the message and to notify the individual as quickly as possible.
7. So far as is possible, do not tie up the telephone lines; write messages and request assistance for delivery messages from the Incident Command Centre.
8. Place emergency calls as directed.

Appendix C7
Security
SAMPLE Duties

Security's role in an emergency is to permit authorized personnel with access to the site of the incident. Security will also carry out the following duties:

1. Instruct security personnel to report to the incident area.
2. Limit access to the incident area to authorized personnel only.
3. Provide radio communications as required.
4. Obtain assistance from local law enforcement agencies as required.
5. Provide other security control as required.
6. Keep a log of activities by time and event.

SAMPLE

Appendix C8
Engineering
SAMPLE Duties

Ensure that rescue and fire fighting plans/maps are maintained.

When an emergency occurs,

1. Provide additional copies of rescue/fire fighting plans/maps as required for
 - a) rescue teams
 - b) Incident Command Centre
 - c) briefing and debriefing area (rescue)
 - d) conference room (media) and
 - e) conference room (officials)
2. Prepare plan/map record progress of underground exploration or recovery as directed from the Incident Command Centre.
3. Arrange for relief engineers to cover all shifts during emergency operations.
4. Ensure the engineering office is staffed at all times.

Appendix C9
Lamp Issue
SAMPLE Duties

During an underground emergency, the “Lamp Person” will ensure that the following duties are carried out:

1. Terminate self-service; issue and receive all lamps individually.
2. Ensure a smooth flow of personnel through the area (certain entrances may have to be locked to achieve this).
3. Ensure that lamps are returned to a location different from where they are issued.
4. Issue lamps only to authorized individuals.
5. Prepare a list of lamps in use at the time of the incident. Include information on who the lamps were issued to. Note on the list as lamps are returned.
6. Instruct individuals who are relieving you about procedures that must be maintained until additional instructions are received from the Incident Command Centre.
7. Secretarial assistance may be required.

Appendix D1
Request for a Change to This Plan

Please let us know about any changes you would like to recommend for this plan by completing this form and mailing it to the address below:

Chief Inspector
Ministry of Energy, Mines and Natural Gas
Mines and Mineral Resources Division
PO Box 9320 STN PROV GOV
Victoria, BC V8W 9N3

Or fax to (250) 952-0491

Page number to revise: _____ (please use one form per page needing revision)

Add to the list:

Delete from list:

Revise list:

Date: _____

Your company/affiliation: _____

Telephone: _____

Fax: _____

Mine Manager Name: _____

Schedules & Schedule Templates

Each mine should complete Schedules as appropriate for their operation.

The following includes useful contact information that could be included in a MERP.

Schedule 1

Mines and Mineral Resources Division Inspectors and Mine Rescue Cache Contacts

First Contacts in Case of an Emergency

Title	Name	Phone Number	Email
Regional Inspector	See Below	See Below	See Below
Chief Inspector of Mines	Al Hoffman	250-952-0494	Al.Hoffman@gov.bc.ca
Deputy Chief Inspector of Mines, Health & Safety	Rolly Thorpe	250-952-0471	Rolly.Thorpe@gov.bc.ca

Mines and Mineral Resources Division – Regional Senior Inspectors of Mines

Region	Name	Phone Number	Email
Central/Northeast (Prince George)	Al Day (acting)	250-565-6131	Alan.Day@gov.bc.ca
Northwest (Smithers)	Doug Flynn	250 847-7386	Doug.Flynn@gov.bc.ca
South Central (Kamloops)	Stephen Rothman	250-371-3780	Stephen.Rothman@gov.bc.ca
Southeast (Cranbrook)	Phil Pascuzzi	250-426-1701	Phil.Pascuzzi@gov.bc.ca
Southwest (Victoria)	Ed Taje	250-952-0732	Eddy.Taje@gov.bc.ca

Additional Contacts in Case of an Emergency

Mines and Mineral Resources Division – Provincial Specialist Inspectors

Title	Name	Phone Number	Email
Inspector of Mines, Electrical	Terry Paterson	250-426-1751	Terry.Paterson@gov.bc.ca
Inspector of Mines, Ergonomics	Cheryl Pocklington	250-356-0974	Cheryl.Pocklington@gov.bc.ca
Inspector of Mines, Mechanical	Garry MacDonald	250-423-7381	Garry.MacDonald@gov.bc.ca
Manager of Occupational Health	Caroline Nakatsuka	250-952-0500	Caroline.Nakatsuka@gov.bc.ca

Please Note: This is abbreviated content. If additional contact information is required for an operation's respective MERP, contact the appropriate office or inspectors directly to obtain.

Schedule 2

Mines and Mineral Resources Division Regional Boundaries



Regional Office Locations

Central/Northeast Regional Office: Prince George

Northwest Regional Office: Smithers

South Central Regional Office: Kamloops

Southeast Regional Office: Cranbrook

Southwest Regional Office: Victoria

Note: The Mine Rescue Cache is located in Kamloops.

Schedule 3

Emergency Rescue Equipment Inventory at EMNG Mine Rescue Cache

The Ministry of Energy, Mines and Natural Gas, Mines and Mineral Resources Division maintains one mine rescue equipment cache for the province, located in Kamloops. The cache consists of rescue equipment, spare parts and other difficult to source supplies for the purpose of supporting a large scale emergency response. The Chief Inspector of Mines or the Deputy Chief Inspector of Mines, Health & Safety authorize any loan of equipment from the cache. The mine manager remains responsible for obtaining and maintaining any necessary rescue equipment onsite.

Item	Quantity	Description	Operational	Comments
1	12	BG4 PSS Sentinel	Y	Not stored with Draegersorb
3	4	Kegs of Draegersorb	Y	Shelf life 5 years
4	30	Draeger O ₂ Cylinders	Y	Fully charged 3000 psi
5	50	BG4 filter mats	Y	2 per use of BG4
6	assorted spare parts for BG4s as recommended by Draeger			
7	6	11 mm x 30 m Static Rope	Y	Used at Mine Rescue 2012
8	6	11 mm X 60 m Static Rope	Y	Used at Mine Rescue 2012
9	1	Oxygen Pump Masterline	Y	Electric
10	1	BG4 Dryer	Y	New
11	various	1" flat webbing, various lengths	Y	
12	various	8 mm prussic cord, various lengths	Y	
13	various	Prussic Minding 50 mm pulleys	Y	
14	various	Single 50 mm pulleys	Y	
15	3	Brake racks	Y	
16	8	Figure 8s	Y	
17	20	Steel carabiners	Y	Due for testing
18	1	Kootenay carriage pulley	Y	
19	2	Basket stretchers complete with spine boards	Y	Currently in Revelstoke
20	1	SKED – portable stretcher	Y	
21	2	O ₂ therapy units	Y	
22	8	Full-body harnesses	Y	
23	8	Lanyards	Y	
24	2	Test-it 6100 for BG4s	1	1 Out for service
25	1	RZ 50 BG4 tester	Y	
26	2	BG4 test kit	Y	

Schedule 4
Key Government Contacts

Mines and Mineral Resources Division – Executive

Title	Name	Phone Number	Email
Chief Inspector of Mines	Al Hoffman	250-952-0494	Al.Hoffman@gov.bc.ca
Deputy Chief Inspector of Mines, Health & Safety	Rolly Thorpe	250-952-0471	Rolly.Thorpe@gov.bc.ca
Deputy Chief Inspector of Mines, Permitting	Diane Howe	250-952-0183	Diane.Howe@gov.bc.ca
Regional Director Southwest & South Central	Joe Seguin	250-371-6051	Joe.Seguin@gov.bc.ca
Assistant Deputy Minister	David Morel	250-952-0473	David.Morel@gov.bc.ca
Deputy Minister, Ministry of Energy, Mines and Natural Gas	Steve Carr	250-952-0504	Steve.Carr@gov.bc.ca

Emergency Management BC (EMBC)

Emergency Coordination Centre (24 hours a day): 1-800-663-3456

Ministry of Environment – Environmental Emergency Program

Enforcement and Environmental Safety Programs Officers: 1-800-663-3456 (via EMBC)

Transportation Safety Board of Canada (Gatineau, Quebec)

Phone: 1-800-387-3557

Schedule 5

B.C. Underground Mines—Contact Names for Rescue Resources

Insert written mutual aid agreements and contact information here.

Schedule 6

B.C. Surface Mines—Contact Names for Rescue Resources

Insert written mutual aid agreements and contact information here.

**Schedule 7
B.C. Airports and Aerodromes**

LEGEND:

IFR Instrument Flights Rules
VFR Visual Flight Rules (weather restricted)

108 Mile Ranch	VFR	Merritt	VFR
Abbotsford	IFR	Nakusp	VFR
Atlin		Nanaimo	IFR
Anahim Lake	VFR	Nelson	VFR
Bella Bella/ Campbell Island	IFR	Oliver	VFR
Bella Coola	VFR	Pemberton	VFR
Blue River	VFR	Penticton	IFR
Boundary Bay	IFR	Pitt Meadows	IFR
Burns Lake	VFR	Port Alberni/Alberni Valley Regional	
Cache Creek	VFR	Port Hardy	IFR
Campbell River	IFR	Powell River	IFR
Castlegar	IFR	Prince George	IFR
Chetwynd	IFR	Prince Rupert	IFR
Chilliwack	VFR	Princeton	VFR
Comox	IFR	Puntzi Mountain	VFR
Cranbrook	IFR	Qualicum Beach	IFR
Creston	VFR	Quesnel	IFR
Dawson Creek	IFR	Revelstoke	IFR
Dease Lake	VFR	Salmon Arm	IFR
Elk Valley/Sparwood	VFR	Sandspit	IFR
Fairmont Hot Springs	VFR	Sonora Resort	
Fort Nelson	IFR	Smithers	IFR
Fort St. John	IFR	Stewart	IFR
Gillies Bay/Texada	VFR	Terrace	IFR
Golden	VFR	Tofino	IFR
Grand Forks	VFR	Trail	VFR
Houston	VFR	Valemount	
Hudson's Hope	VFR	Vancouver	IFR
Invermere	VFR	Vanderhoof	VFR
Kamloops	IFR	Vernon	VFR
Kaslo	VFR	Victoria	IFR
Kelowna	IFR	Williams Lake	IFR
Langley International		Serving Northern B.C.:	
Lillooet	VFR	Watson Lake	IFR
McKenzie	IFR	Whitehorse	IFR
Masset	VFR	Wrangell, Alaska	IFR

Schedule 8
Procedures for Implementing Emergency Air Services

Insert procedures and contact information here.

Schedule 9

National Mine Rescue Resources—Key Government Personnel Contacts

Insert national contacts here, or contact an Inspector of Mines to obtain information regarding national government contacts.

Schedule 10

National Mine Rescue Resources—Key Mining Industry Personnel Contacts

Insert national contacts here, or contact an Inspector of Mines to obtain information regarding national mine rescue contacts.

**Schedule 11
Special Equipment**

Insert information on special equipment or related contact information here.

- 12A Communications**
- 12B Pumps**
- 12C Microseismic**
- 12D Lighting**
- 12E Slings and Cables**
- 12F Lifting Bags & Hydraulic Jacks**
- 12G Compressed Air & Oxygen**

Prepare Schedule 12 with the resources and companies in your area or where the equipment is available or required in the event of an incident onsite.

Schedule 12
Technical Advisors

Insert related contact information here.

13A Hoists

13B Diving

13C Rescue

13D Ventilation

13E Ground Control

Prepare Schedule 13 with the resources and companies in your area or where the equipment is available or required in the event of an incident onsite.