AGNICO EAGLE

**MELIADINE GOLD PROJECT**

# SD 2-15
# Risk Management and Emergency Response Plan

**APRIL 2014**
**VERSION 3**

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| 1 | October 2012 | | | First draft of the Risk Management and Emergency Response Plan | Mélanie Roy, Env. Coord., AEM |
| 2 | March 2013 | 2 | 7 | Insurance coverage | Larry Connell, Director Env., AEM |
| 3 | April 2014 | 1.2 | 1-2 | Addressed technical comments – included Phase 2 AWAR, Bypass Road and Itivia. Planned location and mobilization of emergency response equipment and emergency response personnel | John Witteman, Env. Consultant, AEM |
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## EXECUTIVE SUMMARY

The Risk Management and Emergency Response Plan (SD 2-15) is divided in three (3) main sections: (1) Risk Assessment and Management, (2) Accidents and Malfunctions, and (3) Emergency Response Plan.

Agnico Eagle Mines Limited (AEM) is committed to protecting the health and safety (H&S) of all its workers and the environment, and to adhering to all legislated safety and environmental standards. The necessary resources will be available to respond quickly and efficiently to all emergencies to prevent injury to, or degradation of, the health of individuals or the environment. In implementing its Emergency Response Plan (ERP), AEM will set preparedness targets and report its progress on a regular basis.

***Risk Assessment and Management***

Assessment of potential natural hazards (including extreme weather events, natural seismic events, landslides, and flooding) in the local study area and shipping corridors, including frequency, magnitude, and possibilities of occurrence will be documented. This will include, notably, identification of hazards and classification of risks associated with all Project's phases. The risk assessment process will then be used to establish priorities for risk mitigation and control. Each hazard classified as representing a priority risk will require an action plan with recommendations to mitigate and/or control the risk. Contingency plans will be developed as necessary.

***Accidents and Malfunctions***

Despite an ongoing effort to identify and manage risks, major accidents and malfunctions could occur through natural events, breakdown of mitigation measures, and/or human error. A list of potential malfunctions or accidents associated with Project facilities and activities, including land or ice based, air or marine transportation, occurring independent of, or associated with natural hazards, will be developed. An analysis of the potential for malfunctions and accidents will be done using a methodology linking likelihood with consequence severity. This exercise will incorporate a sensitivity analysis and take into account the constraints resulting from logistics, time frames for prompt reaction (potential distance to an accident or emergency site), and possible weather conditions which might cause considerable delays and obstacles.

A series of emergency scenarios response are already detailed in this draft Plan, which include: fire, helicopter crash, pipeline break, toxic gas release, fuel spill, dike failure, emulsion plant emergency, and Rankin Inlet Itivia emergency.

***Emergency Response Plan***

The ERP addresses gold mining, processing, transportation and related activities at the Meliadine site as well as possible emergency scenarios that may occur off-site along the All-weather Access Road (AWAR) or at the Rankin Inlet Itivia facility. Guiding the development of the ERP has been the principle that an effective plan must provide:

- A clear chain of command for health and safety activities;
- Well-defined corporate expectations regarding health and safety;
- Comprehensive hazard prevention and control methods; and
- Record-keeping requirements to track program progress.

The purpose of the ERP is to provide a consolidated source of information for employees, contractors, and site visitors to respond quickly and efficiently to any foreseeable emergency that would likely occur in relation with Meliadine Project activities.

Alerting, notification and reporting procedures, with the associated responsible organisations and personnel, are detailed in the ERP. For its Meliadine Project, Agnico Eagle Mines Limited (AEM) will have a trained Emergency Response Team (ERT) supported by management, health and safety, and environment professionals. Defined in the ERP are also the emergency response capabilities to be put in place and maintained. A description of how relevant agencies, organisations and local communities will be involved in the development and application of this Plan is presented. Notably, the options for the medical transport of injured staff or persons both within and beyond the Project area are discussed.

There will be no fixed wing aircraft infrastructure at the Meliadine site. The Emergency Response Plan of the Aircraft Company and Rankin Inlet airport will be used in the event of an emergency.

The camp complex, process plant and other buildings will be equipped with a fire detection and audible fire warning system. All site operating personnel will receive basic training in the use of fire extinguishers.

## ACRONYMS

| | |
|---|---|
| AEM | Agnico Eagle Mines Limited |
| AWAR | All-weather Access Road |
| ECC | Emergency Coordination Centre |
| EMC | Emergency Measures Counsellor |
| EMS | Environmental Management System |
| EPP | Emergency Preparedness Plan |
| ERP | Emergency Response Plan |
| ERT | Emergency Response Team |
| ETA | Estimated Time of Arrival |
| HR | Human Resources |
| H&S | Health and Safety |
| ICC | Incident Command Centre |
| JHSC | Joint Health and Safety Committee |
| Medevac | Bedside to bedside ground and air ambulance provider |
| MSDS | Materials Safety Data Sheet |
| NIRB | Nunavut Impact Review Board |
| OHF | Oil Handling Facility (Itivia) |
| OIC | Official In-Charge |
| PPE | Personal Protective Equipment |
| RCMP | Royal Canadian Mounted Police |
| SD | Support Document |
| TSF | Tailings Storage Facility |

# SECTION 1 • INTRODUCTION

## 1.1 Overview

This Risk Management and Emergency Response Plan was written as per Section 9.4.1 of the Nunavut Impact Review Board (NIRB) "Guidelines for the Preparation of an Environmental Impact Statement for AEM Meliadine Project" (NIRB File No. 11MN034; 2012). It is conceptual in nature; it will be refined and finalized prior to operational activities and updated on a regular basis thereafter.

The document is divided in three (3) main sections:

1. Risk Assessment and Management;
2. Accidents and Malfunctions; and
3. Emergency Response Plan.

## 1.2 Purpose and Scope

The purpose of this Risk Management and Emergency Response Plan (ERP) is to provide a consolidated source of information for employees, contractors, and site visitors to respond quickly and efficiently to any foreseeable emergency that would likely occur in relation with Meliadine Project activities. This Plan forms a component of the Environmental Management System (EMS) for the Project. As such, it is a working document that will be reviewed and updated on a regular basis throughout mine development, including construction, operations and, if necessary, closure.

This ERP addresses emergency scenarios that could result from gold mining, processing, transportation and related activities at the Meliadine Project; including but not limited to the mine site, Phase 2 All-weather Access Road (AWAR), Rankin Inlet bypass road to Itivia and AEM's Itivia facilities. Guiding the development of this document has been the principle that an effective ERP must provide:

- A clear chain of command for health and safety activities;
- Well-defined corporate expectations regarding health and safety;
- Comprehensive hazard prevention and control methods; and
- Record-keeping requirements to track program progress.

Agnico Eagle Mines Limited (AEM) will ensure that all employees, contractors and site visitors fully understand and comply with all legislated safety standards, and the policies and procedures outlined in the ERP.

This ERP will be reviewed annually, or more frequently as required, to ensure compliance with applicable legislation, to evaluate its effectiveness and to continually improve procedures. All

employees, contractors and site visitors are encouraged to offer suggestions to eliminate potential hazards, minimize spills and improve work procedures.

## 1.3 AEM's Sustainable Development Policy

At the core of our Policy, we are committed to creating value for our shareholders by operating in a safe, socially and environmentally responsible manner while contributing to the prosperity of our employees, their families and the communities in which we operate. This has translated into the four fundamental values of our Sustainable Development Policy: operate safely, protect the environment, and treat our employees and communities with respect. This means we commit to:

- Promote leadership, personal commitment and accountability to these principles from all employees and contractors, both on and off the job;
- Assess potential impacts and risks associated with our activities throughout the life cycle of our projects or operations, including impacts of purchasing or acquisition decisions on the basis of our sustainability values;
- Ensure sufficient resources are allocated to implement and manage these commitments;
- Design and operate our facilities to ensure that effective controls and technologies are in place to minimize and mitigate the identified risks;
- Evaluate, control, eliminate or minimize risks through the implementation of a Responsible Mining Management System;
- Verify regularly our performance;
- Strive for continuous improvement by setting targets, measuring results against those targets and recognizing and rewarding performance;
- Comply in full with our internal policies and Code of Business Conduct and with the laws and regulations in each country in which we operate;
- Implement emergency response plans to eliminate or minimize and mitigate the impacts of unforeseen events;
- Engage in open and transparent communication and reporting of our policies, programs, payments to government and performance to our stakeholders;
- Provide appropriate planning and supervision to ensure that our policies, procedures and Responsible Mining Management System are implemented by all.

Implementing this ERP is thus imbedded into our core Policy commitments.

### 1.3.1 Operate Safely

We aim to operate a safe and healthy work place that is injury and fatality free. We believe that if we all work together, we can achieve zero accidents in the work place and enhance the well-being of employees, contractors and communities. To achieve a safe and healthy workplace we:

- Use sound engineering principles in the design and operation of our facilities;

- Provide appropriate training for all employees, at all levels of exploration, development, construction, and operations;
- Minimize the generation of hazardous conditions and ensure controls are in place;
- Maintain occupational health and industrial hygiene programs;
- Provide appropriate tools to carry out the work safely and efficiently;
- Maintain a high degree of emergency preparedness to effectively respond to emergencies.

All relevant safety and emergency response laws and regulations are incorporated into this ERP as minimum standards. The necessary resources will be available to respond quickly and efficiently to all emergencies to prevent injury to, or degradation of, the health of individuals or the environment. In implementing this ERP, AEM will set preparedness targets and report its progress on a regular basis. The ERP is finally to be tested on a periodic basis to ensure its effectiveness.

### 1.3.2 Protect the Environment

We aim to minimize the effects of our operations on the environment and maintain its viability and its diversity. To achieve this we:

- Minimize the generation of waste and ensure its proper disposal;
- Manage tailings, waste rock and overburden to ensure environmental protection;
- Implement measures to conserve natural resources such as energy and water;
- Implement measures to reduce emissions to air, water and land, and to minimize our footprint;
- Implement measures to reduce our greenhouse gas emissions and address climate change;
- Integrate biodiversity conservation and land use planning considerations through all stages of business and production activities;
- Rehabilitate sites to ensure physical and chemical stability and in consultation with the communities in a timely manner.

### 1.3.3 Respect for our Employees

We aim to maintain a safe and healthy workplace that is based on mutual respect, fairness and integrity. To achieve this we:

- Ensure that no discriminatory conduct is tolerated in the workplace;
- Provide a fair and non-discriminatory employee grievance system;
- Value diversity and treat all employees and contractors fairly, providing equal opportunity at all levels of the organization without bias;
- Employ and promote employees on the basis of merit;
- Provide fair and competitive compensation;
- Enforce a drug and alcohol free workplace;
- Maintain the confidentiality of collected personal and private information about employees;

- Recognize the right of employees to freedom of association;
- Provide appropriate training and development opportunities;
- Consult, communicate and provide appropriate support to employees during their association with AEM.

#### 1.3.4 Respect for our Communities

We aim to contribute to the social and economic development of sustainable communities associated with our operations. To achieve this we:

- Provide a confidential complaint reporting mechanism to report unethical, illegal or irresponsible behaviour;
- Ensure that no child labour and any form of forced and compulsory labour are permitted in the workplace;
- Uphold fundamental human rights and respect cultures, customs and values of all affected by our activities;
- Foster an open, transparent and respectful dialogue with all communities of interest and ensure that activities on private lands and indigenous lands are performed with the free prior informed consent of the land owners;
- Support local communities and their sustainability through measures such as development programs, locally sourcing of goods and services and employing local people;
- Provide assurance that our operations will not support, benefit or contribute to unlawful armed conflict, serious human rights abuses, or breaches of international humanitarian law.

#### 1.3.4 Contractors and Visitors

Every person working at or visiting the Meliadine site will receive an orientation upon arrival and, as such, will be apprised of, and required to, follow the ERP policies and procedures set forth in this plan. For a list of responsibilities, see Section 4.1.

Major contractors, such as those for mining and hauling, will be required to have their own health and safety services. This will be verified by AEM management prior to engagement of the contractor.

## 1.5 Related Documents

Documents in the Meliadine Project's Environmental Impact Statement that contain information that could relate to this plan include:

- Environmental Management Plan (SD 2-5);
- Spill Contingency Plan (SD 2-16);
- Explosives Management Plan (SD2-14);
- Occupational Health and Safety Plan (SD 9-6);

- Hazardous Materials Management Plan (SD 2-13);
- Landfill and Waste Management Plan (SD 2-11);
- Incineration Management Plan (SD 2-12);
- Shipping Management Plan (SD 8-1);
- Oil Pollution Emergency Plan (SD 8-2);
- Roads Management Plan (SD 2-9); and
- Mine Waste Management Plan (SD 2-8).

## SECTION 2 • RISK ASSESSMENT AND MANAGEMENT

Knowledge of potential risks from natural hazards, in both marine and terrestrial environments, is necessary for establishing health, safety, and environmental objectives and targets and then manage them with the most appropriate mitigation measures. Here are the steps that AEM plans to use to identify and manage risks during the course of the whole life of the Project:

- Identify the hazards;
- Assess the risks;
- Evaluate the existing controls;
- Implement additional risk controls; and
- Monitor and review.

Assessment of potential natural hazards in the local study area and shipping corridors, including frequency, magnitude, and possibilities of occurrence will be documented. Natural hazards to be considered will include extreme weather events, natural seismic events, landslides, and flooding. Information on potential hazards, including the description of the likelihood of possible malfunctions and accidents occurring independently of, or associated with, natural hazards, will be acquired using different sources, examples listed below:

- Regulatory requirements;
- Sustainable Development Policy;
- Records of incidents, accidents, and non-conformance;
- Environmental Management System audits;
- Suggestions from employees and others;
- Health and safety consultations;
- Information on best practices, typical hazards for the industry, and incident and accident occurrences in other organizations;
- Inventory of hazardous materials and toxicology of the hazardous materials;
- Monitoring data; and
- Administrative, engineering, and personal protective equipment controls.

It is planned to document the identification of hazards and classification of risks. This will be used to establish priorities for risk control and action. Each hazard classified as representing a priority risk will require an action plan with recommendations to control the risk. Recommendations may include consideration for:

- Operational controls;
- Training and awareness; and
- Performance measurement and monitoring.

The action plan and recommendations will be forwarded to the appropriate sector manager for follow-up. In all cases, the action plan and recommendations will be communicated to interested and affected employees (and others as required). Typically, the recommendations will be implemented in consultation with interested and affected employees (and others as required). The mitigation measures will address the potential ecological and human health risks. The constraints resulting from logistics and timeframes for prompt reaction, with consideration for the potential distance to an accident or emergency site, and possible weather conditions which might cause considerable delays and obstacles, will be considered.

AEM also purchases and maintains insurance coverage against major loss caused by accidents or malfunctions (such as fire, loss of equipment due to accident, etc.) at each of its operating mines as part of its risk and loss control management strategy. Such coverage in itself does not prevent loss but it does help manage loss in the following manner:

- The insurance companies typically inspect major facilities as part of their due diligence before selling insurance coverage. These inspections help AEM ensure that its loss control measures are adequate and meet current industry standards; and
- Insurance coverage assists AEM in recovery from a major loss, for example insurance helped AEM recover from the major fire that occurred at its Meadowbank operation in early 2011 that destroyed the site's kitchen and dining facility.

## SECTION 3 • ACCIDENTS AND MALFUNCTIONS EVALUATION

Despite an ongoing effort to identify and manage risks, major accidents and malfunctions can occur through natural events, breakdown of mitigation measures, or human error. A list of potential malfunctions or accidents will be developed from these sources:

- Public concerns;
- Project personnel;
- Comparative projects; and
- Experience of personnel with other projects.

Only credible malfunctions and accidents with a reasonable probability of occurring will be assessed.

Although the likelihood or probability of such events is low, accidental events could have environmental, health or safety repercussions. An analysis of the potential for malfunctions and accidents associated with Project facilities and activities, including land or ice based, air or marine transportation, occurring independent of, or associated with natural hazards, will be done using a methodology of the type presented below. A sensitivity analysis of the Rankin Inlet area, including an evaluation of the probability of accidents and malfunctions that may be unlikely but would be of significant impact (e.g., major fuel spills, etc.) to the environment, Nipisar Lake and/or any other potential municipal water sources, and to Rankin Inlet will be taken into consideration. The major accidents and malfunctions identified are described in Section 4.6.

Table 3-1 Consequence Severity Levels

| Level | Consequence |
|---|---|
| 1 | Critical |
| 2 | Major |
| 3 | Moderate |
| 4 | Minor |
| 5 | Insignificant |

Table 3-2 Likelihood of Accidents and Malfunctions

| Likelihood | Description of Likelihood | Frequency |
|---|---|---|
| **Almost certain** | Consequence expected to occur in most circumstances | High frequency of occurrence - occurs more than once per year |
| **Likely** | Consequence will probably occur in most circumstances | Event does occur, has a history - occurs once every 1 to 10 years |
| **Possible** | Consequence could occur at some time | Occurs once every 10 to 100 years |
| **Unlikely** | Consequence may occur at some time | Occurs once every 100 to 1,000 years |
| **Rare** | Consequence may occur at some time | Occurs once every 1,000 to 10,000 years |

Table 3-3 Risk Matrix

| Consequence | Likelihood | | | | |
|---|---|---|---|---|---|
| | **Rare** | **Unlikely** | **Possible** | **Likely** | **Almost Certain** |
| **Critical** | Moderate | Moderate | High | Extreme | Extreme |
| **Major** | Low | Moderate | Moderate | High | Extreme |
| **Moderate** | Low | Moderate | Moderate | Moderate | High |
| **Minor** | Very Low | Low | Moderate | Moderate | Moderate |
| **Insignificant** | Very Low | Very Low | Low | Low | Moderate |

# SECTION 4 • EMERGENCY RESPONSE PLAN

## 4.1 Organization and Job Responsibilities

This section details the roles and responsibilities of all parties involved in emergency response planning and implementation at the Meliadine Project.

### 4.1.1 General Mine Manager

The General Mine Manager is responsible for implementing and maintaining the ERP. In addition, the General Mine Manager's responsibilities are to:

- Act as a spokesperson on behalf of AEM with the public, media, and government agencies, as required;
- Prepare and submit any formal reports (within the required time frame) to regulators and AEM management detailing the occurrence of an emergency (this includes submitting an incident reporting form);
- Ensure that the H&S and Environment Superintendents have the means (financial and otherwise) to ensure that all required resources are made available, or provided from off-site if required;
- Work with the H&S, Human Resources (HR) and Environment Superintendents to evaluate what training is required by all staff, ensure that all staff are given appropriate training, and ensure that all staff are retrained as needed;
- Ensure that the HR Superintendent has the means (financial and otherwise) to ensure that all employees' training requirements are current;
- Ensure that inspections of emergency response training practices and emergency response equipment are carried out;
- Ensure that emergency response exercises are conducted annually,
- Ensure that the results of the regular inspections are used to improve emergency response practices, and improve relevant plans accordingly;
- Complete an annual detailed review of the ERP with the management team and the Joint Health and Safety Committee (JHSC), with particular emphasis on the objectives and methods of the plan, and the job descriptions of all positions named within;
- Ensure that this ERP remains up-to-date, and that updated versions are available on request;
- Ensure that updates to new emergency communications information (new phone numbers, changes in reporting structure, etc.) are distributed as soon as the new information becomes available; and
- Keep a formal record of distribution and amendments to the ERP.

### 4.1.2 Emergency Response Team (ERT)

No single department can handle an emergency situation alone. Everyone must work together to manage the emergency and coordinate the effective use of all available resources. The site will have an **Emergency Response Team (ERT)** trained and responsible for firefighting, controlling spills, and assisting with medical and other emergencies that may occur at the Meliadine site. The team members will attend regular training sessions.

Therefore at the time of any emergency, all management team and/or their designate must report to the Emergency Coordination Centre. The ERT structure lends support, fosters efficiency and provides additional knowledge during an emergency response situation.

The Official In-Charge maintains the overall coordination and direction of the Emergency Response and ensures the continued safety of all employees and the public. However, the development of the overall emergency response plan is done with the help of the Superintendent or designate of the sector affected by the emergency.

The remainder of the ERT will be given specific tasks to perform in order to assist with the management and coordination of the emergency response plan.

The roles and general responsibilities of the members of the ERT are described further in this section.

#### *4.1.2.1 Official In-Charge*

The Official In-Charge (General Mine Manager or designate) will take charge for overseeing and approving the overall emergency strategy.

Immediate duties of the Official In-Charge (OIC) include:

- Consult with the Incident Commander on the status of emergency;
- Appoint an Emergency Log Recorder to record the time and events, including all discussions, instructions and decisions made by the ERT;
- Issue specific tasks to the members of the Management team as they arrive at the Control Room;
- Brief the Emergency Response Team;
- Arrange for all reports to be presented at specific intervals to the ERT;
- Ensure that the safety of personnel is maintained throughout the operation;
- Ensure procedures are in place for prompt dispatch of requested personnel, materials and equipment to the emergency area;
- Finalize the recommendations of the Incident Commander for rescue and recovery operations;
- The OIC is the only person authorized to release information to Government Agencies, Corporate Office or the Local Communities. He may delegate this task to other members of

the Emergency Response Team. Communications should be done with the following in mind:

- Verify all information to be released;
- Keep a record of all inquiries (media and non-media);
- Do not speculate on causes;
- Do not speculate on resumption of normal operations or when the problem will be solved;
- Advise that further updates will be forth coming.

- Notify the corporate management if the following appear probable:
  - Fatality;
  - Injury that could probably become item of local, regional or national media interest;
  - A public health or environmental risk;
  - An incident involving chemicals where there is a large volume or the potential for over reaction (e.g., cyanide);
  - A spill of effluent or contaminated water or chemical substance to an area that lies outside the area of drainage control of the mine site (i.e., an external spill);
  - Mine operations may be stopped for more than two (2) days;
  - Government authorities will become involved.
- Ensure all response teams, regulatory agencies and any other agency on emergency alert notice are advised when the emergency has ended;
- Ensure all documentation (i.e., notes, log sheets, written instructions, etc.) is gathered for the creation of the final report; and
- Participate in debriefing.

#### *4.1.2.2 Incident Commander*

The responsibilities of the Incident Commander include:

- Ensure Security has been notified of the emergency;
- Ensure the evacuation procedures have been activated, if required;
- Ensure that there are sufficient ERT members available to respond to the emergency;
- Ensure that the ERT has back-up support;
- Ensure that ERT has refreshments and nourishment ( if the emergency requires several hours to be resolve);
- Assess the size and severity of the emergency and the likely consequences;
  - Establish response priorities;
  - If you believe the services of a rescue team are or may be necessary, do not delay in requesting their services;
  - Ensure that the emergency call-out procedures are followed;
- Maintain communication with the ERT Captain;
- Advise the OIC of all decisions regarding the rescue and recovery operations;

- Appoint sufficient personnel, equipment and outside services are available; utilize the members of the ERT to organize these resources;
- Advise the OIC when the emergency situation is under control and give the “All-Clear”;
- Participate in emergency investigation;
- Coordinate an orderly return to normal operating conditions;
- Arrange for a debriefing session, and utilize the services of all people involved in resolving the emergency;
- Review any procedures that may be related to the cause of the emergency;
    - If any revisions to the procedure(s) are required, ensure they are communicated to all employees that could be affected;
    - Alternatively, if from the accident investigation it is determined that new procedures are required, ensure that these procedures are formulated and communicated to the affected employees; and
- Compile the final report.

#### *4.1.2.3 Emergency Log Recorder*

The Official In-Charge will appoint an Emergency Log Recorder. The log is intended to a progressive record of the events from the start of the emergency through all phases up to termination, and will be used in the preparation of the final report. It is important that the log be legible and that all information be recorded.

Emergency log information:

- Date and time the incident was reported, and who reported the event;
- All subsequent developments as they occur;
- All phone calls, all discussions, and decisions made; and
- Any other information that needs to be captured for the final report.

All the sheets of paper should be numbered. All the pages have to be initialed by the Emergency Log Recorder and the Official In-Charge. The official document will stay with the Health and Safety Department upon completion of the emergency.

### 4.1.3 Emergency Measures Counsellor (EMC)

The responsibilities of the Emergency Measures Counsellor (EMC) will be to:

- Mobilize all ERT personnel, equipment, personal protective equipment and supplies, as required, to the site of the emergency;
- Assist in developing and implementing emergency response training programs and exercises;
- Review and update Emergency Fire and Evacuation Procedures on a minimum annual basis;
- Consolidate and maintain site Fire Prevention and Fire Response Plans;

- Maintain all plans, records, and logs relating to fire prevention and response;
- Ensure fire incident reports are filed, detailing the causes and responses to fires;
- Ensure that all firefighting equipment is inspected regularly and maintained functional;
- Ensure that smoke detectors and site fire extinguishers are in proper working order;
- Ensure that muster stations remain clear of debris and any other materials that may restrict or limit access; and
- Perform regular inspections of fire warning and firefighting equipment.

#### 4.1.4 Environment Superintendent

The following are the responsibilities of the Environment Superintendent:

- Provide technical advice on probable environmental effects resulting from an emergency and how to minimize them;
- Provide advice to the Incident Commander for appropriate response procedures as it relates to minimizing the potential impacts on the environment;
- Be involved in emergency response training exercises;
- Contribute to the annual review of the ERP with the H&S Department;
- Assist in implementing a routine site inspection and recording/reporting program for environmental spills;
  - This program is to address all applicable issues in relevant legislation pertaining to chemical handling, storage, labelling, use, reporting, and health and safety requirements; and
- Assist in developing sampling and testing or monitoring programs for water, soil and air that has been or may have been directly affected by an emergency.

#### 4.1.5 Health and Safety Superintendent

The Health and Safety Superintendent responsibilities are to:

- Oversee all activities that require security or nursing;
- Arrange for MEDEVAC transport;
- Monitor contractors' health and safety performance for compliance with applicable legislation and their own safety programs;
- Ensure that all new site personnel are properly oriented;
- Maintain up-to-date copies of all site procedures and make them available to new personnel;
- Ensure that all H&S employees are responding to all emergencies and all specific needs during their absence;
- Ensure that the JHSC is performing monthly tours and meetings;
- Ensure that the representatives from employer, employees, and major contractors seat on the JHSC;

- Ensure proper and timely documentation/reporting of inspections, investigations, and meetings;
- In cooperation with the Environment Department, deal with wildlife issues in accordance with the mitigation measures set out in the Terrestrial Environment Management and Monitoring Plan (SD 6-4).

The H&S Superintendent may require the assistance of outside persons to conduct damage assessments beyond the scope of the capabilities of on-site personnel. The H&S Superintendent, with the assistance of the General Mine Manager, will identify an appropriate resource for damage assessment. When identified, this person or organization will be listed in this ERP.

#### 4.1.6 Human Resources Superintendent

The following are the responsibilities of the Human Resources (HR) Superintendent:

- Track all emergency and health and safety training that on-site staff have received, and when retraining is required;
- Notify the Incident Commander when retraining is required;
- Ensure that employees are retrained in appropriate emergency response skills; and
- Consult with appropriate organizations regarding retraining requirements and schedules.

#### 4.1.7 Health Professional (Site First Aid)

The on-site Health Professional(s) are responsible for the following:

- Provide on-site first aid and other medical support;
- Provide additional training for ERT members, if necessary;
- Ensure that the first aid room is properly organized and equipped with advanced first aid equipment; and
- Ensure that the first aid room is maintained at all times.

#### 4.1.8 Joint Health and Safety Committee

The Joint Health and Safety Committee (JHSC) is responsible for:

- Review the Emergency Response Plan.

#### 4.1.9 All Employees

All employees are responsible for:

- Ensure site and personnel safety;
- Know the location of first aid stations and supplies, emergency and safety equipment (e.g., fire water pumps, fire extinguishers, monitors, self-contained breathing apparatus), Materials Safety Data Sheets (MSDS), emergency exits, and muster stations;
- Wear appropriate Personal Protective Equipment (PPE) for the task at hand;

- Report all emergencies to their supervisor; and
- Report by radio on the dedicated emergency channel to describe the type, the location, and the nature of an emergency, including possible injuries, trapped personnel, and the presence of any chemical or explosive hazards.

#### 4.1.10 Supervisor

The Supervisor is responsible for:

- Ensure personnel under their supervision are equipped with and are wearing appropriate PPE for the task at hand;
- Perform a preliminary assessment of an emergency; and
- Inform the Incident Commander of an emergency and provide details regarding the type, the location, and the nature of the emergency, including possible hazardous materials involved and health and safety concerns.

#### 4.1.11 Other Personnel

Depending on the nature of the emergency (medical, electrical, mechanical, fire, etc.) other site personnel, including the site electricians, site mechanics, and others, may be called upon to play key roles in emergency response.

#### 4.1.12 Emergency Response Contact Information

AEM internal emergency response personnel, their duties, and phone numbers will be compiled and updated in Table 4-1. Important external contacts such as regulatory agencies, health organizations and transportation companies providing evacuation support are also listed in the same table.

Table 4-1 Emergency Response Contact Information

# Emergency Contact Numbers

Last update: April 25, 2013 Version A

## Radio: Channel 1, call "MEDIC MEDIC MEDIC"

AGNICO EAGLE MELIADINE

**Agnico-Eagle Mines (AEM) Meliadine Project**
**25 km north-north-west of Rankin Inlet**

**63.027400 (N), - 92.171700 (W)** (Helipad)

**Meliadine Site Telephone Number:** **819-759-3002**
Rankin Office: 867-645-2920

| On Site Extensions: | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Site Infirmary | 3911 | Site Manager | 3910 | Geo office | 3901 | Procurement | 3990 |
| Health and Safety | 3906 | Logistic | 3905 | Orbit | 3904 | Human Resources | 3902 |
| Environment | 3903 | Camp Manager | 3999 | Rankin Office | 3193 | Boart Longyear | 3907 |

| | | |
|---|---|---|
| **Medical Emergency** | | |
| **Rankin Inlet Health Center**<br>Head Nurse: Gracy Dcunha | Monday - Friday 8h30 to 17h00<br>AFTER HOURS EMERGENCY | **(867) 645-8300**<br>**(867) 645-6700** |
| **Rankin Inlet Ambulance Service (Fire Dept.)** | **Emergency** | **(867) 645-2525** |
| **Rankin Inlet Search and Rescue** | | (867) 645-3300 |
| **Poison Control Centre**<br>(Qikiqtani General Hospital, Iqaluit) | Emergencies<br>General inquiries | (867) 979-7350<br>(867) 979-7300 |
| **Law Enforcement, Rescue, Wildlife** | | |
| **RCMP in Rankin Inlet** (Death on camp or for Search & Rescue)<br>(0123 = General Information, 1111 for emergency, 24H) | | (867) 645-0123<br>(867) 645-1111 |
| **Workers' Safety and Compensation Commission (WSCC)**<br>Mine Inspector: Martin van Rooy | | (800) 661-0792<br>(867) 979-8527 |
| **Coroner** | | (867) 975-7292<br>(867) 975-1063 cell |
| **Conservation & Wild life officer in Rankin Inlet**<br>Officer Johanne Coutut Autut | | (867) 645-8084<br>(867) 645-8085 |
| **Hazmat & Spills** | | |
| **CANUTEC** | | (613) 996-6666 |
| Spills Hotline | Phone | (867) 920-8130 |
| **Agnico-Eagle Mines (AEM)** | | |
| **Exploration Manager**: Denis Vaillancourt denis.vaillancourt@agnico-eagle.com | Office | (819) 874-5980 ext: 3605 |
| **Others** | | |
| | | |

| FM Radio Frequencies | |
|---|---|
| Channel 1 – General Camp Transmission – MEDIC | Rx & Tx: 167.43000 |
| Channel 2 – Drill operations Boart Yongyear | Rx & Tx: 163.32000 |
| Channel 3 – Exploration – Repeater (Long distance) | Rx: 163.57500 Tx: 168.70500 |
| Channel 4 – Emergency | Rx & Tx: 168.7050 |
| Channel 5 - Orbit | Rx & Tx: 154.3250 |
| Channel 6 - Rankin Inlet | Rx & Tx: 158.9400 |
| Channel 7 – Camp RPT | Rx: 162.75000 Tx: 167.05500 |
| Channel 8 – Meliadine Road | Rx: 162.54000 Tx: 165.57000 |
| Channel 9 – Rankin Road | Rx: 162.66000 Tx: 167.64000 |
| Channel 77 – NUNA Emergency | Rx & Tx: 158.9400 |
| Channel 99 - NUNA | Rx & Tx: 158.9400 |

### 4.1.13 Emergency Coordination Centre

Emergency operations will be directed out of the Emergency Coordination Centre (ECC) and the Incident Command Centre (ICC). The ECC will have a specific room, from where the following will take place:

- Key decisions will be made and operations will be managed;
- Technical information to direct emergency activities will be provided;
- A communications centre will be established for emergency operations and to communicate with other organizations;
- Resource procurement will be provided and resource use will be directed;
- Any damage will be assessed and long-range objectives and plans will be developed; and
- Information on the emergency will be stored and disseminated to all necessary internal and external parties.

The following information will be available at the ECC:

- Shutdown procedures for operations;
- Locations of hazardous material storage areas;
- Locations of emergency and safety equipment;
- Locations of first aid stations and muster areas;
- Maps of communities and environmental maps;
- Information on location of other communications equipment, including portable sets;
- Information on emergency power;
- Contacts for other utilities;
- Operating manuals;
- Materials Safety Data Sheets (MSDS);
- List of personnel with alternate skills for use in emergencies;
- Type and location of alarm systems;
- Accident report forms;
- Accident status board and log book; and
- Notification lists, staff lists, contact lists, with regular and emergency telephone/paget numbers, etc.

The ICC will be located at a safe and secure place near the site of the emergency. All responses and mitigation efforts developed at the ECC will be implemented through the ICC.

In the event of an emergency, security personnel may be required to establish and maintain a security perimeter to prevent or minimize injury to personnel, to preserve evidence for investigation, or to prevent unauthorized access to the scene.

### 4.1.14 Training

The HR Superintendent will be responsible for documenting, tracking, and updating all training activities. Record of training requirements and training attendance will be kept, tracked and updated for all employees by the HR Superintendent to ensure that retraining occurs as required.

For mine operations, AEM will ensure a sufficient number of trained ERT members are on site at all times. All members of the ERT will be trained and familiar with emergency and spill response procedures. Emergency training will be conducted annually to ensure that a sufficient number of team members are available and that their training is up-to-date.

Also, employees will be trained about all prevention measures for each risk. More details regarding security systems and prevention measures to each risk will be available in the Operation Manual or are available in the Hazardous Materials Management Plan (SD 2-13) and Occupational Health and Safety Plan (SD 9-6).

## 4.2 Emergency Response Equipment

The Emergency Measures Counsellor (EMC) will ensure that site drawings and equipment lists are posted conspicuously in key locations throughout the site so that important information is always readily available. This will include the following:

- Location and isolation points of energy sources;
- Location of emergency equipment (e.g., fire water pumps, fire extinguishers, monitors, self-contained breathing apparatus);
- Emergency procedures outlines, such as specialist firefighting, chemical neutralization;
- Location of equipment for combating pollution (e.g., booms, skimmers, pumps, absorbents, dispersants);
- Availability of internal and external emergency medical support (e.g., hospitals, clinics, ambulances, medical supplies, personnel with medical or first aid training);
- Location of toxicity testing facilities (e.g., gas and water);
- Location of wind direction/speed indicators;
- Directions on how to contact the local or regional weather forecasting service;
- Location of personal protective equipment and directions on its proper use; and
- Location of first aid stations and muster areas.

The Incident Commander, EMC, and H&S Superintendent will know where, throughout the project site, all of this information is posted and where emergency equipment is stored. These individuals will also be trained in the proper use of emergency equipment.

External emergency response equipment includes the mobile emergency response equipment described in the Spill Contingency Plan (SD 2-16).

## 4.3 Aviation audits

There will not be any fixed wing aircraft infrastructure at Meliadine site. Employees will be transported via charter to Rankin Inlet airport and then will be transported by road to the mine site. The emergency response plan of the Aircraft Company and Rankin Inlet airport will be applied in case of an emergency.

## 4.4 Communication Systems

The primary basis for communication will be the phone system; back-up communication will be available via satellite. For on-site communication, hand-held radios will be mandatory for all employees working or travelling in remote areas from the main camp. Cell phones could be used as an additional means of communication. Back-up power sources and replacement batteries for communication equipment will be available to provide continuous, uninterrupted operation either at fixed facilities or at emergency sites.

Key site personnel will be accessible at all times by either portable radios, radios in vehicles, or office radios. The Health Professionals will carry a hand-held radio and will be available at all times. Security personnel will monitor the emergency channel twenty-four hours per day. Senior management personnel will rotate as “On-Call Managers” for after-hour emergencies. An accommodations list that highlights key personnel will be posted and updated as required.

Lists of employees trained in first aid, mine rescue, and emergency response will also be posted. Employees and contractors who will be on site for extended periods will be trained initially and then retrained annually. This training will include the locations and use of emergency equipment, terminology used, and who needs to be contacted immediately in the event of an emergency.

## 4.5 Emergency Measures

In the event of an emergency, the employee will have to follow the emergency procedure:

- Emergency is initiated - by calling on two-way radio on Channel 7 – MEDIC-MEDIC-MEDIC or FIRE-FIRE-FIRE;
- All communication stops except for those involved with the Emergency i.e.: First Aid Room Attendants, Medics, ERT as required;
- All work stops in First Aid Room/Clinic, in affected area and, depending on seriousness of emergency, in the whole site; and
- First Aid Room Attendant/Medic will answer the phone and/or the radio.

Note: if the Health Professionals do not answer, then the Security Guard will answer and/or a Supervisor on radio will answer so that Emergency Response can be initiated.

- Responder – will ask where the medic is required;
- Caller – will give a brief description of the emergency: name, location and what is wrong and/or required;
- Responder – will confirm location and details of incident and activate the ERT team. Security will be notified by responder and a page will be sent out to all ERT team members on site;
- The person at the casualty(s) will administer First Aid if trained to do so; and
- The Incident Command Center will be mobilized as to ensure that communications, transportation, and effective deployment of ERT resources are conducted. It is mandatory that the Official In-Charge be notified immediately.

The ERT (minimum of 6 team members) will assemble as quickly as possible.

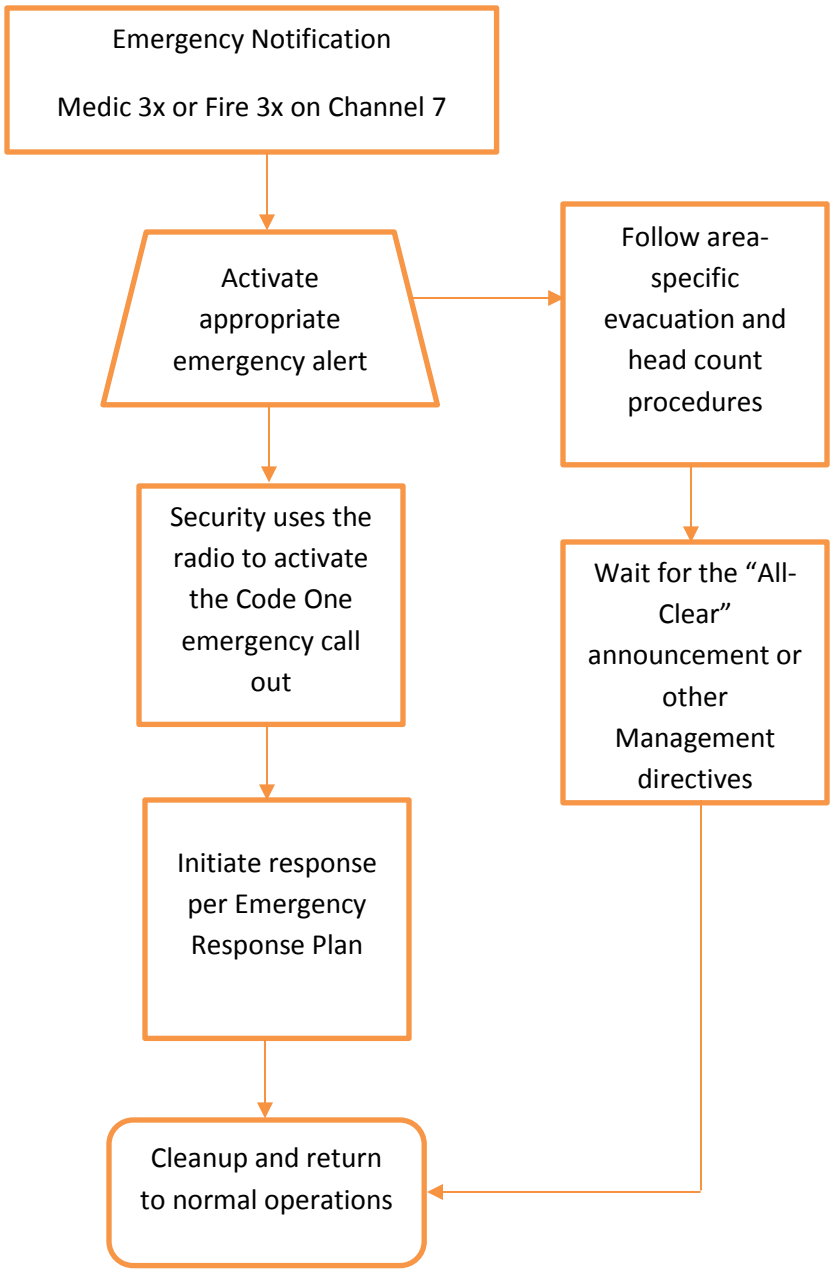


*Figure 4-1 General Emergency Response Flowchart*

### 4.5.1 Muster Point

In the event that an evacuation is necessary, it is important that all affected personnel leave the emergency area and congregate at a pre-determined area or *Muster point* so that a head count can be taken to determine if there are any missing persons. Employees must remain at the muster point until the supervisor of the emergency area gives permission to return to work. Proper areas will be identified as "Muster Stations".

Upon hearing a fire alarm, smoke alarm, or evacuation alarm, employees shall:

- ***DO NOT PANIC*** – Always ensure that you are prepared for the weather conditions (dress appropriately, e.g. winter clothing during winter months);
- ***DO NOT DELAY*** and do not stay and finish work before taking the proper steps to evacuate;
- Always **close windows/doors** as you leave your office, etc.;
- Always **head to the *closest* EXIT** door and follow **EXIT** signs to the closest outside door;
- Once outside, go to the ***closest* "Muster Station"**;
- Once in **"Muster Station"**, stay put until relieved or instructed otherwise by your Supervisor;
- Your Supervisor and/or Senior Management person in your department will **conduct a tally (head count)** of everyone in his/her department (note: on night shift, the highest level of Management may be a front line Supervisor). Ensure that you get your name on the **tally form**;
- ***DO NOT ENTER*** a building when the alarm is sounding. Head straight to a "**Muster Station**";
- ***Never go through a building*** to get to a **"Muster Station"**. Once you are outside, the first door you open should be the one to the **"Muster Station"**;
- ***Never disregard an evacuation alarm***. We understand that the system goes off without incident on occasion, but to disregard an alarm is to endanger your life and the lives of others;
- ***Stay in* "Muster Station"** until you are instructed to **"Stand Down"** by the Incident Commander. The only person authorized to initiate a **"Stand Down"** is the Incident Commander or the General Mine Manager or designate; and
- ***Do not leave* "Muster Station"** to go outside for a smoke. It is important for your Supervisor to know where you are at all times, especially during an emergency.

Failure to follow proper evacuation procedures will result in discipline.

### 4.5.2 Medical Evacuation Plan

In the event of serious injury, it may be necessary to remove the individual from the source of the danger and to administer emergency first aid. The Health Professional will be notified immediately in order to take charge of the situation and ensure the safe removal of the injured person to the First Aid Room if possible.

- The ERT will respond and assist the Health Professional as necessary with equipment, treatment, etc.;
- The Health Professional and as many ERT members as required will respond to the incident site. When the Health Professional arrives at the scene, they will notify the First Aid Room;
- First aid will be administered to casualty(s); the casualty(s) will be secured and transported to the First Aid Room. Vehicles transporting casualty(s) will have priority over any other vehicle on site;
- Once the "Mechanisms of Injury" and the patient's condition have been assessed, a decision will be made by the Health Professional whether a Medevac is required and decide on ground or air transportation; and
- As per guidelines for transportation, the "Mechanism of Injury" and/or patient condition, the Health Professional will contact one of the following Medical Facilities:

| | |
|---|---|
| Winnipeg Health and Science Centre | |
| Trauma team | 204-787-5045 or 204-787-2071 |
| Main ER doctor in charge | 204-774-6511 |
| Rankin Inlet Health Centre | 867-793-2816 |
| Rankin Inlet Health Care Centre | 867-645-8300 after hours 6701 |
| Rankin Inlet Health Head Nurse | 867-669-4111 |
| Churchill Hospital | 204-675-8881 |

If a MEDEVAC is required, the H&S Superintendent or designate, will call one of the following airlines:

- Ooktik Aviation 867-793-4720 (Baker Lake)
- Keewatin Air 204-888-0100 (Winnipeg)
- Keewatin Air 867-645-4455 (Rankin Inlet Dispatch)

The following information will be relayed to the Medical Facility that you have reached and to MEDEVAC dispatcher:

- Give patient's name, age, mechanism of injury, nature of injuries, and medical condition. Indicate all tests and treatment already done as well as ALL of the medication that has been administered to patient including the patient's past medical history and medication that he/she is taking; and
- The transfer sheet should be included and, if possible, faxed to the Medical Facility which will be receiving the MEDEVAC and patient (report should indicate which facility was contacted).

If a MEDEVAC is required and decision is made to go with one:

- The patient will **STAY in First Aid Room** until his/her **condition is stabilized**;
- Unnecessary delays will be avoided in transportation of the patient to the receiving health care provider;
- When MEDEVAC personnel arrive on site, they will help determine if the patient is GOOD to go as far as transportation goes;
- The Health Professional will take instructions from the Medical Director and act according to his/her instructions; and
- All decision/interventions will be documented, with time lines.

Depending on the MEDEVAC Company chosen, the Health Professional may have to escort the patient to the receiving Medical Facility.

The Official In-Charge will notify the Health Professional when the MEDEVAC has arrived and landed. The Health Professional, with the help of the ERT, will transfer the patient into the ambulance, to the aircraft.

If the MEDEVAC comes to site with a Medical Crew:

- The MEDEVAC team will call ahead to notify their estimated time of arrival (ETA);
- The General Mine Manager or designate will ensure that a vehicle is sent to the airstrip at the ETA;
- The Medical Crew, with their equipment, will be brought to the First Aid Room; and
- Once the MEDEVAC equipment is in place, the ERT will assist the MEDEVAC Medical Crew and the Health Professional with the transfer of the patient to the ambulance, and into the aircraft.

After the helicopter has left AEM – Meliadine site, the Health Professional will notify the receiving Medical Facility with the ETA to their closest airport. The MEDEVAC pilot will advise receiving airport air traffic controller that an ambulance is required for transportation to the receiving Medical Facility.

Upon arrival of the aircraft to the airport of the receiving Medical Facility (other than Rankin Inlet), the receiving team will be notified and a designated person will call the Incident Command Centre (ICC) and update them on their arrival and the next steps to be taken (e.g. transportation to receiving Medical Facility).

The receiving Medical Facility will communicate with the Meliadine Health Professional on frequent basis to update site on patient's condition and treatment, such as surgery required.

As soon as steps have been implemented to properly attend to the injuries, the Incident Commander will notify the appropriate authorities of the accident by telephone, providing as much information as possible. A complete accident description and investigation form will be submitted as soon as possible. The accident description and investigation form will be completed and submitted

to the General Mine Manager. Unless some action is required to remove an immediate hazard, the site of any serious accident will be cordoned off and remain unchanged until clearance is received from the appropriate authorities.

All operations type work will be suspended until the Health Professional is back in the First Aid Room. The incident scene, materials, machinery, medical equipment, etc. will remain undisturbed until the investigating team has conducted the investigation. This type of incident is considered a "Reportable Incident" therefore the Mines Inspector shall be notified (without delay). The Official In-Charge will be responsible to ensure that reporting is properly done. Under no circumstances shall any person move, or otherwise interfere with any wreckage or equipment at the scene of a "Reportable Incident" until an inspector has conducted an investigation of the incident and has given permission to do so.

The Official In-Charge will make all necessary calls to the outside for notification purposes (e.g. Corporate Office notification, Mines Inspector, RCMP, etc.).

If the incident is of a fatality, the Coroner or, in his/her absence, the RCMP, is in total control of the incident scene. The scene is to remain undisturbed until orders have been issued by either of these two authorities. The scene will then be released to the local authorities such as the Mines Inspector for their portion of the investigation.

## 4.6 Emergency Scenarios

### 4.6.1 Fire

The camp complex and process plant will be equipped with a fire detection and audible fire warning system. All site operating personnel will receive basic training in the use of fire extinguishers. This training will be tracked by the HR Superintendent.

For any situation involving fire, the first action will be to extinguish the fire if it is safe to do so and then report the incident. If the person cannot safely put out the fire, it must be reported as quickly as possible. In the event of a fire alarm, all employees not directly involved with fighting the fire will report to the designated muster location (see section 4.5.1). Employees will remain in this area until assigned other duties by the ERT or until given clearance that the emergency is over.

In the event that a fire causes damage to mining equipment, site buildings, or chemical containers, particulates and/or gases could be released into the air, and hazardous materials and/or other chemicals (e.g., fuels, oils, battery acid, lime, etc.) could be spilled. In the short-term, this could result in air quality degradation, and potentially affect the local vegetation in the case of a spill or burn scar. Should such scenarios occur, the following actions will be taken, as required and WHEN IT IS SAFE TO DO SO:

- Air quality monitoring for airborne emissions;

- Collection and incineration of all putrescible (food items); and
- Removal of debris and contaminated soil for disposal on-site or off-site at a licensed disposal facility.

Further details on the cleanup of chemical spills are provided in the Spill Contingency Plan (SD 2-16).

The Incident Commander will:

- Locate the source of fire;
- Dispatch the evacuation at the safest muster point;
- Assign a captain and his team;
- Ensure the security of all the ERT's members or any other service persons (Medics, Security Guard, electricians, etc.);
- If the intervention of the mine inspector is necessary for a special investigation, ask the Security Department to ensure the integrity of the fire scene; and
- Call the end of the emergency measures, and invite everyone evacuated to reintegrate their original location.

**The General Mine Manager or designate can decide to use any available machinery to separate all or part of a building to protect people or minimize losses.**

Incident reports are to be filed detailing the causes of the fire and responses undertaken. This information will be used by the EMC in subsequent fire prevention activities.

### 4.6.2 Helicopter Crash

Emergency response will begin as soon as a helicopter crash is identified or reported:

- When the Meliadine Air Traffic Controller or the Meliadine Security Personnel is notified that a helicopter is having difficulty, they will immediately notify the General Mine Manager or designate;
- In the event of reported helicopter crash off-site, the Meliadine Air Traffic Controller or Meliadine Security Personnel will notify the General Mine Manager or designate;
- Emergency Response procedure will be initiated if required for response by ERT;
- The ERT on scene will make a preliminary assessment ;
- The Health Professional, with the ERT, will establish triage, treatment, transportation, communication, and staging;
- The Incident Commander will direct all emergency response actions, and assess the need for additional resources keeping the appropriate persons updated as to all actions;
- The RCMP will establish access and traffic control and assist the Coroner in body recovery and identification, if necessary. They will keep the airspace clear of intrusive air traffic, to the limits of the regulations;

- The Incident Commander will instruct Emergency Response personnel to not move debris associated with the wreckage, e.g. helicopter remnants, passenger belongings, etc. unless there is imminent danger of items being destroyed, or unless they inhibit access to passenger rescue; and
- The Coroner/RCMP is responsible for the identification, movement and/or removal of the fatality. Unauthorized personnel are not to move the dead without express approval of the Coroner/RCMP, except when there is a question of whether the person is deceased or if the body is in danger of being destroyed. In all cases involving the movement of a body, personnel moving the body shall make careful note of the location and condition of the body for the Coroner/RCMP.

**Recovery:**

Recovery immediately follows emergency response. It involves direction from the General Mine Manager or designate in order to:

- Maintaining access control to the scene;
- Providing emergency social services (critical stress debriefing) for employees and rescue workers;
- Investigating the accident; and
- Cleanup the crash site.

### 4.6.3 Pipeline Breakage

Pipelines will be used to transport tailings, reclaim water, freshwater, and domestic sewage on site. Pipeline breakage could lead to localized, short-term smothering of vegetation, the release of poor-quality water, and potentially exposure of mine personnel to infectious or toxic substances. In the event of a pipeline breakage, the following actions will be taken as required and when it is safe to do so:

- Shut off the feed of the pipeline;
- Physically contain the spill through the construction of dikes, berms, sumps and collection ditches;
- Pump collected water to the Tailings Storage Facility (TSF) or the sewage treatment plant;
- Collect and remove solids for disposal in the TSF, incineration, or off-site disposal at a licensed disposal facility; and
- Monitor for residual contaminants on land and in surface water.

A general response procedure for the handling of spilled domestic sewage (infectious substances) is provided in the Spill Contingency Plan (SD 2-16).

### 4.6.4 Toxic Gas Release

In the event of a toxic gas release, the following actions will be taken:

- Immediately evacuate the area/building and notify the Incident Commander;
- If possible and safe to do so, turn off the source of the gas and ventilate (i.e., open windows/doors to outdoors) the area;
- Isolate the area and restrict access to ERT personnel only; and
- Implement air quality monitoring.

For the mill, a specific procedure will be prepared. A general response procedure for the release of compressed gases is provided in the Spill Contingency Plan (SD 2-16).

### 4.6.5 Dike Failure

A detailed Emergency Preparedness Plan (EPP) will be developed to address the consequences of failure of any of the dikes on site. The procedure will be developed by the Emergency Measures Counsellor (EMC) and the H&S Superintendent, with the assistance of the dike designer and Engineering Superintendent. **Potential failure scenarios of the dikes and Tailings Storage Facility are provided in Appendix A.**

### 4.6.6 Emulsion Plant Emergency

A detailed Emergency Response Plan (ERP) will be prepared by the explosives supplier (see also the Explosives Management Plan SD 2-14) which will address potential incidents involving the manufacturing, handling and storage of explosives and related products. The supplier's ERP will be provided in Appendix in the next version of the Explosives Management Plan.

### 4.6.7 Phase 2 AWAR and Bypass Road Emergency

Emergencies along all roads will be handled by the Emergency Response Team[1], including spill response. A sea can holding spill response equipment will be located near the Meliadine River next to the Phase 2 AWAR. As well, additional spill response equipment will be located at the mine site (including a mobile trailer) and Itivia. Further details on spill response along AEM's roads are provided in the Spill Contingency Plan (SD 2-16).

### 4.6.8 Rankin Inlet Itivia Emergency

The Rankin Inlet Itivia facility is located south of Rankin Inlet and will be used for the interim storage of supplies, including hazardous materials, prior to being transported to the mine site. It is also equipped with an Oil Handling Facility (tank farm) used for bulk fuel storage. In advance of constructing the Oil Handling Facility, AEM will consult the Hamlet on cross-sharing of emergency capabilities and training, particularly as they relate to Rankin Inlet and Itivia.

[1] The ERT is located at the mine site.

Small spills at the Oil Handling Facility (OHF) will in most cases be operational in nature, having resulted from AEM's own activities. OHF staff, having had spill response training, will respond to spills within their capabilities using spill response equipment stored in a dedicated sea can at the Itivia site. For larger spills, where the capacity of the OHF staff is overwhelmed, the Emergency Response Team at the mine site will be called to assist. The OHF staff will nonetheless undertake an initial response to contain the spill as best possible should it be safe to do so. It is anticipated that the ERT will take approximately sixty (60) minutes to travel from the mine site to Itivia and take control of the scene.

Spill response during the ship-to-shore transfer of fuel will be the responsibility of the shipper. OHF staff and, if necessary, the ERT will assist the shipper with near-shore spill response.

Further details on the handling of spills at the OHF facility are provided in the Spill Contingency Plan (SD 2-16) and the Oil Pollution Emergency Plan (SD 8-2).

More details regarding the sensitivity analysis of Rankin Inlet area, including evaluation of the probability of accident with significant impact, is available in the Oil Pollution Emergency Plan (SD 8-2).

## APPENDIX A • POTENTIAL FAILURE SCENARIOS OF THE DIKES AND TAILINGS STORAGE FACILITY

| Failure Mode | Scenarios | Cause | | Mitigation measures |
|---|---|---|---|---|
| | | Potential Failure | Mechanisms | |
| **Internal Conduit Rupture** | Rupture of a conduit | Not applicable as there are no water transfer structures through the dikes. | Not applicable | Not applicable |
| **Overtopping** | Water level increase | Water spilling over crest of dike. Mining operations will need to be suspended. Considerable warning time is expected given the freeboard and pond capacities. Decrease of performance is expected and in rare events catastrophic failure. | Critical flood event | - Weekly inspection of outflow channel during thaw, open water season, and ice break-up<br>- Monitor lake level and provide information to mine management |
| | | | Obstruction of emergency spillway or discharge channel preventing flow discharge. | |
| | | | Loss of control on pumping, re-circulating, transferring water. | |
| | Dike settlement | Decrease of performance is expected. Catastrophic failure is unlikely to occur as the process of dike settlement is long and there will be time for mitigation. | Thaw-settlement of underlying permafrost resulting in settlement of dam crest. | - Monitoring of crest settlement by monuments<br>- Monitoring of ground temperatures by thermistor cables<br>- Visual inspection for cracks in embankment and permafrost surface at toe of embankment<br>- Remove snow during winter (snow heats underlying permafrost)<br>- Avoid design promoting snow accumulation |
| | | | Snow accumulation, thawing and runoff causing excessive erosion mainly on slopes. | - Avoid design promoting snow accumulation<br>- Remove thick snow accumulation during winter |
| **Internal erosion** | Seepage within embankment | Increase of void ratio leading to increased water flow through the dike body. Decrease of dike | Grain size incompatibility between adjacent dike material layers, seepage leading to internal erosion because till is non-uniform with more transmissive zones and not self- | - Good design<br>- Good QA/QC during construction |

| Failure Mode | Scenarios | Cause | | Mitigation measures |
|---|---|---|---|---|
| | | Potential Failure | Mechanisms | |
| | | performance and/or, in rare cases, catastrophic failure can be expected. | filtering (improper construction). | |
| | | | Increase in void ratio of till core due to defective construction of cut-off wall that results in bentonite loss, where applicable. | - Good QA/QC during construction |
| | | | Punctures in the liner by various causes such as ice cover, rocks, improper construction, pressure due to abundant water flow underneath liner, liner joint failure, freeze-thaw cycles. | - Good QA/QC during construction<br>- Inspection of liner for damage and/or changes in condition |
| | | | Sliding liner if improper placement and/or ice friction. | - Good QA/QC during construction<br>- Inspection of liner during winter and ice break-up |
| | Seepage within foundation | Increase of void ratio within the foundation leading to increased water flow through the foundation. Decrease of dike performance and/or catastrophic failure. | Abundant snow on sideslopes and toe of embankment causing heavy run-off increasing water availability for seepage. | - Good QA/QC during construction<br>- Snow monitoring (properties & distribution) |
| | | | Melting of ice in fractured rock foundation under the effect of permafrost thawing. | - Avoid sites with excess ground ice<br>- Good design that favours equilibrium of ground thermal regime (e.g. favours lesser snow accumulation)<br>- Thermistor cables installed for monitoring ground temperatures |
| | | | Thawing of permafrost causing failure of liner anchoring. | |
| | | | Improper anchoring of liner causing excessive seepage. | - Good QA/QC during construction |

| Failure Mode | Scenarios | Cause | | Mitigation measures |
|---|---|---|---|---|
| | | Potential Failure | Mechanisms | |
| **Slope instability** | Rotational movement | Catastrophic failure | Thaw-settlement of permafrost underneath and/or adjacent to the dike yielding rotational movement of embankment sideslopes. | - Monitoring of crest settlement by monuments<br>- Monitoring of ground temperatures by thermistor cables<br>- Visual inspection for cracks in embankment and permafrost surface at toe of embankment |
| | Creep | Decrease of performance | Thaw settlement of underlying ice-rich permafrost. | - Avoid site with excess ground ice<br>- Good design that favours equilibrium of ground thermal regime (e.g. favours lesser snow accumulation)<br>- Thermistor cables for monitoring ground temperatures<br>- Visual inspection for cracks in embankment and permafrost surface at toe of embankment |
| | | | Excessive snow accumulation increasing mass and moisture content of surface and facilitating creep and general down slope movement of embankment material. | - Avoid design promoting snow accumulation<br>- Remove thick snow accumulation during winter |
| **Earthquake induced failure** | Occurrence of an extreme earthquake | Decrease of performance | The extreme earthquake loading for the site is a low magnitude. An event of excess of current understanding of seismicity of the area would have to occur in order to have earthquake induced instability, slope or dike body. | - Dike inspection following earthquake |
| **Movement of dikes** | Horizontal movement | Differential horizontal movement of dikes due to water or ice loading. | The load of ice or water could generate differential horizontal movement which could cause either cut-off wall breach or liner puncture. | - Monitoring of dike alignment by monuments |

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