

# **TOMS GULLY MINE EMERGENCY AND CRISIS MANAGEMENT PLAN**

**Revision: 0**

---

Document Owner      **MD Primary Gold Ltd**

Date Originated	June 2015	Approval Date	September 2015
Deployment Date	Site restart	Next Revision Date	Annual

---

**REVISION INFORMATION**

This Emergency & Crisis Management Plan will be reviewed annually to ensure it remains up to date. The review will be based on an analysis of the types of incidents that are likely to occur and the appropriate emergency response required.

Use this section to describe what has changed since issue of subsequent revision of manual (once initial final version issued).

**Revision Number: New Document**

Old Section Reference	New Section Reference	Description	
Prepared by	Bendan Australia; Peter Crooks		
Reviewed by			
Approved by	Primary Gold MD; Clay Gordon	Date Approved	15 Sept 2015

**TABLE OF CONTENTS**

	<b>PAGE</b>
<b>1 INTRODUCTION.....</b>	<b>5</b>
<b>2 PURPOSE.....</b>	<b>5</b>
<b>3 SCOPE.....</b>	<b>5</b>
<b>4 IMPLEMENTATION.....</b>	<b>5</b>
4.1 WHO HAS RESPONSIBILITIES - TRAINING REQUIRED.....	5
4.2 WHO ELSE SHOULD KNOW - AWARENESS REQUIRED.....	6
<b>5 DETAILS.....</b>	<b>6</b>
5.1 APPLICABLE LEGISLATION & STANDARDS.....	6
<b>6 POTENTIAL EMERGENCY INCIDENTS .....</b>	<b>7</b>
6.1 EMERGENCY RISK ANALYSIS.....	7
<b>7 TOMS GULLY MINE PROBABLE EMERGENCY INCIDENTS CHART .....</b>	<b>8</b>
<b>8 EMERGENCY &amp; CRISIS MANAGEMENT PLAN .....</b>	<b>11</b>
8.1 NATURAL DISASTERS .....	12
8.1.1 Major Seismic Event/ Earthquake .....	12
8.1.2 Severe Animal/ Insect Infestation.....	13
8.1.3 Cyclone.....	14
8.1.4 Severe Electrical Storm .....	15
8.1.5 Flood.....	16
8.1.6 Infectious Disease Outbreak.....	17
8.2 OFF-SITE INCIDENTS.....	18
8.2.1 Light Vehicle Incident.....	18
8.2.2 Bus Accident .....	19
8.2.3 Heavy Vehicle Accident .....	20
8.2.4 Reagent Truck Accident.....	21
8.2.5 Explosives Truck Accident .....	23
8.2.6 Major Bush-Fire .....	24
8.3 ON-SITE SURFACE INCIDENTS .....	25
8.3.1 Light Vehicle Incident.....	25
8.3.2 Heavy Vehicle Accident .....	26
8.3.3 Hazardous Substance Release .....	27
8.3.4 Fixed Plant Accident.....	28
8.3.5 Aircraft Crash.....	30
8.3.6 Armed Hold-Up/ Hostage Situation.....	31
8.3.7 Plant Explosion.....	32
8.3.8 Bulk LPG Storage Incident.....	33
8.3.9 Surface Magazine Fire/ Explosion.....	35
8.3.10 Collapse/ Fall Into Old Workings.....	36
8.3.11 Tailings Dam Wall Failure .....	37
8.3.12 Building Collapse .....	39
8.3.13 Working At Height Incident.....	40
8.3.14 Potential Tyre Fire/ Explosion.....	41

8.3.15	<i>Building/ Plant Fire</i> .....	42
8.3.16	<i>Malicious Damage</i> .....	44
8.3.17	<i>Inrush Into Open Pit</i> .....	45
8.3.18	<i>Open Pit Wall/ Ramp Failure</i> .....	46
8.3.19	<i>Bomb Threat</i> .....	48
8.4	<b>ON-SITE UNDERGROUND INCIDENTS</b> .....	49
8.4.1	<i>Rock-Fall/ Rock-Burst or Ground Collapse</i> .....	49
8.4.2	<i>Underground Mobile Equipment/ Light Vehicle Accident</i> .....	50
8.4.3	<i>Major Underground Fire</i> .....	51
8.4.4	<i>Significant Underground Fuming</i> .....	53
8.4.5	<i>Major Underground Explosion</i> .....	54
8.4.6	<i>Trapped Person/s</i> .....	56
8.4.7	<i>Fall Down Open Hole</i> .....	58
8.4.8	<i>Underground Mine Flooding/ Inrush</i> .....	59

## 1 INTRODUCTION

This document, the “**Toms Gully Mine Emergency & Crisis Management Plan**” forms part of the documentation of the Toms Gully Mine Emergency & Crisis Management system, standards, and processes.

## 2 PURPOSE

The aim of this document is to provide the Toms Gully Mine management with detailed guidance on how to respond to various emergency situations that could occur during normal operations. That is:

- What type of incident could occur;
- What general type of emergency response is required; and
- Any special response requirements.

The information contained in this document has been prepared to act as a guide only and may require some additional responses, depending on the circumstances of the individual emergency situation.

## 3 SCOPE

The Toms Gully Mine Emergency & Crisis Management Plan applies to all aspects of our operations including Exploration, Mining, Processing and Administration.

All PGO Toms Gully Mine team members and contractor team members are required to comply with the requirements of the Toms Gully Mine Emergency & Crisis Management System.

Emergency incidents that require a response from the Toms Gully Mine management could occur either on or off site and may involve PGO Toms Gully Mine team members or contractor team members or even members of the public. The impacts could include injury to team members, disruption to production, damage to assets, environmental damage or poor company image.

## 4 IMPLEMENTATION

### 4.1 Who Has Responsibilities - Training Required

Each **Department Head** is responsible for the effectiveness of emergency response within his or her area of responsibility. This includes responsibility for ensuring Emergency Plans and Procedures are periodically tested and reviews conducted to ensure they remain effective.

**Area or Section Team Leaders** are responsible for ensuring the development and implementation of a local Area Emergency procedures as appropriate to ensure compliance with this document.

The **Area or Section Team Leader** is also likely to act as the *Incident Controller* (i.e. leader of the area or site Incident Control Team) should a local emergency occur. This person will be required to have an understanding of the various responses that may be used to help manage an emergency situation.

The **Toms Gully Mine Emergency Response Coordinator** is responsible for maintaining and up-dating the Emergency & Crisis Management System, including this Plan and associated Procedures. This includes communicating any changes to Department Heads as soon as practicable and assisting in the training of site team members in effective emergency response.

**Team Members** assigned particular roles or tasks under the Toms Gully Mine Emergency & Crisis Management System (e.g. emergency procedures) is responsible for carrying out those roles or tasks to the best of their ability.

## 4.2 Who Else Should Know - Awareness Required

This information is important to the safety of everyone associated with the Toms Gully Mine and is to be used by all team leaders. This information must be communicated to any new team leaders through formal induction or instruction so the various requirements are understood and acknowledged.

## 5 DETAILS

### 5.1 Applicable Legislation & Standards

This document has been developed to help ensure compliance with applicable NT acts, regulations and requirements as well as the NT Worksafe act as well as key requirements of the EPA. Toms Gully Mine, as the principal employer, is responsible to prepare an emergency plan that:

- identifies the hazards that might cause an emergency;
- assess the risk of an emergency occurring; and
- Includes means for dealing with such emergencies.

This plan must also consider the means for managing and controlling an emergency situation including the provision of training, equipment, facilities, team members and procedures.

The development of the Toms Gully Mine Emergency & Crisis Management System was also undertaken to help ensure compliance with PGO Management System.

## **6 POTENTIAL EMERGENCY INCIDENTS**

### **6.1 Emergency Risk Analysis**

An analysis to determine the types of probable on and off site incidents that could occur at Toms Gully Mine has been undertaken. This included:

- A review of PGO Toms Gully Mine risk assessments to identify potential emergency response requirements; and
- A qualitative risk assessment was conducted to identify and assess probable “high risk” incidents that might require formal emergency response.

The risk assessment was conducted as part of a review of the Toms Gully Mine Emergency & Crisis Management System.

This analysis identified 97 incidents with “extreme” or “high” residual risks (based on PGO and AS 4360:1999 “Risk management” classification). Each of these was then reviewed to determine the type of response required.

The specific responses to these incidents form the basis of the Toms Gully Mine Emergency & Crisis Management Plan that is given in Section 8. Each incident is numbered accordingly.

The results of the Toms Gully Mine Emergency Response Risk Assessment are summarized in Figure 1.

This Chart shows the following information:

- a) Potential incidents identified from the above analysis;
- b) Types of impacts that could be detrimental to the Toms Gully Mine, including:
  - assets (A)
  - earnings (E)
  - Team member safety and health (SH)
  - environment (En)
  - other people e.g. community, family/ friends of team members (OP)
  - company image, reputation, public perception etc (CI)
- c) Estimated likelihood of the event occurring (based on PGO Toms Gully Mine Risk Matrix);
- d) Estimated maximum reasonable consequences (based on PGO Toms Gully Mine Risk Matrix);
- e) Level of risk (based on PGO Toms Gully Mine Risk Matrix and AS 4360: 1999)

**7 TOMS GULLY MINE PROBABLE EMERGENCY INCIDENTS CHART**

**Figure 1 – Potential Incident, Impacts & Risk**

(Page 1 of 2)

POTENTIAL INCIDENT	Main Impacts	Likelihood*	Consequence*	LEVEL OF RISK	RISK RANK	COMMENTS
<b>Natural Disasters</b>						
Major Earthquake/ Seismic Event	A, E, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	
Severe Animal/ Insect Infestation	A, E, SH, CI	Rare (E)	Catastrophic (5)	High (H)	11	E.g. bees, red-backs
Cyclone	E, SH, En	Unlikely (D)	Major (4)	High (H)	12	
Severe Electrical Storm	A, E, SH, En	Moderate (C)	Moderate (3)	High (H)	13	Struck by lightning
Flood	E, SH	Moderate (C)	Moderate (3)	High (H)	13	General flood
Infectious Disease Outbreak	CI, SH, OP	Rare (E)	Major (4)	High (H)	16	E.g. legionaries, salmonella
<b>Off-site Incidents</b>						
Light Vehicle Accident	SH, CI, OP	Unlikely (D)	Catastrophic (5)	Extreme	7	
Bus Accident	SH, CI, OP	Unlikely (D)	Catastrophic (5)	Extreme	7	
Heavy Vehicle Accident	CI, SH, En, OP	Unlikely (D)	Catastrophic (5)	Extreme	7	E.g. road train hauling cons
Reagent Truck Accident	CI, SH, En, OP, E	Unlikely (D)	Catastrophic (5)	Extreme	7	E.g. cyanide truck
Explosives Truck Accident	CI, SH, OP, En	Rare (E)	Catastrophic (5)	High (H)	11	Fire/ explosion
Major Bush Fire	A, E, En, SH, OP	Rare (E)	Major (4)	High (H)	16	
<b>On-site Surface</b>						
Light Vehicle Accident	SH	Unlikely (D)	Catastrophic (5)	Extreme	7	
Heavy Vehicle Accident	CI, SH, En, CI	Unlikely (D)	Catastrophic (5)	Extreme	7	



POTENTIAL INCIDENT	Main Impacts	Likelihood*	Consequence*	LEVEL OF RISK	RISK RANK	COMMENTS
<b>On-site Surface continued</b>						
Hazardous Substance Release	CI, SH, En, E, OP	Unlikely (D)	Catastrophic (5)	Extreme	7	E.g. chemical, toxic gas
Fixed Plant Incident	A, E, CI, SH, En	Unlikely (D)	Catastrophic (5)	Extreme	7	E.g. conveyor, crusher
Aircraft Crash	SH, OP	Rare (E)	Catastrophic (5)	High (H)	11	E.g. survey plane, domestic
Armed Hold-up/ Hostage	A, CI, SH	Rare (E)	Catastrophic (5)	High (H)	11	E.g. gold room robbery
Plant Explosion	A, E, CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	
Bulk LPG Leak/ Fire/ Explosion	A, E, CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	
Surface Magazine Fire/ Explosion	CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	
Fall/ collapse into Old Workings	CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	
Tails Dam Wall Failure	A, E, CI, En	Rare (E)	Catastrophic (5)	High (H)	11	
Building Collapse	A, E, CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	
Working At Height Incident	CI, SH	Unlikely (D)	Major (4)	High (H)	12	
Tyre Fire/ Explosion	A, E, SH, En	Unlikely (D)	Major (4)	High (H)	12	
Building/ Plant Fire	A, E, CI, SH, En	Unlikely (D)	Major (4)	High (H)	12	
Malicious Damage (Arson etc)	A, E, CI, SH, En	Rare (E)	Major (4)	High (H)	16	
Inrush Into Open Pit	A, E, CI, SH, En	Rare (E)	Major (4)	High (H)	16	
Pit Wall/ Ramp Failure	E, CI, SH, En	Rare (E)	Major (4)	High (H)	16	
Bomb Threat	CI, E, SH	Rare (E)	Major (4)	High (H)	16	Threat only (no explosion)
<b>On-site Underground</b>						
Rockfall/ Rock-burst or Ground Collapse	E, CI, SH	Moderate (C)	Catastrophic (5)	Extreme	4	
UGME/ LV Accident	CI, SH	Unlikely (D)	Catastrophic (5)	Extreme	7	
Major Underground Fire	A, E, CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	E.g. major equipment fire

POTENTIAL INCIDENT	Main Impacts	Likelihood*	Consequence*	LEVEL OF RISK	RISK RANK	COMMENTS
<b>On-site Underground cont'd</b>						
Major Underground Fuming	A, E, CI, SH	Rare (E)	Catastrophic (5)	High (H)	11	E.g. from fire, fumes, gas etc
Major Underground Explosion/ Air-blast	A, E, CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	E.g. explosives, tyre, major collapse
Person/s Trapped	CI, SH, E	Rare (E)	Catastrophic (5)	High (H)	11	Due to collapse, fire etc
Fall Down Open Hole/ Stope	CI, SH	Rare (E)	Catastrophic (5)	High (H)	11	
Major Flooding/ Inrush	A, E, CI, SH, En	Rare (E)	Catastrophic (5)	High (H)	11	

\* LIKELIHOOD, CONSEQUENCES AND RISK BASED ON PGO TOMS GULLY MINE RISK RANKING MATRIX

## 8 EMERGENCY & CRISIS MANAGEMENT PLAN

This Emergency & Crisis Management Plan describes the detailed response to the potential critical incidents identified in Section 8. Each of these detailed responses includes the following information:

- The main “threats” associated with the incident
- How the incident may be notified (aside from emergency telephone/ radio call)
- Alarms or methods to alert persons of an emergency
- The management response required (i.e. who should be notified, what action should be taken)
- Any special instructions
- Possible contacts for specialist advice

Detailed procedures for responding to emergency situations (e.g. Emergency Team Call-out, Evacuation, Establishing an Incident Control Emergency Centre, Initiating Duty Cards etc) are contained in the “**Toms Gully procedures**”.

The detailed response to each potential incident is described in Section 8 below.

These should be used as a guide only and are not “all inclusive”. That is, there may be additional response steps or the steps may be in a different order of execution, depending on the circumstances of the individual emergency situation.

## 8.1 NATURAL DISASTERS

### 8.1.1 Major Seismic Event/ Earthquake

A major earthquake or seismic event is one that causes damage to mine infrastructure and results in a significant disruption to operations.

- Main Threats:**
- Collapse of mine infrastructure (e.g. Tails Dam, underground workings, pit walls, mine access ways, surface buildings or structures)
  - Loss of access to mine (loss of ramps, portal etc)
  - Induces major fire/ explosion (e.g. LPG or fuel storage)
  - Disruption to security/ communications

**Likely Alarms:** Earthquake likely to trigger security/ other site alarms

- Response:**
- Initiate affected area/s Evacuation Alarms
  - Initiate Emergency Duty Card system
  - Assess likely impact
  - Call-out Emergency Response Team
  - Secure access to all areas using Emergency Response Team
  - Initiate appropriate emergency response (e.g. first-aid, fire, persons trapped underground, explosion etc)
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Advise Local Darwin Authorities & Mutual Aid Providers, if require assistance
  - Secure PGO Toms Gully Mine Gold Room, if safe.
  - Conduct damage assessment of entire site using competent team members (e.g. Geotech Team Leader for underground/ open-pit).
  - Report to Government Authorities:
    - Dept of Minerals & Energy (if injury/ damage)
    - Dept of Environmental Protection (only if environmental impact results)
  - The internet BOM may have information on after shocks etc
  - Notify contractors & team members of proposed actions

**External Help:** State Emergency Service (via Darwin Police)

### 8.1.2 Severe Animal/ Insect Infestation

A plague of animals (e.g. mice, snakes) or infestation of insects (e.g. wasps, red-back spiders, bees) can cause damage to mine infrastructure and results in injury to team members through bites or stings. Infestations by bees have previously resulted in serious injury to team members due to allergic reactions to stings.

- Main Threats:**
- **Team member being bitten or stung**
  - **Allergic reaction to bee/ wasp sting**
  - **Damage to equipment (particularly electrical e.g. could trigger failure of computers)**

**Likely Alarms:** None

- Response:**
- **Assess likely impact of infestation**
  - **Call-out Emergency Services to provide first aid (if required)**
  - **Ensure supplies of adrenaline and other anti-allergy/ anti-venom drugs are available at Darwin Regional Hospital**
  - **Notify Local Doctor or Darwin Hospital, if required assistance**
  - **Notify General Manager, if serious**
  - **GM to initiate Crisis Management, if required**
  - **If animal infestation, contact pest controllers or CALM for advice**
  - **Report to Government Authorities:**
    - **Dept of Minerals & Energy (if injury results)**

**External Help:** Darwin Hospital  
Dept. of Environmental Protection (EPA)  
Local Pest Controllers

*Refer to "Emergency Telephone Directory" for Contact Numbers*

## 8.1.3 Cyclone

A cyclone is likely to form a rain-bearing depression and may result in high winds. Most likely from November through to April. Can result in considerable rainfall.

- Main Threats:**
- **Loss of access to mine (flooded/ impassable roads)**
  - **Loss of essential supplies (fuel, reagents, consumables etc)**
  - **Medical emergency (inability to evacuate ill or injured team members)**

**Notification:** Likely to be notified through media reports (i.e. television news/ weather, radio, and newspaper). If severe cyclone, may get some prior notification from local Police or SES.

**Likely Alarms:** Cyclone alert issued by Bureau of Meteorology (BOM)  
Cyclone alerts issued on TV & radio

- Response:**
- **Obtain up-to-date information from Bureau of Meteorology or Darwin Police**
  - **Assess likely impact**
  - **Check status of site essential supplies (fuel, reagents etc) with Stores Team members**
  - **Notify General Manager**
  - **If likely to be severe consider suspension of all operations**
  - **Prepare for possible flooding**
  - **Notify contractors & team members of proposed action**
  - **Notify suppliers of proposed action, if required**
  - **If medical emergency occurs and cannot evacuate by usual means, contact Darwin Regional Hospital/ RFDS or State Emergency Service via Darwin Police for assistance**
  - **If cyclone/ strong winds hits site, evacuate persons “cyclone evacuation points” (e.g. inside suitable building/ structure**
  - **Check availability of tarpaulins with Emergency Services**
  - **Consider call-out of Emergency Response Team to control damage, if required.**

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.1.4 Severe Electrical Storm

Electrical storms are common events during summer and early autumn. All critical equipment should be properly earthed or protected by lightning arrestors. Activities in the open (e.g. pit sampling, charging etc) should be stopped. If struck by lightning, cardiac arrest is likely, so quick response is essential.

Some hazardous activities (e.g. unloading explosive trucks) should also be checked. Explosive trucks should be parked up in a safe (well-earthed) area such as a workshop.

- Main Threats:**
- **Team members struck by lightning**
  - **Lightning initiating fire or explosion**
  - **Disruption to power/ security systems**

**Notification:** May get some advance warning from Bureau of Meteorology of severe lightning strikes/ almost instantaneous thunder  
Could be some major power disturbances/ security alarms going off?

**Alarms:** Site Evacuation Alarm (if fire/ explosion)  
Radio call (to stop work & evacuate area)

- Response:**
- **Notify all production team members of approaching storm/s**
  - **Initiate evacuation alarms, if fire or explosion**
  - **Call-out Emergency Services, if support required**
  - **Initiate appropriate emergency response (first-aid/ medical/ fire)**
  - **Isolate any energy sources or hazardous substances (e.g. power, gas, diesel, reagents etc)**
  - **Notify Local Doctor or Darwin Hospital, if required assistance (e.g. for cardiac arrest)**
  - **Consider shut-down of surface operations, if storm/s severe**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Secure access to areas using Emergency Services Team members (including Toms Gully Mine Gold Room)**
  - **Inspect affected areas to assess damage (once safe)**
  - **Report any injuries/ major damage Dept of Minerals & Energy**
  - **If rubber-tyred equipment struck by lightning, park up in secured/ isolated area for 24 hours**
  - **Maintain security of affected areas until Incident Controller gives "All Clear"**

*Refer to "Emergency Telephone Directory" for Contact Numbers*

### 8.1.5 Flood

A flood is likely to result from a rain-bearing depression, particularly if associated with a cyclone.

- Main Threats:**
- Mine or pit in-rush
  - Loss of access to mine site and Toms Gully Mine (flooded/ impassable roads)
  - Loss of essential supplies (fuel, reagents, consumables etc)
  - Medical emergency (inability to evacuate ill or injured team members)
  - Wet/ slippery roads increase potential for heavy equipment & light vehicle accidents on / off site

**Notification:** Likely to be notified through media reports (i.e. television news/ weather, radio, and newspaper). If severe cyclone, may get some prior notification from local Police or SES.

**Likely Alarms:** Cyclone alert issued by BOM and on television & radio

- Response:**
- Obtain up-to-date information from Bureau of Meteorology or Darwin Police
  - Notify all production team members of approaching rains/ flood
  - Assess likely impact
  - Monitor local creeks/ drainage/ access roads/ haul roads and pit/ ramp road conditions
  - Consider closing/ barricading access roads, haul roads or pit/ ramp roads, if affected
  - Call-out Emergency Services, if support required
  - Check status of site essential supplies (fuel, reagents etc)
  - If flooding likely to be severe or road conditions hazardous, consider closure of all operations
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify contractors, team members and suppliers of proposed action
  - If medical emergency occurs and cannot evacuate by usual means, contact SES via Darwin Police for assistance
  - If flooding of open-pit/ mine likely then withdraw workforce and stop operations
  - If inrush occurs, refer to 3.6.18 (open pit) and 3.7.8 (underground)

**External Help:** Pump/ hire contractors, Mutual Aid Providers



### 8.1.6 Infectious Disease Outbreak

Infectious diseases can be introduced through poor hygiene, contaminated water or food, or contact with other infected persons. They include Legionnaires disease, Influenza, various types of food poisoning, Hepatitis, etc.

As this could involve diseases of a “sensitive” nature, it is important to maintain confidentiality and avoid undue panic. The NT Health Department must be notified of any “reportable” diseases.

- Main Threats:**
- **Team member illness**
  - **Adverse reaction/ panic by other team members**

**Notification:** Team members reporting sick/ severely ill

**Alarms:** None

- Response:**
- **Notify Darwin Regional Hospital (local doctor)**
  - **Initiate appropriate medical response using infectious disease protocol**
  - **Isolate infected persons from other team members**
  - **If medical emergency occurs, contact RFDS via Darwin Regional Hospital**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Consider independent advice from external medical source (e.g. Carepoint Health Services)**
  - **Notify WA Health Department - Disease Control, if it could be reportable (can also provide advice)**
  - **Advise Darwin Hospital if major outbreak and need to evacuate team members to hospital**
  - **Assess situation and consider Team member briefing (using accurate medical information)**

**External Help:** Mutual Aid Providers  
Darwin Hospital  
NT Health Department (a/h medical emergencies)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

## 8.2 OFF-SITE INCIDENTS

### 8.2.1 Light Vehicle Incident

Accidents involving team members or members of the public on roads around Toms Gully Mine may require response from site team members. Light vehicle accidents are more likely to occur at early morning or evening or during wet weather due to reduced traction and visibility.

The presence of leaking fuel and possibility of having to cut persons out using hydraulic cutting equipment may require an Emergency Response Team call-out or Darwin Fire Brigade.

**Main Threats:**      • **Injury to Team Member/s or other person/s**

**Alarms:**              None

**Response:**

- **Call-out Emergency Services team members**
- **Initiate appropriate emergency response (first-aid/ medical/ fire/ vehicle extrication)**
- **Notify Darwin Regional Hospital (local doctor)**
- **Notify Darwin Police**
- **Consider Emergency Response Team call-out, if required**
- **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
- **Secure area using Emergency Services or Emergency Response Team members**
- **Notify General Manager (e.g. if Team Member/s involved)**
- **GM to initiate Crisis Management, if required**
- **Maintain security of affected area until Police give “All Clear”**

**External Help:**      Mutual Aid Providers  
Royal Flying Doctor Service (Medical Evacuation)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.2.2 Bus Accident

A bus accident involving team members or members of the public on Toms Gully Mine area or on the Arnhem highway may require response from site team members.

As a bus is likely to be carrying a large number of people (up to 20), a major medical emergency could result.

The presence of leaking fuel and possibility of having to cut persons out using hydraulic cutting equipment may require an Emergency Response Team or Darwin Fire Brigade call-out.

- Main Threats:**
- Injury to Team Member/s or other person/s
  - Impact on other team members/ public/ local Community

**Alarms:** None

- Response:**
- Call-out Emergency Services team members
  - Initiate appropriate emergency response (first-aid/ medical/ fire/ triage/ vehicle extrication)
  - Notify Darwin Regional Hospital (local doctor)
  - Notify Darwin Police
  - Consider Emergency Response Team call-out, if required
  - Advise Darwin St. Johns Ambulance and Fire Brigade
  - Advise Darwin Hospital and RFDS of possible need for assistance (if large numbers of casualties)
  - Secure area using Emergency Services or Emergency Response Team members
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Mutual Aid providers, if require additional assistance with transporting injured persons
  - Maintain security of affected area until Police give "All Clear"

**External Help:** Mutual Aid Providers  
RFDS (Medical Evacuation)  
Darwin Regional Hospital

*Refer to "Emergency Telephone Directory" for Contact Numbers*

### 8.2.3 Heavy Vehicle Accident

An accident involving a heavy vehicle in the Toms Gully Mine area or on Arnhem Highway may require some response from site. This type of incident has potential to result in multiple casualties; e.g. if truck collides with light vehicle/s. An accident involving a road train carrying Toms Gully deliveries or other mine related transport is also likely to have an impact on Company image, particularly if fatalities occur.

- Main Threats:**
- **Injury to truck driver/ members of the public**
  - **Environmental impact (e.g. if road train carting hazardous materials)**
  - **Impact to Company image/ reputation (if PGO Toms Gully Mine truck or delivery truck involved)**

**Alarms:** None

- Response:**
- **Call-out Emergency Services team members**
  - **Initiate appropriate emergency response (first-aid/ medical/ fire/ triage/ vehicle extrication)**
  - **Notify Darwin Regional Hospital (local doctor)**
  - **Notify Darwin Police**
  - **Consider Emergency Response Team call-out, if required**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade**
  - **Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)**
  - **Determine what cargo was being carried (e.g. if any chemicals, Dangerous Goods, ore/waste etc)**
  - **Secure area using Emergency Services or Emergency Response Team members**
  - **Notify General Manager (if PGO Toms Gully Mine truck or fatalities result)**
  - **Notify Environmental Team Leader (if any likely environmental impact)**
  - **GM to initiate Crisis Management, if required**
  - **Notify Mutual Aid providers, if require additional assistance with transporting injured persons or clean-up**
  - **Report to Government Authorities**
    - **Dept of Minerals & Energy (if Dangerous Goods involved)**
    - **Dept of Environmental Protection (if environmental impact results)**
  - **Maintain security of affected area until Police give “All Clear”**

**External Help:** Mutual Aid Providers  
Chemical Supplier/ Transport Company (for information)

#### 8.2.4 Reagent Truck Accident

An accident involving a reagent truck or truck carrying significant quantities of hazardous substances or Dangerous Goods (e.g. caustic, sodium cyanide, diesel fuel, acid etc) in the Toms Gully Mine area is likely to require some response from the Toms Gully Mine.

The presence of leaking chemicals and possibility of fire/ explosion and having to cut persons out using hydraulic cutting equipment may require an Emergency Response Team and Darwin Fire Brigade call-out. Accurate identification of the type/s and quantities of chemicals involved is essential.

- Main Threats:**
- Injury to truck driver/ members of the public
  - Injury to team members responding to accident
  - Environmental impact (e.g. if road train carting ore/waste)
  - Impact to Company image/ reputation (if PGO Toms Gully Mine truck involved)

**Alarms:** None

- Response:**
- Call-out Emergency Services team members
  - Consider Emergency Response Team call-out
  - Initiate appropriate emergency response (first-aid/ medical/ fire/ triage/ Hazchem/ vehicle extrication)
  - Notify Darwin Regional Hospital (local doctor)
  - Notify Darwin Police
  - Advise Darwin St. Johns Ambulance and Fire Brigade
  - Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)
  - Determine quantities/ types of chemicals & status (e.g. if on fire, leaking, intact etc)
  - Contact Chemical Supplier/ Transport Company for advice on how to treat spill & refer to MSDS
  - Secure area using Emergency Services or Emergency Response Team members
  - Notify General Manager
  - Notify Environmental Team Leader
  - GM to initiate Crisis Management, if required
  - Notify Mutual Aid providers, if require additional assistance with transporting injured persons, controlling situation or clean-up
  - Report to Government Authorities
    - Dept of Minerals & Energy (if Dangerous Goods involved)
    - Dept of Environmental Protection (if environmental impact results)

- **Maintain security of affected area until Police give “All Clear”**

**External Help:** Mutual Aid Providers  
Chemical Supplier/ Transport Company (for information)  
NT Fire Brigade (Hazardous Materials)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.2.5 Explosives Truck Accident

Explosives are being delivered to the Toms Gully Mine on a weekly basis from suppliers. An accident involving a truck carrying explosives has the potential to result in a fire and major explosion. This could occur in the Toms Gully Mine area on a public road and require a response from the Toms Gully Mine.

The main response is to evacuate and ensure access to the truck is completely secured at a safe distance. Expert advice should then dictate what action should be taken. Accurate identification of the type/s and quantities of explosives involved is essential.

- Main Threats:**
- Injury to truck driver/ members of the public
  - Injury to team members responding to accident
  - Impact to Company image/ reputation (if injury occurs)

**Alarms:** Nil

- Response:**
- Call-out Emergency Services team members
  - Notify Darwin Police
  - Report to Dept of Minerals & Energy (Explosives Branch)
  - Initiate Emergency Response Team call-out
  - Establish access control points at least 1 km from truck
  - Evacuate and secure area using Emergency Services and Emergency Response Team members
  - Access situation and identify status of explosives (e.g. on fire, intact etc)
  - Determine quantities/ types of explosives & type/s
  - Initiate appropriate emergency response (first-aid/ medical/ fire/ triage/ vehicle extrication) only if certain no potential for explosion
  - Contact Explosives Supplier for advice on how to treat (also refer to MSDS)
  - Advise Darwin St. Johns Ambulance and Fire Brigade
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Maintain security of exclusion zone area until Expert (e.g. DMPR Explosives Branch) or Police gives "All Clear"

**External Help:** Explosives Supplier/ Transport Company (for information)  
DMPR Explosives Branch  
Fire Brigade (Hazardous Materials)

### 8.2.6 Major Bush-Fire

A major bush-fire in the Toms Gully Mine area could have a significant impact on the pastoralist and local community. In some areas, it could also result in damage to company assets. If a major bush-fire occurred, it is possible that the Toms Gully Mine would be requested to provide assistance through the provision of fire-fighting equipment/ team members and heavy earthmoving equipment (e.g. dozers, loaders, water trucks etc).

Any operation would be under the control and direction of the local Fire Brigade/ Country Fire Authority and Police. This should include what resources are required and the designated muster point.

- Main Threats:**
- **Injury to members of the public/ local Community**
  - **Injury to team members fighting the bush-fire**
  - **Damage to town infrastructure, houses etc**
  - **Impact on families, local Community (loss of housing etc)**

**Notification:** Request from Darwin Police or Fire Brigade to assist

**Alarms:** Town fire siren

- Response:**
- **Call-out Emergency Services team members**
  - **Initiate Emergency Response Team call-out, if major fire**
  - **Muster team members at designated Muster Point (under the control of Local Authorities)**
  - **Notify contractors and request provision of any equipment required**
  - **Evacuate and secure affected area using Emergency Services and Emergency Response Team members**
  - **Notify General Manager**
  - **Advise Darwin St. Johns Ambulance (if not already aware) of potential for casualties**
  - **GM to initiate Crisis Management, if required**
  - **Maintain involvement until “All Clear/ Stand-down” given by Local Authorities**

*Refer to “Emergency Telephone Directory” for Contact Numbers*



## 8.3 ON-SITE SURFACE INCIDENTS

### 8.3.1 *Light Vehicle Incident*

Accidents involving light vehicles on site will require response from site team members. The presence of leaking fuel and possibility of having to cut persons out using hydraulic cutting equipment may require an Emergency Response Team call-out or Darwin Fire Brigade.

**Main Threats:**      • **Injury to Team Member/s**

**Alarms:**              None

**Response:**

- **Call-out Emergency Services team members**
- **Initiate appropriate emergency response (first-aid/ medical/ fire/ vehicle extrication)**
- **Initiate Emergency Response Team call-out, if required**
- **Notify Darwin Regional Hospital (local doctor)**
- **Notify Darwin Police**
- **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
- **Secure area using Emergency Services or Emergency Response Team members**
- **Notify General Manager**
- **GM to initiate Crisis Management, if required**
- **Notify Contractor Team Leader, if involves contractor team members**
- **Report to Department of Minerals & Energy**
- **Maintain security of affected area until Police or DMPR give “All Clear”**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**

**External Help:**      Royal Flying Doctor Service (Medical Evacuation)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.3.2 Heavy Vehicle Accident

Accidents involving heavy vehicles (e.g. trucks, cranes, loaders, dump trucks, buses etc) on site will require response from site emergency team members.

An accident involving a bus or heavy vehicle-light vehicle collision has the potential for multiple injuries. If heavy equipment is carrying hazardous substances, environmental impacts may also occur.

The presence of leaking fuel and possibility of having to cut persons out using hydraulic cutting equipment may require Emergency Response Team call-out or Darwin Fire Brigade.

- Main Threats:**
- **Injury to truck driver/ other team members**
  - **Environmental impact (e.g. if carrying hazardous substances)**
  - **Impact to Company image/ reputation**

**Alarms:** None

- Response:**
- **Call-out Emergency Services team members**
  - **Consider Emergency Response Team call-out, if required**
  - **Consider initiating Emergency Duty Card system (if major incident)**
  - **Initiate appropriate emergency response (first-aid/ medical/ fire/ triage/ Hazchem/ vehicle extrication)**
  - **Isolate any energy sources or contain hazardous substances (e.g. power if hit power line, gas, diesel, reagents etc)**
  - **Notify Darwin Regional Hospital (local doctor)**
  - **Notify Darwin Police**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade**
  - **Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)**
  - **Secure area using Emergency Services or Emergency Response Team members**
  - **Notify General Manager**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Notify Environmental Team Leader (if any likely environmental impact)**
  - **GM to initiate Crisis Management, if required**
  - **Notify Mutual Aid providers, if require additional assistance with transporting injured persons (e.g. if bus involved)**
  - **Report to Government Authorities**
    - **Dept of Minerals & Energy (if Dangerous Goods)**

- involved)
  - Dept of Environmental Protection (if environmental impact results)
  - If rubber-tyred equipment strikes power line or tyres subject to heating or fire, park up in secured/ isolated area for 24 hours (refer Section 4.3.9 “Tyre Fire/ Explosion”)
  - Maintain security of affected area until Incident Controller or Police/ DMPR give “All Clear”
  - Initiate appropriate investigation (may need to maintain security of area until completed)
  - Arrange clean-up using crane, low-loader etc

**External Help:** Mutual Aid Providers  
Chemical Supplier/ Transport Company (for information)  
WA Fire Brigade (Hazardous Materials)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.3.3 Hazardous Substance Release

A release of a hazardous substance can impact people over a wide area, particularly those working down-wind of the release. Common hazardous substances that could be released are Hydrogen Cyanide gas, Sulphur Dioxide gas, etc. If a major release, an area evacuation should be the initial response.

**Main Threats:** ● Injury to team members

**Alarms:** Area Evacuation Alarms

- Response:**
- Call-out Emergency Services team members with full BA gear
  - Consider Emergency Response Team call-out, if required
  - Initiate Area Evacuation Alarm
  - Consider initiating Emergency Duty Card system (if major incident)
  - Initiate appropriate emergency response (first-aid/ medical/ fire/ / Hazchem/ assisted evacuation)
  - Determine likely location and source of release, if safe
  - Determine likely quantity of hazardous substance
  - Check MSDS for treatment & control advice
  - Isolate any energy sources or hazardous substances release (if safe)
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Darwin Regional Hospital (local doctor)

- **Notify Darwin Police (if potential fatality)**
- **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
- **Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)**
- **Secure area using Emergency Services or Emergency Response Team members**
- **Notify Contractor Team Leader, if involves contractor team members**
- **Notify Environmental Team Leader (if any likely environmental impact)**
- **Report to Government Authorities**
  - **Department of Minerals & Energy**
  - **Dept of Environmental Protection (if environmental impact results)**
- **Maintain security of affected area until incident Controller and DMPR give “All Clear”**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**
- **Arrange clean-up or neutralization based on MSDS or supplier’s instructions**

**External Help:** Mutual Aid Providers  
Chemical Suppliers  
WA Fire Brigade (Specialist Fire Fighting Section)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.3.4 Fixed Plant Accident

Accidents involving fixed plant typically occur during maintenance. Examples of fixed plant at the Toms Gully Mine are gyrator crusher, conveyors, ball mills, compressors, feeders, etc.

The first response is to isolate the power source so it is safe for rescue team members to commence work. The possibility of entrapment or having to cut persons out using hydraulic cutting equipment may require Emergency Response Team call-out or Darwin Fire Brigade.

**Main Threats:** ● **Injury to team members**

**Alarms:** None

**Response:**

- **Call-out Emergency Services team members with Rescue Trailer**
- **Consider Emergency Response Team call-out, if required**
- **Consider initiating Emergency Duty Card system (if major incident)**

- Isolate any energy sources or hazardous substances (e.g. turn off power/ reagents, secure falling rocks in crusher etc)
- Initiate appropriate emergency response (first-aid/ medical/ fire/ entrapment rescue/ HAZMAT procedure etc)
- Notify General Manager
- GM to initiate Crisis Management, if required
- Notify Darwin Regional Hospital (local doctor)
- Notify Darwin Police (if potential fatality)
- Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance
- Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)
- Secure area using Emergency Services or Emergency Response Team members
- Notify Contractor Team Leader, if involves contractor team members
- Report to Department of Minerals & Energy
- Maintain security of affected area until incident Controller and DMPR give “All Clear”
- Initiate appropriate investigation (may need to maintain security of area until completed)
- Maintain security of affected area until Incident Controller and DMPR give “All Clear”
- Initiate appropriate investigation (may need to maintain security of area until completed)

**External Help:** Mutual Aid Providers  
Crane Contractor (heavy lifting)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.3.5 Aircraft Crash

An aircraft crash at the Toms Gully Mine could result in damage to mine infrastructure and team members as well as persons travelling in the aircraft itself. Aircraft conducting low level work (e.g. geophysical surveys, aerial surveys) are the most likely to crash however this application would be rare.

Any immediate response is likely to be by site team members with back up from local authorities. In most cases, the police will be the controlling body through LEMAC. Once the initial response has been undertaken, securing of the area for investigation by government authorities (i.e. Bureau of Air Safety) is essential.

- Main Threats:**
- **Injury to team members**
  - **Damage to site infrastructure/ facilities/ equipment**
  - **Intense media attention**

**Alarms:** None

- Response:**
- **Call-out Emergency Services team members**
  - **Consider Emergency Response Team call-out, if required**
  - **Consider initiating Emergency Duty Card system (if crash has impact on mine infrastructure)**
  - **Notify Darwin Police**
  - **Notify Bureau of Air Safety**
  - **Isolate any energy sources or hazardous substances (e.g. turn off power/ reagents, gas etc)**
  - **Initiate appropriate emergency response (first-aid/ medical/ fire/ entrapment rescue/ BA rescue etc)**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Darwin Regional Hospital (local doctor)**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade**
  - **Advise Darwin Hospital and RFDS of possible need for assistance (if multiple casualties)**
  - **Secure area using Emergency Services or Emergency Response Team members**
  - **Report to Department of Minerals & Energy**
  - **Maintain security of crash area until cleared by DMPR/ Bureau of Air Safety**

**External Help:** Bureau of Air Safety (Accident Notification)  
Civil Aviation Authority

### 8.3.6 Armed Hold-Up/ Hostage Situation

An armed hold-up at the mine may result in a hostage situation. In all cases, site team members should cooperate with demands made and not attempt to aggravate or apprehend armed robbers. The key aspect here is to remain calm and try to record as much detail as possible about the offenders.

- Main Threats:**
- Injury/ harm to team members
  - Impact on company image/ reputation

**Notification:** Possible triggering of Gold Room security/ duress alarm

**Alarms:** None (should not be used)

- Response:**
- Instruct team members to remain calm and not resist demands
  - Notify Darwin Police
  - Notify Gold Stealing Detention Unit (GSDU)
  - Notify General Manager or Department Head
  - Initiate appropriate emergency response (e.g. first-aid, evacuate), depending on location of armed offenders
  - Do not turn on evacuation siren (may distress armed offenders)
  - Secure area at safe distance using Emergency Services Team members
  - Allow armed offenders to depart site (i.e. do not attempt to apprehend or hinder)
  - Await Police arrival/ instructions
  - Isolate and treat/ comfort those involved (while awaiting Police arrival)
  - GM to initiate Crisis Management, if required
  - Notify Darwin Regional Hospital (local doctor) if persons injured
  - Advise Darwin St. Johns Ambulance if require assistance
  - Arrange counseling for affected person/s
  - Maintain security of area until cleared by Police

**External Help:** Occupational Services Counseling Service  
Police Armed Robbery Squad

*Refer to "Emergency Telephone Directory" for Contact Numbers*

### 8.3.7 Plant Explosion

An explosion at the PGO Toms Gully Mine Gold Plant could occur as a result of leaking LPG or acetylene gas, over-pressured pressure vessels or air receivers or exploding flammable materials. It may also be the result of a fire or itself trigger a fire. In any case, the initial response is to evacuate the area and await the arrival of the Emergency Response Team.

- Main Threats:**
- **Injury to team members**
  - **Loss of company assets**
  - **Disruption to production**
  - **Adverse impact on Company image**

**Alarms:** Area Evacuation Alarms

- Response:**
- **Call-out Emergency Services team members**
  - **Call out Emergency Response Team with full BA gear**
  - **Initiate Area Evacuation Alarm**
  - **Initiate Emergency Duty Card system (if major incident)**
  - **Initiate appropriate emergency response (first-aid/ medical/ fire/ / Hazchem/ assisted evacuation)**
  - **Determine likely location and source of explosion, if safe**
  - **Secure affected area/s at safe distance using Emergency Response Team members**
  - **Isolate any energy sources or hazardous substances release (if safe)**
  - **Determine quantities/ types of other hazardous substances in area**
  - **Check MSDS for treatment & control advice**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Darwin Regional Hospital (local doctor)**
  - **Notify Darwin Police (if potential fatality)**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
  - **Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)**
  - **Advise Mutual Aid partners, if require assistance**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Notify Environmental Team Leader (if any likely environmental impact)**
  - **Report to Government Authorities**
    - **Department of Minerals & Energy**
    - **Dept of Environmental Protection (if environmental**



**impact results)**

- **Maintain security of affected area until Incident Controller and DMPR give “All Clear”**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**
- **Arrange clean-up of affected area**

**External Help:** Mutual Aid Providers  
Chemical Suppliers  
WA Fire Brigade (Specialist Fire Fighting Section)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

**8.3.8 Bulk LPG Storage Incident**

A leak at Bulk LPG Storage (“gas bullets”) at the Toms Gully Mine could result in a fire and major explosion. For any fire or gas leak, expert advice should be obtained before any attempt is made at to extinguish the fire or repair the leak. Gas bullet explosions can be devastating; so total evacuation to a safe distance should be the initial response.

- Main Threats:**
- **Injury to team members**
  - **Loss of company assets**
  - **Disruption to production**

**Alarms:** Area Evacuation Alarms

- Response:**
- **Call-out Emergency Services team members**
  - **Call out Emergency Response Team**
  - **Initiate Area Evacuation Alarm**
  - **Initiate Emergency Duty Card system (if major incident)**
  - **Secure exclusion zone from bullets (at least 1 kilometer radius) using Emergency Services & Emergency Response Team members**
  - **Initiate appropriate emergency response (first-aid/ medical/ assisted evacuation) but do not attempt to fight major gas fire**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Determine quantity of gas in bullets, if possible. If cannot determine, assume they are full.**
  - **Contact Gas Supplier for advice on how to proceed**
  - **Determine likely impact of any explosion and ensure affected area is evacuated**
  - **Secure affected area/s at safe distance using Emergency Response Team members**

- **Notify Darwin Regional Hospital (local doctor) if any injuries**
- **Notify Darwin Police (if potential fatality)**
- **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
- **Advise Darwin Hospital and RFDS of possible need for assistance (if multiple casualties)**
- **Advise Mutual Aid partners, if require assistance**
- **Notify Contractor Team Leader, if involves contractor team members**
- **Notify Environmental Team Leader (if any likely environmental impact)**
- **Report to Government Authorities**
  - **Department of Minerals & Energy**
  - **Dept of Environmental Protection (if environmental impact results)**
- **Maintain security of affected area until Incident Controller and DMPR give “All Clear”**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**
- **Arrange clean-up of affected area**

**External Help:** Mutual Aid Providers  
WA Fire Brigade (Specialist Fire Fighting Section)  
Gas Supplier (e.g. Kleenheat)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.3.9 Surface Magazine Fire/ Explosion

A fire in a surface explosive magazine has the potential to result in a major explosion. Magazines should be located so that any such explosion has minimal impact on local area operations or mine. The initial response should be to evacuate the area to a safe distance and wait for expert assistance.

- Main Threats:**
- Injury to team members
  - Damage to mine infrastructure (depends on location)
  - Adverse impact on Company image

**Alarms:** Area Evacuation Alarms (if Magazine nearby)

- Response:**
- Call-out Emergency Services team members
  - Initiate evacuation alarms, if Magazine located within one kilometer of working areas
  - Call out Emergency Response Team, if required
  - Initiate Emergency Duty Card system (if major impact)
  - Secure area at safe distance (at least 1 km) using Emergency Services or Response Team members
  - Maintain *exclusion zone* of at least 1 kilometer radius (do not attempt to extinguish fire)
  - Initiate appropriate emergency response (first-aid/ medical/ assisted evacuation)
  - Refer to Magazine Manifest/ MSDS for relevant information (assume maximum quantity of explosives present until sure of exact amount)
  - Contact Explosives Supplier for advice on how to respond
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Darwin Regional Hospital (local doctor) if injuries occur
  - Notify Darwin Police (if potential fatality)
  - Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance
  - Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)
  - Notify Contractor Team Leader, if involves contractor team members
  - Report to Department of Minerals & Energy
  - Maintain security of affected area until Incident Controller and DMPR give "All Clear" (and fire extinguishes itself)

### 8.3.10 Collapse/ Fall Into Old Workings

Old workings could include abandoned shafts; remnant stopes or voids encountered during the mining or exploration.

A collapse or fall could involve equipment (e.g. drill rigs, trucks, light vehicles) or individual persons. The possibility of having to extract injured persons (possibly using rope rescue) will require Emergency Response Team call-out.

- Main Threats:**
- Injury to team members
  - Adverse impact on Company image (if serious injury)

**Alarms:** None

- Response:**
- Call-out Emergency Services team members
  - Call out Emergency Response Team
  - Initiate Emergency Duty Card system (if major incident)
  - Initiate appropriate emergency response (first-aid/ medical/ search/ rope rescue/ call for back-up equipment etc)
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Geotechnical Team Leader (for void/ old workings collapse)
  - Notify Darwin Regional Hospital (local doctor) if injuries occur
  - Notify Darwin Police (if potential fatality)
  - Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance
  - Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)
  - Notify Contractor Team Leader, if involves contractor team members
  - Report to Department of Minerals & Energy
  - Maintain security of affected area until Incident Controller and DMPR give "All Clear"
  - Initiate appropriate investigation (may need to maintain security of area until completed)

**External Help:** Mutual Aid Providers  
 Royal Flying Doctor Service (Medical Evacuation)  
 Open Pit Mining Contractor (Help Extract Equipment)  
 Geotechnical Expert (Independent Advice/Assist With Recovery Plan)

### 8.3.11 Tailings Dam Wall Failure

A tailings dam wall breach or failure can result in a major tailings spill. The location of the tailings dams near open pits can pose a further risk, depending on the location and nature of the failure. A wall failure may be preceded by cracking and minor leakage (i.e. “wet spots”) that may be visible. Regular monitoring of dam walls may help identify any potential failures.

<b>Main Threats:</b>	<ul style="list-style-type: none"> <li>● <b>Disruption to production</b></li> <li>● <b>Environmental impact</b></li> <li>● <b>Adverse impact on Company image (if environmental impact)</b></li> </ul>
----------------------	--

**Alarms:**        None

<b>Response:</b>	<ul style="list-style-type: none"> <li>● <b>Call-out Emergency Services team members</b></li> <li>● <b>Notify Mill team members to immediately isolate tailings line/s</b></li> <li>● <b>Initiate Emergency Duty Card system (if major incident)</b></li> <li>● <b>Consider call out Emergency Response Team, if likely to impact Team member safety (e.g. inrush into adjoining pit)</b></li> <li>● <b>Initiate appropriate emergency response (first-aid/ medical/ rope rescue/ pit evacuation, call for heavy equipment etc)</b></li> <li>● <b>Notify General Manager</b></li> <li>● <b>GM to initiate Crisis Management, if required</b></li> <li>● <b>Notify Metallurgy Team Leader</b></li> <li>● <b>Notify Geotechnical Team Leader</b></li> <li>● <b>Notify Environment Team Leader</b></li> <li>● <b>Notify Darwin Regional Hospital (local doctor) if injuries occur</b></li> <li>● <b>Notify Darwin Police (if potential fatality)</b></li> <li>● <b>Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance</b></li> <li>● <b>Advise Darwin Hospital and RFDS of possible need for assistance (if multiple casualties)</b></li> <li>● <b>Notify Contractor Team Leader, if involves contractor team members</b></li> <li>● <b>Report to Government Authorities</b> <ul style="list-style-type: none"> <li>□ <b>Department of Minerals &amp; Energy</b></li> <li>□ <b>Dept of Environmental Protection (if environmental impact results)</b></li> </ul> </li> <li>● <b>Commence containment operations to reduce impact</b></li> <li>● <b>Maintain security of affected area until Incident Controller and DMPR give “All Clear”</b></li> </ul>
------------------	--

- **Arrange for assistance with clean-up**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**

**External Help:**

Mutual Aid Providers

Open Pit Mining Contractor (provision of equipment to help contain spill)

Geotechnical Expert (independent advice/ assist with recovery plan)

*Refer to "Emergency Telephone Directory" for Contact Numbers*

### 8.3.12 Building Collapse

Building collapse can be the result of a seismic event, explosion or major structural failure. The areas most at risk are the Admin buildings (e.g. PGO Toms Gully Mine Admin Office). The initial response should be to evacuate the area to a safe distance and wait for expert assistance.

- Main Threats:**
- **Injury to team members**
  - **Damage to infrastructure/ assets**
  - **Adverse impact on Company image**

**Alarms:** Area Evacuation Alarms

- Response:**
- **Call-out Emergency Services team members**
  - **Initiate Emergency Duty Card system (if a PGO significant event)**
  - **Initiate area evacuation alarms & evacuate to safe locations (e.g. designated Muster points may be too close)**
  - **Call out Emergency Response Team**
  - **Secure area at safe distance using Emergency Services or Response Team members**
  - **Initiate appropriate emergency response (first-aid/ medical/ assisted evacuation/ fire fighting/ rescue)**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Darwin Regional Hospital (local doctor) if injuries occur**
  - **Notify Darwin Police**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
  - **Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Report to Department of Minerals & Energy**
  - **Arrange for expert assistance (e.g. collapse building search) through Darwin Police/ SES**
  - **Maintain security of affected area until Incident Controller and DMPR give "All Clear"**

**External Help:** Mutual Aid Providers  
RFDS (Medical Evacuation)  
Darwin Hospital

### 8.3.13 Working At Height Incident

Team members work at heights on a daily basis, particularly around processing plants. Should a person fall, it may be necessary to undertake "height rescue" using site team members.

This type of event could involve a person being suspended from fall arrest equipment and being seriously injured or otherwise incapacitated. The possibility of having to extract injured persons (possibly using rope rescue) will require Emergency Response Team call-out.

- Main Threats:**
- Injury to team members/ emergency response team members
  - Adverse impact on Company image (if serious injury)

**Alarms:** None

- Response:**
- Call-out Emergency Services team members
  - Call out Emergency Response Team
  - Initiate Emergency Duty Card system (if a significant event)
  - Assess situation to identify appropriate rescue method (e.g. rope rescue, use of crane with man-basket/ cherry picker etc)
  - Isolate any energy sources (e.g. power) or hazardous substances, if required
  - Initiate appropriate emergency response (first-aid/ medical/ rope rescue/ call for back-up equipment etc)
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Darwin Regional Hospital (local doctor) if injuries occur
  - Notify Darwin Police (if potential fatality)
  - Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance
  - Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)
  - Notify Contractor Team Leader, if involves contractor team members
  - Report to Department of Minerals & Energy
  - Maintain security of affected area until Incident Controller and DMPR give "All Clear"
  - Initiate appropriate investigation (may need to maintain security of area until completed)

**External Help:** Mutual Aid Providers  
Royal Flying Doctor Service (Medical Evacuation)  
Crane Contractor



### 8.3.14 Potential Tyre Fire/ Explosion

Tyre fires or explosions can result when equipment or vehicle tyres are heated due to welding/ cutting, an equipment or vehicle fire, contact with power lines or heating due to mechanical failure or damage (e.g. operating with deflated tyre, brake failure, rubbing on guards etc).

A tyre explosion can cause devastating results, particularly for large earthmoving equipment tyres. Tyre explosions are unpredictable and may occur even if tyres are deflated and there are no visible signs of fire or heating. Evacuation of team members to a safe distance (at least 500 metres) and sealing off the area for 24 hours should occur if there is any likelihood of tyre fire or explosion. Where possible, special areas should be identified and designated as “emergency park-up areas” in case equipment or vehicles hit power lines or are suspect of having over-heated tyres.

- Main Threats:**
- Injury to team members
  - Loss of company assets (if explosion occurs)
  - Disruption to production

**Alarms:** None

- Response:**
- Refer to Tyre Fires Procedures
  - Instruct equipment operator/ driver to park-up equipment/ vehicle in designated safe location (if possible) and leave area immediately
  - Call-out Emergency Services
  - Call out Emergency Response Team
  - Evacuate area inside “safe” distance (at least 500 metres)
  - If underground, consider evacuation of mine due to impact on ventilation (i.e. fire produces toxic fumes, air-blast from explosion, etc)
  - Secure area using Emergency Services or Emergency Response Team (control points at least 500 metres away)
  - Isolate any energy sources (e.g. power if equipment has hit power line)
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Darwin Regional Hospital (local doctor) if any injuries
  - Report to Department of Minerals & Energy
  - Maintain secure access to park-up site or tyre location for 24 hr
  - Develop “safe approach” strategy
  - Initiate appropriate investigation (may need to maintain security of area until completed)

### 8.3.15 Building/ Plant Fire

A surface building fire can occur at any location where fuel and ignition sources exist. The greatest impact of a surface fire is at the Concentrator and Gold Plant, where any fire is likely to cause a disruption to production. Locations for significant fire potential are conveyors, electrical control rooms, workshops and reagent/ fuel storage areas.

- Main Threats:**
- Injury to team members
  - Loss of company assets
  - Adverse impact on Company image
  - Disruption to production

**Alarms:** Area Evacuation Alarms

- Response:**
- Call-out Emergency Services
  - Call-out Emergency Response Team call-out with full BA
  - Initiate Emergency Duty Card system
  - Initiate appropriate emergency response (first-aid/ medical/ assist evacuation/ BA rescue etc)
  - Isolate any energy sources or hazardous substances (e.g. power, gas, diesel, reagents etc)
  - Secure area using Emergency Services or Emergency Response Team
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Darwin Regional Hospital (local doctor) if injuries occur
  - Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance
  - Notify Darwin Police (if potential fatality)
  - Advise Mutual Aid partners, if require assistance (e.g. additional fire fighting equipment etc)
  - Advise Darwin Hospital and RFDS of possible need for assistance (if multiple casualties)
  - Notify Contractor Team Leader, if involves contractor team members
  - Report to Government Authorities
    - Department of Minerals & Energy
    - Dept of Environmental Protection (if environmental impact results)
  - Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”
  - Initiate appropriate investigation (may need to maintain security of area until completed)

**External Help:** Mutual Aid Providers  
WA Fire Brigade (Specialist Fire Fighting Section)  
Chemical/ Reagent Suppliers (for specific fire fighting advice)

*Refer to "Emergency Telephone Directory" for Contact Numbers*

### 8.3.16 Malicious Damage

Malicious damage can involve any intentional act by a Team member, contractor or member of the public that is intended to disrupt operations or damage equipment or property.

Examples are setting fires (arson), sabotaging equipment, opening valves to waste reagents or other chemicals, initiating explosives etc. Malicious intent is often difficult to identify as the deliberate act may be well concealed. Any suspicion that acts may be deliberate should be notified to the police for formal investigation.

- Main Threats:**
- **Injury to team members**
  - **Loss of company assets (if fire/ explosion occurs)**
  - **Disruption to production**

**Alarms:** None

- Response:**
- **Call-out Emergency Services**
  - **Consider Emergency Response Team call-out, if required**
  - **Initiate Emergency Duty Card system (if major incident occurs)**
  - **If fire or explosion, evacuate affected area/s**
  - **Initiate appropriate emergency response (first-aid/ medical/ fire/ Hazchem response/ assisted evacuation etc)**
  - **Isolate any energy sources or hazardous substances (e.g. power, gas, diesel, reagents etc)**
  - **Secure area using Emergency Services or Emergency Response Team**
  - **Notify General Manager or senior site Team Leader of possible malicious intent**
  - **GM to initiate Crisis Management, if required**
  - **Notify Darwin Police**
  - **Await Police instructions/ arrival to investigate**
  - **Assist Police with investigation**
  - **Report any injuries to Department of Minerals & Energy**
  - **Maintain security of affected area/s until Police give "All Clear"**

**External Help:** Mutual Aid Providers

*Refer to "Emergency Telephone Directory" for Contact Numbers*

### 8.3.17 Inrush Into Open Pit

An inrush of water, mud or tailings into an open pit is only likely to occur following a major flood event or tailings dam wall failure. Establishment of an evacuation process in case of major rainfall may alleviate the need for an emergency response.

If a sudden inrush does occur, evacuation from the pit or moving to a safe place within the pit itself is the best course of action. This will depend on the location of the inrush and volume of material involved. Egress from the pit can then be made once the inrush has stabilized. The possibility of having to evacuate injured persons quickly over the pit wall (if no vehicle access) may require Emergency Response Team call-out.

- Main Threats:**
- **Injury to team members**
  - **Adverse impact on Company image**
  - **Disruption to production**

**Alarms:** None

- Response:**
- **Call-out Emergency Services**
  - **Consider Emergency Response Team call-out, if required**
  - **Initiate Emergency Duty Card system (if major incident occurs)**
  - **Initiate appropriate emergency response (first-aid/ medical/ search/ pit evacuation/ rope rescue, etc)**
  - **Secure area using Emergency Services or Emergency Response Team**
  - **Notify General Manager and Mining Team Leader**
  - **GM to initiate Crisis Management, if required**
  - **Notify Darwin Regional Hospital (local doctor) if injuries occur**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
  - **Notify Darwin Police (if potential fatality)**
  - **Advise Mutual Aid partners, if require assistance (e.g. additional pumps, etc)**
  - **Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Report to Dept of Minerals & Energy**
  - **Maintain security of affected area/s until Incident Controller and DMPR give "All Clear"**
  - **Initiate appropriate investigation (may need to maintain security of area until completed)**

**External Help:** Mutual Aid Providers

Equipment Hire Companies (pumps to de-water pit)  
Open Pit Mining or Ore Haulage Contractor (provision of dozer, etc to help cut access track)

*Refer to "Emergency Telephone Directory" for Contact Numbers*

### 8.3.18 Open Pit Wall/ Ramp Failure

Open Pit wall or access ramp failures are often preceded by cracking and ground movements, which may be visible. Regular monitoring of pit walls, crests and berms may help identify any potential failures.

If a sudden failure occurs, evacuation to a safe place within the pit itself is usually the best course of action. Egress from the pit can then be made once an access way is re-cut. The possibility of having to evacuate injured persons quickly over the pit wall (if no vehicle access) may require Emergency Response Team call-out.

- Main Threats:**
- **Injury to team members**
  - **Adverse impact on Company image**
  - **Disruption to production**

**Alarms:** None

- Response:**
- **Call-out Emergency Services**
  - **Consider Emergency Response Team call-out, if required**
  - **Initiate Emergency Duty Card system (if major incident occurs)**
  - **Initiate appropriate emergency response (first-aid/ medical/ search /pit evacuation/ rope rescue etc)**
  - **Secure area using Emergency Services or Emergency Response Team**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Mining Team Leader and Geotechnical Team Leader**
  - **Notify Darwin Regional Hospital (local doctor) if injuries occur**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade, if require assistance**
  - **Notify Darwin Police (if potential fatality)**
  - **Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment etc)**
  - **Advise Darwin Hospital and RFDS of possible need for assistance (if several casualties)**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Report to Department of Minerals & Energy**

- **Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**

**External Help:**

Mutual Aid Providers  
Royal Flying Doctor Service (Medical Evacuation)  
Open Pit Mining or Ore Haulage Contractor (provision of dozer, etc to help cut access track)  
Geotechnical Expert (independent advice/ assist with recovery plan)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

## 8.3.19 Bomb Threat

Bomb threats are usually made to administration staff by telephone and must be taken seriously. The key aspect here is to remain calm and try to record as much detail as possible about the threat itself.

- Main Threats:**
- **Potential for injury to team members**
  - **Impact on person receiving the call/ threat**
  - **Disruption to production**

**Alarms:** Area Evacuation Alarms

- Response:**
- **Person receiving call to remain calm and record information regarding the threat using the “Bomb Threat Check-list”**
  - **Call-out Emergency Services**
  - **Initiate Emergency Duty Card system (if area evacuation required)**
  - **Initiate area evacuation, if required (but keep people calm)**
  - **Notify General Manager or senior site Team Leader**
  - **Notify Darwin Police**
  - **Initiate appropriate emergency response (first-aid/ medical/ search / assisted evacuation, etc)**
  - **Secure affected area at safe distance using Emergency Services Team members**
  - **GM to initiate Crisis Management, if required**
  - **Await Police arrival/ instructions**
  - **Notify Darwin Regional Hospital (local doctor) if injuries occur**
  - **Advise Darwin St. Johns Ambulance and Fire Brigade that potential for assistance exists**
  - **If bomb detonates, treat as “Explosion”**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Report to Department of Minerals & Energy**
  - **Arrange counseling for affected persons, including person who received Bomb Threat**
  - **Maintain security of affected area/s until Incident Controller and Police give “All Clear”**
  - **Assist Police with investigation**

**External Help:** Police Bomb Squad



## 8.4 ON-SITE UNDERGROUND INCIDENTS

### 8.4.1 *Rock-Fall/ Rock-Burst or Ground Collapse*

An underground rock-fall or major ground collapse is likely to result in significant injury, equipment damage and disruption to mine production.

The initial response should be to get all team members to a safe place (e.g. FABs) and conduct a formal head count. Safe evacuation to surface should then be conducted.

- Main Threats:**
- Potential for injury to team members
  - Impact on Company image (if serious injury)
  - Disruption to production

**Alarms:** Emergency Underground Radio Call

- Response:**
- Call-out Emergency Services
  - Call-out Emergency Response Team
  - Initiate Emergency Duty Card system (if persons injured/ trapped or major collapse)
  - Initiate evacuation to FABs/ Refuge Chambers, if required
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Initiate appropriate emergency response (first-aid/ medical/ account for all team members/ search/ rescue/ entrapment, etc)
  - Notify Mining Team Leader and Underground Team Leader
  - Notify Geotechnical Team Leader
  - Assess situation/ damage & develop Recovery Plan
  - Isolate any hazardous energy sources (e.g. power), if required
  - Notify Darwin Police (if potential fatality)
  - Secure mine area using Emergency Services Team members, if required
  - Notify Darwin Regional Hospital (local doctor) if injuries occur
  - Advise Darwin St. Johns Ambulance if require assistance
  - Notify Contractor Team Leader, if involves contractor team members
  - Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment, etc)
  - Report to Department of Minerals & Energy
  - If persons trapped, consider initiating "Prolonged

**Event” Procedure (refer “Toms Gully procedures”)**

- **Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**

**External Help:**

Mutual Aid Providers  
 Underground Mining Contractor (provision of equipment to assist rescue)  
 Geotechnical Expert (independent advice/ assist with recovery plan)  
 Southern Mines Rescue, NSW (entrapment advice)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

**8.4.2 Underground Mobile Equipment/ Light Vehicle Accident**

Accidents involving mobile equipment (e.g. trucks, bidders, ITs, jumbos) or light vehicles underground may result in serious injury or pose a fire risk.

The presence of leaking fuel and possibility of having to cut persons out using hydraulic cutting equipment may require Emergency Response Team call-out.

**Main Threats:**

- **Potential for injury to team members**
- **Impact on Company image (if serious injury results)**

**Alarms:**

None

**Response:**

- **Call-out Emergency Services**
- **Initiate Emergency Duty Card system, if potential for fire or multiple injuries**
- **Consider Emergency Response Team call-out, if require rescue response**
- **Consider evacuation to FABs/ Refuge Chambers if potential for major equipment fire**
- **Notify General Manager**
- **GM to initiate Crisis Management, if required**
- **Notify Mining Team Leader and Underground Team Leader**
- **Initiate appropriate emergency response (first-aid/ medical/ fire/ vehicle extrication/ evacuate if potential fire risk, etc)**
- **Isolate any energy sources or hazardous substances (e.g. power if hit power cables, diesel leaks, explosives, compressed air, etc)**
- **Notify Darwin Police (if potential fatality)**
- **Secure area (stop traffic, etc) using Emergency Response Team or site team members**

- If rubber-tyred equipment strikes power cables, park up in secured/ isolated area (in return airway) for 24 hours (refer “Tyre Fires/ Explosion”)
- Notify Darwin Regional Hospital (local doctor) if injuries occur
- Advise Darwin St. Johns Ambulance if require assistance
- Notify Contractor Team Leader, if involves contractor team members
- Report to Department of Minerals & Energy
- Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”
- Arrange clean-up using bogger, truck etc
- Initiate appropriate investigation (may need to maintain security of area until completed)

**External Help:** Mutual Aid Providers  
 Royal Flying Doctor Service (Medical Evacuation)  
 Darwin Fire Brigade (for hydraulic cutting equipment)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

### 8.4.3 Major Underground Fire

A major underground fire is likely to result due to a small equipment or light vehicle fire getting out of control. The impacts of a fire on the mine will depend on the location of the fire, the mine ventilation and the quantity of fuel available. Fires involving heavy rubber-tyred equipment located in fresh air intakes are likely to have a major impact and affect the ability to safely evacuate the mine.

The initial response should be to get all team members to a safe place (e.g. FABs) and then evacuate the mine, once the fire is under control. Fighting the fire will require an Emergency Response Team call-out.

- Main Threats:**
- Potential for injury to team members
  - Impact on Company image (if serious injury results)

**Alarms:** Emergency Underground Radio Call  
 Stench Gas

- Response:**
- Call-out Emergency Services
  - Call-out Emergency Response Team (full U.G. BA response)
  - Initiate Emergency Duty Card system
  - Initiate evacuation to FABs/ Refuge Chambers by activating Stench Gas/ emergency radio call
  - Notify General Manager

- GM to initiate Crisis Management, if required
- Notify Mining Team Leader and Underground Team Leader
- Notify Underground Ventilation Engineer/ Officer
- Assess situation/ damage & develop Response Plan
- Initiate appropriate emergency response (first-aid/ medical/ contact FABs/ account for all team members/, evacuate mine/ fight fire using BG-4s etc)
- Isolate any hazardous energy sources (e.g. power), if required
- Notify Darwin Police (if potential fatality)
- Secure mine area using Emergency Services Team members, if required
- Notify Darwin Regional Hospital (local doctor) if injuries occur
- Advise Darwin St. Johns Ambulance if require assistance
- Notify Contractor Team Leader, if involves contractor team members

- If persons trapped, consider initiating “Prolonged Event” Procedure (*refer “Toms Gully procedures”*)
- Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment, back-up teams etc)
- Report to Department of Minerals & Energy
- Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”
- Initiate appropriate investigation (may need to maintain security of area until completed)

**External Help:** Mutual Aid Providers  
Ventilation expert (advice on ventilation aspects)  
Underground Fire fighting expert (advice on how to fight fire)  
Southern Mines Rescue, NSW (entrapment advice)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

#### 8.4.4 Significant Underground Fuming

A major fuming could be the result of re-entering areas after blasting which still contain significant amounts of blast fumes, from the release of noxious gases such as carbon monoxide, carbon dioxide or methane or from a ventilation system failure.

The presence of toxic fumes or lack of breathable air will require Emergency Response Team call-out utilizing Breathing Apparatus and Gas Detection equipment. A major fuming may require total evacuation of the mine until sustainable, breathable air can be established.

- Main Threats:**
- **Potential for injury to team members**
  - **Impact on Company image (if serious injury results)**

**Alarms:** Emergency Underground Radio Call  
Stench Gas

- Response:**
- **Call-out Emergency Services**
  - **Call-out Emergency Response Team (full U.G. BA response & gas detectors)**
  - **Initiate Emergency Duty Card system**
  - **Consider evacuation of other team members to safe locations (i.e. FABs/ Refuge Chambers) by activating Stench Gas/ emergency radio call**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Mining Team Leader and Underground Team Leader**
  - **Notify Underground Ventilation Engineer/ Officer**
  - **Assess situation/ damage & develop Response Plan**
  - **Initiate appropriate emergency response (re-entry with BA/ first- aid/ medical/ fire/ search & rescue/ evacuate mine if major risk, etc)**
  - **Notify Darwin Police (if potential fatality)**
  - **Secure mine area using Emergency Services Team members, if required**
  - **Notify Darwin Regional Hospital (local doctor) if injuries occur**
  - **Advise Darwin St. Johns Ambulance if require assistance**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment etc)**
  - **Report to Department of Minerals & Energy**
  - **Maintain security of affected area/s until Incident Controller and DMPR give "All Clear"**

- **Initiate appropriate investigation (may need to maintain security of area until completed)**

**External Help:** Mutual Aid Providers  
Ventilation expert (advice on ventilation aspects)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

#### 8.4.5 Major Underground Explosion

An explosion underground could result from a fire in underground explosives Magazine, an ignition of gas or dust, or the initiation of explosives following a vehicle accident. A major air-blast could result from a major ground collapse or inrush. Such an explosion or air-blast has the potential to affect mine ventilation and normal access via declines or emergency escape ways.

The most likely source of a Magazine fire is from equipment accessing magazines or other introduced ignition sources (e.g. smoking). Magazines must be located and constructed so that any such fire or explosion has minimal impact on the mine operations.

- Main Threats:**
- **Team members injured as a result of explosion**
  - **Mine closure/ impact on production**
  - **Damage to mine infrastructure (decline access, escape ways etc)**
  - **Impact on Company image (if serious injury results)**

**Alarms:** Emergency Underground Radio Call  
Stench Gas

- Response:**
- **Call-out Emergency Services**
  - **Initiate Emergency Duty Card system**
  - **Initiate evacuation to FABs/ Refuge Chambers by activating Stench Gas/ emergency radio call**
  - **Call-out Emergency Response Team (full U.G. BA response & gas detectors)**
  - **Consider evacuation of other team members to safe locations (i.e. FABs/ Refuge Chambers) by activating Stench Gas/ emergency radio call**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Mining Team Leader and Underground Team Leader**
  - **Assess likely impact of explosion (based on how many persons U.G. & known locations, known size of explosion, likely location, likely impact on escape ways/ mine access etc)**
  - **Assess situation/ damage & develop Response Plan**

- **Initiate appropriate emergency response (re-entry with BA/ first-aid/ medical/ fire/ search & rescue/ evacuate mine, etc)**
- **Notify Darwin Police (if potential fatality)**
- **Report to Department of Minerals & Energy**
- **Secure mine area at using Emergency Services Team members, if required**
- **Maintain *exclusion zone* of at least 500 m from all mine openings (portal, shafts, vent raises etc)**
- **If Magazine explosion:**
  - **Initiate Magazine fire suppression system, where available**
  - **Evacuate team members working above Magazine & on surface**

**Refer to Magazine Manifest/ MSDS for relevant information**  
(assume maximum quantity of explosives present until sure of exact amount)
  - **Contact Explosives Supplier for advice on how to proceed**
- **Notify Darwin Regional Hospital (local doctor) if injuries occur**
- **Advise Darwin St. Johns Ambulance if require assistance**
- **Notify Contractor Team Leader, if involves contractor team members**
- **Evacuate remaining underground team members, if safe**
- **If persons trapped, consider initiating “Prolonged Event” Procedure (refer “Emergency Management Guidelines”)**
- **Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment, back-up teams, etc)**
- **Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”**
- **Initiate appropriate investigation (may need to maintain security of area until completed)**

**External Help:** Explosive Suppliers  
Mutual Aid Providers  
Southern Mines Rescue, NSW (entrapment advice)

*Refer to “Emergency Telephone Directory” for Contact Numbers*

#### 8.4.6 Trapped Person/s

A trapped person/s incident may be the result of a rock-fall or explosion and will require Emergency Response Team call-out. The potential presence of toxic fumes or lack of breathable air may require the use of Breathing Apparatus.

- Main Threats:**
- **Potential for injury to team members**
  - **Impact on Company image (if serious injury/ prolonged event results)**

**Alarms:** Emergency Underground Radio Call  
Stench Gas

- Response:**
- **Call-out Emergency Services**
  - **Call-out Emergency Response Team**
  - **Initiate Emergency Duty Card system, if required**
  - **Consider evacuation of other team members to safe locations (i.e. FABs/ Refuge Chambers) by activating Stench Gas/ emergency radio call**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Mining Team Leader and Underground Team Leader**
  - **Assess situation/ damage & develop Response/ Recovery Plan**
  - **Initiate appropriate emergency response (re-entry with BA/ first- aid/ medical/ fire/ search & rescue/ evacuate mine if major risk, etc)**
  - **If likely to be prolonged rescue, consider initiating “Prolonged Event” Procedure (refer “Emergency Management Guidelines”)**
  - **Notify Darwin Police (if potential fatality)**
  - **Secure mine area using Emergency Services Team members, if required**
  - **Notify Darwin Regional Hospital (local doctor) if injuries occur**
  - **Advise Darwin St. Johns Ambulance if require assistance**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Report to Department of Minerals & Energy**
  - **Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment or back-up teams etc)**
  - **Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”**
  - **Initiate appropriate investigation (may need to maintain security of area until completed)**



**External Help:** Mutual Aid Providers  
Underground Mining Contractor (provision of equipment to assist rescue)  
Geotechnical Expert (independent advice/ assist with recovery plan)  
Southern Mines Rescue, NSW (entrapment advice)

*Refer to "Emergency Telephone Directory" for Contact Numbers*

#### 8.4.7 Fall Down Open Hole

A fall into an open hole or open stope could involve equipment (e.g. drill rigs, trucks, light vehicles) or individual persons. The possibility of having to extract injured persons will require Emergency Response Team call-out. Extraction from within open stopes will require careful consideration to minimize risks to emergency team members.

- Main Threats:**
- Potential for injury to team members
  - Impact on Company image (if serious injury/ prolonged event results)

**Alarms:** None

- Response:**
- Call-out Emergency Services
  - Call-out Emergency Response Team
  - Initiate Emergency Duty Card system, if required
  - Notify General Manager
  - GM to initiate Crisis Management, if required
  - Notify Mining Team Leader and Underground Team Leader
  - Notify Contractor Team Leader, if involves contractor team members
  - Assess situation/ damage & develop Response/ Recovery Plan
  - Initiate appropriate emergency response (first-aid/ medical/ rope rescue/ call for back-up equipment/ additional lighting, etc)
  - Consider evacuating team members to FABs/ Crib Rooms/ Refuge Chambers to keep decline/ access-ways clear for emergency vehicles
  - If likely to be prolonged rescue, consider initiating “Prolonged Event” Procedure (refer “*Toms Gully procedures*”)
  - Notify Darwin Police (if potential fatality)
  - Secure mine area using Emergency Services Team members, if required
  - Notify Darwin Regional Hospital (local doctor) if injuries occur
  - Advise Darwin St. Johns Ambulance if require assistance
  - Report to Department of Minerals & Energy
  - Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment etc)
  - Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”
  - Initiate appropriate investigation (may need to maintain security of area until completed)

#### 8.4.8 Underground Mine Flooding/ Inrush

Inrushes of water, mud or fill material into an underground mine is likely to have a significant impact on the safety of persons in the mine. Rapid evacuation of the mine and accounting for all persons must be the focus of initial response.

- Main Threats:**
- **Potential for injury to team members**
  - **Disruption to production**
  - **Impact on Company image (if serious injury results)**

**Alarms:** Underground Radio emergency call

- Response:**
- **Call-out Emergency Services**
  - **Initiate Emergency Duty Card system**
  - **Evacuate mine by initiating emergency evacuation radio call (all persons to surface)**
  - **Call-out Emergency Response Team, if required**
  - **Notify General Manager**
  - **GM to initiate Crisis Management, if required**
  - **Notify Mining Team Leader and Underground Team Leader**
  - **Notify Geotechnical Team Leader**
  - **Notify Contractor Team Leader, if involves contractor team members**
  - **Assess situation/ damage & develop Response/ Recovery Plan**
  - **Initiate appropriate emergency response (first-aid/ medical/ search & rescue/ call for back-up equipment, pumps, etc)**
  - **Check surface for source of inrush/ attempt to stabilize or monitor**
  - **Notify Darwin Police (if potential fatality)**
  - **Secure mine area using Emergency Services Team members**
  - **Notify Darwin Regional Hospital (local doctor) if injuries occur**
  - **Advise Darwin St. Johns Ambulance if require assistance**
  - **Report to Department of Minerals & Energy**
  - **If likely to be prolonged rescue, consider initiating “Prolonged Event” Procedure (refer “Toms Gully procedures”)**
  - **Advise Mutual Aid partners, if require assistance (e.g. additional rescue equipment or back-up teams, etc)**
  - **Maintain security of affected area/s until Incident Controller and DMPR give “All Clear”**
  - **Initiate appropriate investigation (may need to**

**maintain security of area until completed)**

**External Help:**

Mutual Aid Providers  
Equipment Hire Companies (pumps to de-water mine)  
Underground Mining Contractor (equipment to assist recovery)  
Police Divers, Perth