Northern Development and Mines

Provincial Emergency Plan for Abandoned Mines Hazards

Ministry of Energy, Northern Development and Mines

Go Medium Sensitivity
2020
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Definitions

Abandoned Mine

An “abandoned mine” is a mine that has been permanently closed or is not operating, whether it is privately owned and whether it has a filed closure plan.

Mine (as defined by the Ontario Mining Act)

(a) Any opening or excavation in, or working of, the ground for the purpose of mining and mineral or mineral bearing substance;

(b) All ways, works, machinery, plant, buildings and premises below or above the ground relating to or used in connection with the activity referred to in clause (a);

(c) Any roasting or smelting furnace, concentrator, mill, work or place used for or in connection with washing, crushing, grinding, sifting, reducing, leaching, roasting, smelting, refining or treating any mineral or mineral bearing substance, or conducting research on them;

(d) Tailings, waste rock, stockpiles of ore or other material, or any other prescribed substances, or the lands related to any of them, and;

(e) Mines that have been temporarily suspended rendered inactive, closed out or abandoned.

Mine Hazard

A mine hazard is any feature of a mine, or disturbance of the ground that has not been rehabilitated to the standards set out in the Mine Rehabilitation Code. Mine hazards include but are not limited to:

- Unprotected and concealed shafts or pits, deteriorating structures, derelict mining-related equipment, destabilized and collapsing underground mine workings, contaminated mill tailings, stockpiled waste rock and surface/ground water, discarded tanks or drums of chemicals, toxic gases, unstable explosives, dust and/or uncontrolled surface drainage causing sedimentation damages.

Northern Development and Mines (NDM) Ministry Action Group (MAG)

A group of NDM senior staff responsible for all decisions, resource allocation and response/recovery actions, as necessitated by an emergency event.

Provincial Emergency Operations Centre (PEOC)

Located in Toronto and staffed at all times in order to continually monitor emerging and ongoing emergency situations inside/outside of Ontario.
The key function of the PEOC is to coordinate the Ontario government’s response to major emergencies.

**Unorganized Territories**

Unincorporated areas of Northern Ontario where there is no municipal structure.

**Introduction**

In Ontario, the Emergency Management and Civil Protection Act and accompanying Order in Council (OIC) assigns specific emergency responsibilities to designated ministries.

Within the Ministry of the Solicitor General (SOLGEN), the Office of the Fire Marshal and Emergency Management (OFMEM) has the overall responsibility for the coordination of emergency management in the province, including developing the Provincial Emergency Response Plan (PERP).

The PERP is an umbrella emergency response plan for the coordination of provincial response to any emergency.

Under OIC 1157/2009, the Ministry of Northern Development and Mines (MDNM)* has been assigned responsibility to develop emergency response plans for abandoned mine hazards.

*On June 29th, 2018 the Ministry of Energy and the Ministry of Northern Development and Mines merged to become the Ministry of Energy, Northern Development and Mines. The OIC 1157/2009 has not been updated to reflect this change therefore, for the purpose of the NDM Emergency Management Plan 2019, the OIC will continue to reference MNDM.

Things that could result in an abandoned mine hazard include, but are not limited to:

- Unprotected and concealed shafts or pits, deteriorating structures, derelict mining-related equipment, destabilized and collapsing underground mine workings, tailings dams, contaminated mill tailings, stockpiled waste rock and surface/ground water, discarded tanks or drums of chemicals, toxic gases, unstable explosives, dust and/or uncontrolled surface drainage causing sedimentation damages.

- With the ministry’s new regulatory responsibilities for tailings dams, NDM is building technical capacity for oversight of tailings dams and associated structures. This will allow us to better position NDM to lead response activities during an emergency event. In addition, the new NDM Engineering Services Unit will be equipped with the in-house subject matter expertise, technical ability and experience to provide assistance when dealing with any such issues related to tailings dams.
Other types of hazards could cause further degradation of abandoned mine hazards or impact rehabilitation measures already in place. For example:

- Floods (could washout backfill/weaken ground, may cause the flooding of tailings impoundment areas, cause dam instability or erosion of unimpounded tailings);
- Wind storms (could down trees which could collapse fencing around hazards and/or collapse buildings or other structures);
- Power Outages (could affect acid mine drainage sites where rehabilitation treatment is required);
- Beavers (could plug up spillways on dams increasing the amount of water retained on tailings areas which could lead to dam overtopping, erosion or failure);
- Forest Fires (could cause environmental damage if hydrocarbons → fuels, solvents lubricants and/or hazardous substances → PCBs, cyanide, asbestos are stored on site).

The Provincial Emergency Plan for Abandoned Mine Hazards provides guidance for initiating extraordinary arrangements as a result of an abandoned mine hazard emergency.

This plan is supportive and complementary to the PERP. While the focus of this plan is on emergency response, it recognizes there are important linkages to prevention, mitigation, and preparedness, as proactive components that are critical elements in any emergency response.

To this end, before any advanced exploration or mine production project may proceed in Ontario, a certified Closure Plan must be filed, including sufficient financial assurance to rehabilitate the site. Owners of abandoned mine sites may be ordered to conduct rehabilitation activities or submit a Closure Plan for the site.

A Closure Plan for an abandoned mine is intended to remove and/or secure abandoned mine hazards in order to protect public health and safety, and/or the environment.

In addition, the Ontario Abandoned Mine Rehabilitation Program was established to rehabilitate Crown-held abandoned mine sites on a priority basis.

Due to these measures, it is expected that the number of future abandoned mine hazards will be greatly reduced.

The Provincial Emergency Plan for Abandoned Mine Hazards assumes that:

- Abandoned mine hazards that could cause dangers of major proportions will be responded to within municipal or community areas where the community infrastructure and planning exists to deal with such emergencies;
Situations requiring a capability beyond a local community or that may occur in unorganized territories could require the activation of the Provincial Emergency Plan for Abandoned Mine Hazards;

Issues related to abandoned mine hazards that do not pose any immediate threats, are referred to the NDM Mineral Development Branch (MDB) for normal day-to-day operational response activities.

**Emergencies**

Local municipal governments and First Nation communities have primary responsibility for emergency event response.

Local authorities will respond to an emergency in accordance with the community plan, and if the circumstances warrant, may declare an emergency.

The provincial government acts in support of local government action.

The extent of the emergency response depends upon the nature and severity of the incident.

A provincial emergency does not need to be declared for the province to provide resources in support of an emergency declared by a community.

Provincial employees may take action where an emergency exists but has not yet been declared.

Health, safety, and security are the first and foremost considerations in any response to an emergency event. NDM employees involved in emergency management activities shall do so in accordance with the NDM Emergency Management Plan, and must adhere to all health, safety, and security advice, guidance, and precautions that may be provided and/or imposed by those with on-site operational authority.

**Note - As per the PERP:**

Coordination of provincial response to emergencies that occur in the North, including unorganized territories, is the responsibility of the ministry to which the type of emergency that has occurred has been assigned via the emergency management related OIC.

NDM is responsible for abandoned mine emergencies and if required for providing support to the primary (lead) response ministry for all other types of emergencies in Northern Ontario.

If an emergency that has not been identified within the OIC occurs, SOLGEN will be the primary (lead) ministry.
Roles & Responsibilities

Northern Development and Mines MAG

The NDM MAG Chairperson (Incident Commander) may activate the following members of MAG:

- Director, Mineral Development Branch (MDB);
- Senior Manager, Resident Geologist Program (RGP);
- Director – NDM Communications Services Branch (CSB);
- Senior Manager, NDM Controllership;
- NDM Emergency Management & Security Coordinator (EMSC).

In the event of an abandoned mine hazard emergency, MAG responsibilities include:

- Notifying and deploying members of the NDM Provincial Liaison Team (PLT);
- Developing an Incident Action Plan (IAP);
- Providing direction to PLT;
- Briefing NDM executives and PEOC;
- Providing communications expertise to PLT and providing coordinated emergency communication action including preparing briefing notes and media/public information;
- Coordinating and authorizing any necessary expenditures, obtaining resources or external services, tracking expenditures;
- Providing a representative to the Joint Information Centre (JIC) involving external stakeholders such as affected local interests, the municipality, and other ministries, if required;
- Providing advice/information to local first responders;
- Providing a representative to the PEOC, if required.

Northern Development and Mines PLT

PLT is a group of provincial officials assembled to:

- Assess the situation;
• Provide advice/information to MAG and/or local officials;
• Make recommendations for a coordinated response;
• Monitor response/recovery activities.

The PLT location is determined by the locality of the emergency event.

a) Membership*

i. NDM

PLT leadership will be assigned to the Senior Manager, Mine Rehabilitation Section. In their absence leadership will be assigned to one of the following: the Manager, Inspection and Compliance Section, the Manager, Engineering Services Unit or the Senior Manager, Mineral Exploration and Development Section of MDB. Field support will be assigned as required based on technical support expertise:

• Engineers;
• Inspection/Compliance Officers;
• Abandoned Mines Coordinator;
• Rehabilitation Specialists (surface and ground water);
• Mine Hazard Technical Specialist;
• Mineral and Exploration Development Consultants;
• Resident Geologists;
• District Geologists.

As well PLT will contain a representative from NDM’s CSB.

MDB is responsible for supplying information available for specific hazards and providing expertise relating to mine hazards and contact with specialized consultants.

RGP acts as a resource base supplying drawings, maps and information regarding mine workings and local geological expertise.

NDM’s CSB will coordinate internal briefing notes and coordinate information to local public/media.

*See Appendix 4 for a complete list of PLT members.
ii. Supporting Ministries

When an emergency is pending or occurs, any ministry may be called on to provide assistance during emergency management operations.

The most basic form of assistance is the provision of advice. Assistance may expand to the provision of personnel, equipment and/or other resources to assist in dealing with the cause of the emergency.

If several ministries require a coordinated effort the PEOC will coordinate the joint response.

Ministries that could assist NDM during an abandoned mine hazard emergency event include, but are not limited to:

**Ministry of the Solicitor General (SOLGEN)**

**Office of the Fire Marshal & Emergency Management (OFMEM)**

OFMEM could be requested to:

- Activate required support ministries;
- Coordinate multi-ministry response, if required;
- Facilitate psychosocial intervention assistance;
- Aid in obtaining required support assistance for NDM.

**Ontario Provincial Police (OPP)**

OPP could be requested to:

- Manage traffic in and around the emergency site;
- Secure the emergency site perimeter.

**Ministry of Children, Community and Social Services (MCCSS)**

MCCSS could be requested to:

- Provide emergency social services (e.g. emergency shelters, clothing & food, victim registration, enquiry services and/or personal services);
- Coordinate partner agencies (e.g. Canadian Red Cross & Salvation Army) to assist affected local municipality and/or community social services.
Ministry of Transportation (MTO)

MTO could be requested to:

- Provide traffic control and evacuation planning;
- Implement emergency traffic control measures in conjunction with the OPP;
- Coordinate the mobilization of contractor equipment/personnel and engineering expertise to keep provincial roadways open.

Ministry of Labour (MOL)

MOL could be requested to:

- Provide advice and direction on safe workplace practices and occupational health and safety support for workers deployed to emergency sites;
- Make referrals to the appropriate Health and Safety Association(s), such as Workplace Safety North, for advice.

Ministry of Environment, Conservation and Parks (MECP)

MECP could be requested to:

- Assist in the response for environmental issues including pollutant spills and drinking water concerns resulting from abandoned mine sites.

Ministry of Natural Resources and Forestry (MNRF)

MNRF could be requested to:

- Assist in the response for abandoned mine site dam failures;
- Provide aircraft, telecommunications and other equipment;
- Make available facilities for emergency response operations assembly/dispatch areas and/or temporary emergency care/accommodations;
- Assist in the coordination of resource acquisition (e.g. base camp service providers).

Note: In 2014 MNDM, MOECC, and MNRF entered into a Cooperation Agreement to provide a framework of cooperation in order to clarify how each party would execute its respective assigned OIC responsibilities during an abandoned mine hazard emergency. Due to recent changes to ministry names and responsibilities amendments are required to this agreement.
Northern Development and Mines Communications Plan

The aim of the abandoned mines emergency communications plan is to coordinate the release of accurate information to news media, issue authoritative instructions to the public and respond to or redirect requests for reports.

The NDM Director of CSB, who is a member of MAG, is designated as the Ministry Emergency Information Officer (MEIO).

The MEIO is the focal point for the preparation and dissemination of NDM emergency information and serves as the primary media contact for NDM in an emergency.

The MEIO will:

- Establish communication links with local and other media and prepare press releases in conjunction with PLT;
- Liaise with community officials;
- Set up media center/calls and coordinate on-scene interviews between emergency personnel and media;
- Respond to inquiries or redirect them to PLT leader, as appropriate;
- Provide briefing notes for PLT members, MAG, Minister and Deputy Minister’s Offices and PEOC/JIC.

The MEIO may, as required, arrange for an emergency event spokesperson to provide public information or act as an on-scene media coordinator.

Mineral Development Branch (MDB)

The NDM MAG may not be activated, for an abandoned mine hazard emergency, as the emergency may be addressed through normal day-to-day operations of the NDM MDB or as the result of the Minister’s Directions.

In order to provide MDB operational guidance, prevent the loss of unwritten information, minimize the commission of errors, and/or avoid the omission of essential steps, once MDB is notified of a potential and/or emergency, standard operating procedures have been developed to use as a guideline.

The Minister may trigger a provision of emergency access by NDM employees and agents of the Ministry to an abandoned mine site in order to take action in the event an owner/proponent does not remediate any immediate and dangerous effect of an abandoned mine hazard either voluntarily or pursuant to a Minister’s Order.
Appendix 1 – Standard Operation Procedures

Mineral Development Branch (MDB) Abandoned Mine Hazards

The carrying out of these standard operating procedures does not mean that “thought” is not required when responding to an emergency. As the operational environment changes, the implementation of the standard operating procedures may require adjustment.

Action

1. Initiate and maintain an Incident Log and create an Incident Action Plan (IAP):
   - Record all incident information including notifications and related conversations;
   - The party entering the information will include their initials immediately following the log entry for identification purposes.

2. Determine type of emergency (e.g. dam failure, subsidence, building collapse, etc.).

3. Evaluate risk to the public and property:
   - Contact Ontario Provincial Police, municipality, fire department, First Nation community, as required.

4. Determine ownership of property and if it is a site within a Closure Plan or if it is an Abandoned Mines site:
   - Make owner aware of responsibilities.

5. Notifications:
   - Mandatory:
     - ADM, Mines and Minerals Division (to advise Deputy Minister’s Office);
     - MDB Director;
     - Senior Manager, Mine Rehabilitation Section, Manager, Inspection and Compliance Section, Manager, Engineering Services Unit, or the Senior Manager, Mineral Exploration and Development Section (depends on who receives the initial notification);
     - Abandoned Mines Program Coordinator;
- Emergency Management and Security Coordinator (EMSC) (24/7 on-call);
  - Rehabilitation Specialists.
  - As required:
    - Ministry of Environment, Conservation and Parks (MECP);
    - Ministry of Natural Resources and Forestry (MNRF);
    - Ministry of Transportation (MTO) (if roads impacted);
    - Ministry of Labour (MOL) (if workers on site);
    - Ministry of Energy, Northern Development and Mines (ENDM),
      Northern Development and Mines legal services, controllership and communications.

Whenever a “grey area” for notification is encountered, MDB will err on the side of making the notification.

6. Initiate site visit to assess damage:
   - Utilize Rehabilitation Specialist and/or consultant (access Contractor List);
   - Initiate field log book to record notes;
   - The party entering the information will include their initials immediately following the log entry for identification purposes;
   - Obtain pictures.

7. Arrange a teleconference with other ministries to determine action and delegate duties.

8. Make preliminary arrangements for contractor/consultant to conduct site rehabilitation depending on situation and information available.

9. Establish update teleconferences:
   - Hold daily teleconferences with involved ministries and contractors/consultants;
   - Update municipality and/or First Nation community regularly or as needed;
   - Take minutes at all meeting and log all calls.
10. Post information notice on the Environmental Registry to indicate that there was an emergency.

11. Conduct a debrief at conclusion of emergency.
Appendix 2 – Northern Development and Mines Incident Action Plan

<table>
<thead>
<tr>
<th>NDM Incident Action Plan (IAP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Incident Name</td>
</tr>
<tr>
<td>2. Operation Period</td>
</tr>
<tr>
<td>Date from and to:</td>
</tr>
<tr>
<td>Time from and to:</td>
</tr>
<tr>
<td>3. Type of IAP</td>
</tr>
<tr>
<td>☐ OIC - Abandoned Mines Hazard</td>
</tr>
<tr>
<td>☐ OIC – Any Emergency that requires the support of the provincial emergency management in Northern Ontario</td>
</tr>
<tr>
<td>☐ Continuity of Operations Plan (COOP)</td>
</tr>
<tr>
<td>4. Current Situation</td>
</tr>
<tr>
<td>5. Mission (a non negotiable component of the mission is public and worker safety as priorities amongst all others)</td>
</tr>
<tr>
<td>6. Objectives for the Operational Period</td>
</tr>
<tr>
<td>7. Strategies to Achieve Objectives (including tactics/tasks)</td>
</tr>
<tr>
<td>8. Emergency Information and Key Media Messages</td>
</tr>
</tbody>
</table>

Prepared By/Title/Date/Time (24–hour clock)

Approved By/Title/Date/Time (24–hour clock)

Note: Background information pertaining to the current incident may be attached as a separate document.
<table>
<thead>
<tr>
<th>Item #</th>
<th>Item Title</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Incident Name</td>
<td>Name assigned to incident.</td>
</tr>
<tr>
<td>2</td>
<td>Operational Period</td>
<td>Establish how long NDM MAG will work on the objective(s) before it requires stopping and assessing the status and progress. Enter the start date (YYYY/MM/DD) and time (using the 24-hour clock), and end date and time for the operational period, to which the form applies.</td>
</tr>
<tr>
<td>3</td>
<td>Type of IAP</td>
<td>Check the appropriate box.</td>
</tr>
<tr>
<td>4</td>
<td>Current Situation</td>
<td>Include specific information on the nature of the event and known consequences at time of report. This may include information on: scope, casualties, hazards, current response activities, outstanding issues, identified needs, etc.</td>
</tr>
<tr>
<td>5</td>
<td>Mission</td>
<td>Enter a clear, concise statement indicating reason for managing the response (normally does not change during the event).</td>
</tr>
<tr>
<td>6</td>
<td>Objectives for this Operational Period</td>
<td>Enter clear, concise statements of the objectives for managing the response. Answer the question of what must be done, state in the form of a command, begin with an action verb (but not “continue” or “maintain”), and may identify where action must be undertaken. Ideally, the objectives are listed in priority order. (e.g. → Establish a Provincial Liaison Team in Larder Lake)</td>
</tr>
<tr>
<td>7</td>
<td>Strategies to Achieve Objectives (including tactics/tasks)</td>
<td>Enter clear, concise statements of strategies to achieve one or more of the objectives. Should identify what action(s) and resources are required, who will carry out the task(s) and when the task(s) will be completed within this operational period.</td>
</tr>
</tbody>
</table>