Rifle Creek Dam
EMERGENCY ACTION PLAN

Mount Isa Mines
August 2019

Approved by the delegate of the Chief Executive, Department of Natural Resources, Mines and Energy until 1 August 2021
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# Rifle Creek Dam EAP Review Sheet

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<tr>
<td>MIM Water Distribution Superintendent (Reviewer)</td>
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<td></td>
<td>14/6/19</td>
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<tr>
<td>Owner MIM Central Engineering Manager</td>
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<td>Mount Isa City Council Chief Executive Officer Director Engineering Services</td>
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<td></td>
<td>Central Engineering Manager</td>
<td>Mount Isa</td>
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<td>2</td>
<td>Water Distribution Superintendent</td>
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<td>3</td>
<td>Rifle Creek Dam Caretaker</td>
<td>Rifle Creek Dam</td>
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<td>4/5</td>
<td>GMIM Representatives on LDMG</td>
<td>Mount Isa</td>
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<td><strong>Director Dam Safety</strong></td>
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<td></td>
<td>Water Planning and Regulation (DNRME)</td>
<td>Brisbane</td>
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### Document Control Details

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| 1               | MOMM - Change of email address  
DNR&M - Change of contact name                                                        | 12-Sept-02     | 16/12/02                |
| 2               | DDC - New controlled copy  
DNR&M - Change of contact name  
MICC - New controlled copy                                                          | 03-Dec-02      | 16/12/02                |
| 3               | DNRM&E - Change of contact name  
- Change business name / initials  
ES - Change of contact name  
Maunsell - Change of contact name  
MICC - Change of contact name  
SES - Change of phone numbers  
SSM - Change of contact name  
SSM - Change of title  
WS - Change of contact name                                            | 21-Sept-04     | 30/09/04                |
| 4               | Notification List updated                                                             | 30-Jun-07      | 27/07/07                |
| 5               | Notification List updated                                                             | 31-Jul-08      | 19/01/09                |
| 6               | Department name change to Utilities  
UM - Change of contact name  
Incorporate recommendations from 2009 Comprehensive Inspection  
DEWS - Change of Business Name                                             | 30-May-09      | 29/05/09                |
| 7               | Maunsell - Contact removed from copy list  
ES - Contact removed from copy list  
DNRM - Contact removed from copy list                                        | 20-May-10      | 21/05/10                |
<p>| 8               | GMIM Utilities Manager - Change of contact name and details                           | 09-May-11      | 22/05/11                |
| 9               | Mica Creek Power Station - Change of owners and manager                               | 14-May-12      | 22/05/12                |
| 10              | Updated EAP &amp; QLD flood commission of inquiry recommendations from review by dated 2012 | 14-May-13      | 15/05/13                |</p>
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<td>GMIM Water Distribution Superintendent</td>
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1 Procedural Flow Chart and Notification List

1.1 Procedural Flow Chart

Legend

4. X.X – Procedure as detailed in Section 4
20kRes – Key contacts on properties within 20km downstream of the dam, including Mica Creek Power Station
CEM – Glencore Mount Isa Mines Central Engineering Manager
DNRME – Director of Dam Safety, DNRME
EER – Emergency Event Report
LDMG – Chairman of the Local Disaster Management

Water level 0.9m above spillway and rising?

Yes

CEM to notify
- LDMG
- GMIMSC
- DNRME
- Notification App. H

4.3.2

No

Risk of structural failure?

Yes

CEM to notify
- LDMG
- GMIMSC
- DNRME
- Notification App. H

4.4.2

No

Is dam spilling?

Yes

CEM to notify
- LDMG
- GMIMSC
- DNRME
- Notification App. H

4.3.3

No

Water level 1.5m above spillway and rising?

Yes

CEM to notify
- LDMG
- GMIMSC
- DNRME
- Notification App. H

4.6.1

No

Risk of contamination?

Yes

CEM to notify
- LDMG
- GMIMSC
- DNRME
- Notification App. H

4.4.3

No

All issues managed?

Yes

STAND DOWN

4.5.2

No

STAND UP

CEM to notify
- Emergency Services
- LDMG
- GMIMSC
- 20kRes
- DNRME
- Notification App. H

4.3.3

LDMG to notify other parties and coordinate Emergency Response as appropriate

4.3.3

4.4.3

4.5.1

4.6.2

Legend

ALERT – Event receding?

Yes

CEM to notify
- LDMG
- GMIMSC
- DNRME
- Notification App. H

4.3.1

No

CEM to notify all previously contacted parties, issue EER to DNRME, and engage follow up as appropriate

4.3.4

4.4.4

4.5.2

4.6.3

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# 2 Basic Details of Dam

## 2.1 General Dam Information

| **Location** | Rifle Creek, 28km SSE of Mt Isa  
Latitude 20°57'20"S  
Longitude 139°35'20"E |
| **Construction Type** | Mass concrete gravity/arch dam |
| **Construction Date** | 1929 (upgraded 1950, 2015) |
| **Owner** | Mount Isa Mines |
| **Dam Length** | 125m |
| **Spillway / gates** | Central slot spillway, 59m x 1.25m, no gates |
| **Height above stream bed** | 18m |
| **Storage Capacity** | 9,500 ML |
| **Full Supply Level (FSL)** | 3503.40m (GMIM datum) |
| **Dam Crest Level** | 3504.65m (GMIM datum) |
| **Catchment Area** | 88km\(^2\) |
| **Surface area at FSL** | 1.5km\(^2\) |
| **Supply** | One of two cooling water supplies to Mica Creek Power Station and Diamantina Power Station (second point of supply available from Leichardt River Dam). Also stock watering supply to downstream properties. |
| **Spillway capacity** | 1:30 AEP flood event  
3504.65m (GMIM datum) upstream water level  
140 m\(^3\)/s discharge flowrate |
| **PMF design event** | 1:10,000,000 AEP flood event  
3508.86m (GMIM datum) upstream water level  
2905 m\(^3\)/s discharge flowrate |
| **Outlet description** | Intake tower on the right abutment, with 2-12" cast iron outlet pipes, valve at base of wall.  
18" scour pipe, not in use and assumed un-serviceable. |
2.2 Population at risk

Rifle Creek Dam is assessed to be rated as a ‘High A’ Hazard Category dam by Queensland dam guidelines (Ref: Guidelines for Failure Impact Assessment of Water Dams, Guidelines for Failure Impact Assessment of Water Dams), based on an incremental Population at Risk (PAR) of 698 with ‘Medium’ severity of damage and loss. The Acceptable Flood Capacity (AFC) fall-back alternative for Rifle Creek Dam is the Probable Maximum Precipitation Design Flood (PMPDF) which has an Annual Exceedance Probability (AEP) of 1:10,000,000.

Whilst Rifle Creek Dam is assessed as a ‘High A’ Hazard Category dam due to the PAR and severity of damage and loss by Queensland dam guidelines, it is assessed to have a consequence category of “Significant” from an analysis of the PAR figures in terms of incremental Potential Loss of Life (PLL) for the worst case dam failure scenario by ANCOLD guidelines (Ref: ANCOLD 2012 – Guidelines on the Consequence Categories of Dams).

3 Purpose Scope Responsibilities

3.1 Purpose

The purpose of an Emergency Action Plan is to pre-plan the coordination of necessary actions by Glencore Mount Isa Mines Limited (GMIM) and to provide timely notification to the Department of Natural Resources, Mines and Energy, Police, Local Disaster Management Groups and affected persons in the event that a condition at Rifle Creek Dam could develop into an emergency.

Having and maintaining an approved Emergency Action Plan for Referable Dams is a legislative requirement under the Water Supply (Safety and Reliability) Act 2008. Specific recommendations for the plan are provided in “Emergency Action Planning for Referable Dams” Department of Natural Resources, Mines and Energy, June 2013.

3.2 Scope

This document applies to Rifle Creek Dam, Mount Isa, and

- identifies emergency conditions which could endanger the integrity of the dam and which require immediate action
- prescribes procedures which are to be followed in the event of an emergency condition developing

3.3 Responsibilities

3.3.1 General

Glencore Mount Isa Mines is the owner and operator of the Rifle Creek Dam. The day to day management of this facility is the responsibility of the Central Engineering Department.

As the dam has no controlled discharge outlets which would be of significance in an emergency event, the primary form of response to emergencies is to provide appropriate and timely notification to people at risk. The Central Engineering Manager shall be responsible for activation and coordination of the Emergency Action Plan, including assessing the risk in accordance with this plan, providing notifications to affected parties appropriate to the level of impact.
The Central Engineering Manager shall keep a record of the distribution and location of the Emergency Action Plan. The Manager shall ensure that all copies are current and that duplicate (uncontrolled) copies are not used in the event of an emergency. Records shall be kept of the locations and status of each copy.

The manual shall be reviewed annually by Glencore Mount Isa Mines. Revisions shall be approved by the Central Engineering Manager and shall include the Document Control Details and the Controlled Copy List. A summary listing of all revisions shall be filed in the revision sheet at the front of the manuals.

Controlled copies shall have a watermark stating ‘Controlled Copy’.

3.3.2 Rifle Creek Dam Caretaker, GMIM
- Advise Central Engineering Manager, GMIM, of an intended absence from the dam
- Follow EAP in time of an emergency
- Monitor and record emergency situation

3.3.3 Central Engineering Manager, GMIM
- Maintain a current notification list
- Ensure Dam Caretaker and the Water Distribution Superintendent is conversant with the EAP
- Review EAP in consultation with the Water Distribution Superintendent at 12 monthly intervals (maximum)
- If during a potential emergency condition the Central Engineering Manager has not been contacted by the Dam Caretaker, the Central Engineering Manager shall
  - attempt to contact the Dam Caretaker
  - enact the EAP if the Dam Caretaker cannot be contacted
- Notify the Director of Dam Safety (DNRME) within 48 hours of activation of EAP
- Monitor emergency condition and evaluate situation on best available information
- Monitor weather conditions as appropriate whilst the EAP is activated
- Direct action of Glencore Mount Isa Mines personnel during an emergency event to protect property and life to the maximum extent considered possible under the prevailing conditions and with the resources available
- Provide internal advice and status reports during an emergency event by phone in the timeframe as mentioned in Section 4 Emergency Events and Actions or Appendix H page 82 to:
  - Key contacts on properties within 20km downstream of the dam
  - Mica Creek Power Station and Diamantina Power Station
  - GMIM Water Distribution Superintendent (WD)
  - Mount Isa Mines Security Control (GMIMSC)
  - Local Disaster Management Group
  - Director of Dam Safety (DNRME)
- Once activation level returns to Stand Down, prepare an Emergency Event Report and forward within 30 business days after the end of the emergency event. The Emergency Event Report must contain:
  - a description of the event
  - instrumentation readings (where appropriate)
- description of any observed damage
- photographs
- details of communication which took place during the emergency
- comment on the adequacy of the EAP
- any recommendations or suggested changes to the EAP

3.3.4 Water Distribution Superintendent, GMIM

- If during a potential emergency condition the Water Distribution Superintendent has not been contacted by the Central Engineering Manager, the Water Distribution Superintendent shall:
  - attempt to contact the Central Engineering Manager
  - enact the EAP if the Central Engineering Manager cannot be contacted

- On delegation from Central Engineering Manager at the time of an emergency event, act for and on behalf of the Central Engineering Manager during the event, including all roles as listed above.

3.3.5 Local Disaster Management Group

The Chairman of the Local Disaster Management Group shall be responsible for assessing the impact of and managing the response to downstream hazards beyond 20km from the dam site, i.e. Refer to attached plan for info below.
4 Emergency Events and Actions

4.1 General

The following events are defined as conditions that could lead to emergency events:

- Any notable flow over the spillway, on the basis that further rainfall could quickly lead to a significant flow event
- Significant flow over spillway (≥0.9m depth of flow over spillway), on the basis that such discharges may contribute to downstream flooding
- Significant flow over spillway (≥1.5m depth of flow over spillway), on the basis that such discharges are likely to contribute to downstream flooding, and further increase may lead to rapid deterioration of the dam integrity
- Earthquake, explosion, landslide or observed structural damage to dam, which could result in dam failure and/or a sudden discharge contributing to downstream flooding
- New area of seepage, significant increase in seepage, or significant unexplained loss of storage contents, which could indicate a potential loss of structural integrity
- Potential contamination of dam water supply, due to object crashing into the dam or toxic waste being dumped into dam water supply
- Terrorism / Security Threat

The Rifle Creek Dam Caretaker undertakes daily visual reviews of the dam and measures dam level, and is likely to be the first person to identify an issue.

Upon identification of any of the above, an activation level of “Alert” shall be recorded. The person identifying the event shall immediately contact the Central Engineering Manager for direction and to manage the event. The sections below describe what actions should be directly implemented in the event of an emergency.

The CEM or nominated person (Water Distribution Superintendent), shall notify the Director Dam Safety (DNRM) within 48 hours of activation of the EAP.

4.2 Emergency Access and Communications

Normal dry weather access is via Mount Isa – Duchess Road as shown in Appendix A

- During flood events, access to site is only possible by helicopter for the visual inspection of the dam wall. If evacuation of caretaker is necessary, then the pilot will only land in the vicinity at his discretion for safety, as there is no helipad available.
- Normal communications is by telephone to Caretakers house. A satellite phone is kept at the caretaker residence for emergency communication in the event that normal communications systems fail
- The Central Engineering Manager shall be responsible for managing the EAP, including notification of affected parties in accordance with the procedures described below and standard messages and notification updates intervals from Appendix H
- Media releases for an emergency event will be issued from the GMIM Site Response Recovery Team (SRRT) through the North Queensland Copper Division (NQCD) Communications Manager
4.3 Significant flow over spillway

Activation level: **ALERT**

Significant flow over the spillway has the potential to pose a flooding risk to assets and persons downstream of the dam, including the Rifle Creek Caretaker’s residence, three private stations, the Mica Creek Power Station and the Mt Isa Township. As the dam overflow is one of several tributaries feeding into these areas, the responsibility of assessing the downstream flooding hazards is the responsibility of the Local Disaster Management Group (LDMG). This EAP is aimed at providing timely information to affected stakeholders and emergency services so as to assist them in assessing the overall hazards and responding accordingly.

The likely causes of a significant flow over the spillway are related to the annual Wet Season and rainfall in the Rifle Creek catchment area. The catchment area is 88km² and is the only source of re-supply for the dam. Whilst there is a potential that the dam may overflow for weeks at a time during the wet season rainfalls, from previous data the dam rarely overflows due to regular water demand and the small catchment area.

From the 2018 Failure Impact Assessment Report, there is a 1:30 Annual Exceedance Probability of a storm event leading to the dam rising from FSL to DCL (0m to 1.25m above spillway level). The theoretical inundation extent relating to such a storm event is shown by the area in black on the Inundation Charts presented in Appendix B, referencing pages 35, 36, 37, 38, 53, 57 and 61.

The 2018 Failure Impact Assessment Report also identified the theoretical inundation extents associated with the Probable Maximum Flood for a 1:10,000,000 Annual Exceedance Probability storm event, as shown by the area in black on the Inundation Charts presented in Appendix B, referencing pages 39, 40, 41, 42, 52, 56 and 60.

**Important Note:** The above inundation estimates relate to storm events in the dam catchment. The effect of rainfall in other catchments feeding into the watercourse must also be taken into consideration, and is outside the scope of this action plan.

### 4.3.1 Low Flow over Spillway (less than 0.9m depth of flow)

Activation level: **ALERT**

A trigger point of 0.9m above spillway is set as a reference marker that water levels are approaching Dam Crest Level. If flow over the spillway is less than 0.9m then the spillway is well within its design limits, but a significant rainfall event could quickly lead to flooding.

Once the spillway begins overtopping:

**The Rifle Creek Dam Caretaker shall:**

- Visually observe flood levels, record situation, record rainfall and report to the Central Engineering Manager every 24 hours
- Photograph flows at suitable intervals
- Inspect the dam as soon as safe access is possible after the event

**The Central Engineering Manager shall:**

- Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the dam levels
- Monitor weather forecasts (minimum every 24 hours)
- Notify LDMG of spillway levels, with updates every 24 hours
- Notify GMIMSC of spillway levels, with updates every 24 hours
- Updates shall continue until water levels begin to recede
- Sample notification messages are presented in Appendix H

4.3.2 Significant Flow over Spillway (0.9m to 1.5m depth of flow and rising)

Activation level: **LEAN FORWARD**

A trigger point of 0.9m above spillway is set as a reference marker that water levels are approaching Dam Crest Level. If flow over the spillway is more than 0.9m and rising then:

The Rifle Creek Dam Caretaker shall:
- Visually observe flood levels, record situation, record rainfall and report to the Central Engineering Manager every eight hours
- Photograph flows at suitable intervals
- Inspect the dam as soon as safe access is possible after the event

The Central Engineering Manager shall:
- Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the dam levels
- Notify LDMG of spillway levels, with updates every 8 hours.
- Notify key contacts on properties within 20km downstream of the dam, with updates every 8 hours.
- Notify GMIMSC, with updates every 8 hours.
- Notify DNRME that activation level has moved to “Lean Forward”
- Updates shall continue until water levels begin to recede, or dam levels exceed 1.5m over the spillway
- Sample notification messages are presented in Appendix H

4.3.3 Significant Flow over Spillway (greater than 1.5m depth of flow and rising)

Activation level: **STAND UP**

A trigger point of 1.5m above spillway crest level is set as a reference marker that the dam is experiencing a significant event. This level is just under a third of the way to the Probable Maximum Flood level.

Once the dam level reaches 1.5m above the spillway, road access to the caretaker’s residence is expected to be cut, power and phone lines are unlikely to be in service, and further floodwaters may endanger the caretaker’s residence. All communications with the Superintendent should be limited to essential information so as to preserve the availability of the Satellite Phone. The caretaker along with any other residents in the area should relocate to higher ground. It may be necessary to evacuate the caretaker and other residents via helicopter.

If flow over the spillway is more than 1.5m and rising then:
The Rifle Creek Dam Caretaker shall:

- Confirm with the CEM regarding the intent to move into “Stand Up” activation level.
- Relocate to higher ground, such as through driving to the top of the right hand approach road together with any other persons on site.
- If safe, visually monitor dam levels at suitable intervals, including photographic records.
- Maintain regular communication with the CEM to confirm caretaker’s safety
- If conditions are expected to be prolonged more than 24 hours or other safety issues arise, liaise with CEM to arrange for evacuation via helicopter. Location of the default Helicopter Landing Point is shown on Figure A4.

The Central Engineering Manager shall:

- Confirm with the Caretaker regarding the intent to move into “Stand Up” activation level.
- Liaise with the Caretaker to confirm the safety of the Caretaker and any other persons on site. If necessary, arrange for helicopter evacuation of persons on site (through Emergency Services).
- Notify Emergency Services of intent to move into “Stand Up”, and advise in relation to the status of the caretaker and any other persons on site.
- Notify GMIMSC of intent to move into “Stand Up”, and advise in relation to the status of the caretaker and any other persons on site.
- Notify LDMG of spillway levels, and the intent to move into “Stand Up” activation level.
- Notify key contacts on properties within 20km downstream of the dam, including Mica Creek Power Station.
- Notify DNRME of spillway levels, and the intent to move into “Stand Up” activation level.
- Monitor weather forecasts (minimum every 24 hours)
- Maintain communications with GMIMSC, LDMG, and affected residents every 8 hours.
- Sample notification messages are presented in Appendix H

The Chairman of the Local Disaster Management Group shall:

- Identify the impact of floodwaters on residents further than 20km downstream of the dam, and coordinate appropriate response measures.
- Liaise with the CEM

4.3.4 Flow over Spillway Receding

Activation level: **STAND DOWN**

If rainfall at the dam has ceased and flood levels are found to be receding over 3 consecutive hourly readings, then the impacts of flooding may assume to have peaked and the benefit of further warnings to properties is of limited value. In this instance:
The Rifle Creek Dam Caretaker shall:

- Continue to visually observe flood levels, record situation, record rainfall and report to the Central Engineering Manager every 24 hours until the spillway is no longer overtopping
- Photograph flows at suitable intervals
- Inspect the dam as soon as safe access is possible after the event

The Central Engineering Manager shall:

- Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the dam levels
- Notify all previously contacted parties of the intent to move activation level to Stand Down.
- Sample notification messages are presented in Appendix H

Prepare an Emergency Event Report and forward to Director Dam Safety (DNRME) within 30 business days after the end of the emergency event.

4.4 Potential structural damage to dam

A number of events could indicate that the integrity of the dam may be compromised, including:

- Earthquakes, placing excessive stress on the dam structure
- Landslide along the abutment, potentially undermining the arch foundation
- Landslide along the reservoir rim, displacing a volume of water that will lead to a sudden rise in the dam level and potential flooding downstream
- Observation of significant areas of damage on dam face, such as new cracking or cavitation blowouts

The effects of dam failure is dependent on the volume of water stored at the time of failure. From the 2018 Failure Impact Assessment Report, the theoretical inundation extent relating to dam failure at Full Storage Capacity is shown by the area of light blue on Inundation Charts presented in Appendix B, referencing pages 44, 45, 46, 47, 51, 55, 59 and 63.

The theoretical inundation extent relating to dam failure when the dam level is at Probable Maximum Flow is shown by the area in light blue on Inundation Charts presented in Appendix B and is distinguishable from flood levels at PMF without dam break.

4.4.1 Events considered unlikely to pose risk of structural failure

With reference to Aurecon’s “Dam Integrity and Investigation Report” May 2014 and Aurecon’s “Construction Report” dated August 2015, the dam has been reviewed for the following load cases:

- 65% of PMF event, corresponding to a discharge flow of 513m$^3$/s with dam level at 2.33m above spillway.
- Earthquakes with horizontal accelerations up to 3.25m/s$^2$
• A high degree of channel scour downstream of the toe (dam relies on arch action founding in the rock abutments for ultimate strength)

• Silt loading behind the dam up to 5m above the heel

Under such loading, a degree of cracking and/or base sliding may occur before full arch action forms, however the dam integrity is not expected to be compromised.

Accordingly, any event not listed in Sections 4.4.2, 4.4.3, 4.6.1 or 4.6.2 below may be deemed as not posing a risk of dam failure. The event should be followed up with a formal condition assessment inspection to confirm the dam integrity.

4.4.2 Events which may pose risk of structural failure

Activation level: **LEAN FORWARD**

The following items may indicate that the integrity of the dam has been compromised, and requires precautionary measures to be undertaken:

• Any act of terrorism or sabotage that may have affected the structure

• Earthquakes, with magnitude of over 4 on the Richter scale within 500km of the site. This may be approximated as an event which will be clearly felt by persons on site (or in Mount Isa).

• Observation of significant areas of damage to the dam face, such as significant new cracking or cavitation blowouts

• Any landslide along the abutment within 30m of the dam which could potentially undermine the arch foundation, or which affects the shotcrete abutment armouring.

  Note – landslides into the catchment have the potential to displace a large volume of water over the dam wall, and for the purposes of the EAP should be treated as ‘Significant Flow over Spillway’ events as per Section 4.3.

Following identification of one or more of the above items, a potential risk of structural failure shall be noted and the following actions undertaken:

**The Rifle Creek Dam Caretaker shall:**

• As feasible, inspect all accessible areas of the dam to identify the extent of any damage, including new cracking, new seepage, deformation, or spalling of concrete on the dam face or abutments. Damage should be recorded in terms of notes estimating extent of damage as well as photographs.

• Continue to monitor and record the situation at suitable intervals until otherwise notified by the CEM

**The Central Engineering Manager shall:**

• Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the dam

• Notify LDMG of the potential structural risk

• Notify GMIMSC of the potential structural risk

• Notify Director Dam Safety (DNRME) within 48 hours of activating the EAP.

• Sample notification messages are presented in Appendix H

• Engage a detailed engineering assessment as soon as practical.

The need to notify key contacts on downstream properties and frequency of updates will depend on the outcomes of the structural investigation. There is little benefit in advising the contacts of defects until there is reasonable cause to believe that there is a realistic threat of a structural failure. Should the structural assessment identify that there is significant cause to notify downstream contacts then that would be managed under subroutine 4.4.3.
Activation level shall remain at Lean Forward until either a structural engineering review confirms the dam integrity has not been compromised, or 48 hours has passed without further increase in damage.

4.4.3 Potential indicators of imminent structural failure

Activation level: **STAND UP**

The following items may indicate that the integrity of the dam has been compromised, and requires immediate emergency measures to be undertaken:

- Earthquakes, with magnitude over 6 on the Richter scale within 250km of the site. This may be approximated as an event which causes significant damage to most buildings, and is felt as strong shaking by persons on site (or in Mount Isa).
- Observation of major areas of damage on dam face, such as new cracking actively leaking water greater than 1 litre per minute, any relative movement of part of the dam wall greater than 10mm, or cavitation blowouts over 1m² in area.

Following identification of one or more of the above items, an imminent risk of structural failure shall be noted and the following actions undertaken:

**The Rifle Creek Dam Caretaker shall:**

- Move to a safe location and as feasible continue to monitor visible areas of the dam to identify the extent of any damage, including new cracking, new seepage, deformation, or spalling of concrete on the dam face or abutments. Damage should be recorded in terms of notes estimating extent of damage as well as photographs.
- Continue to monitor and record the situation at suitable intervals until otherwise notified by the CEM.

**The Central Engineering Manager shall:**

- Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the dam.
- Notify LDMG of the imminent risk of dam failure, with progressive updates on an hourly basis.
- Notify key contacts on properties within 20km downstream of the dam of the imminent risk of dam failure.
- Notify Mica Creek Power Station and Diamantina Power Station of the dam of the imminent risk of dam failure.
- Notify GMIMSC of the imminent risk of dam failure, with progressive updates on an hourly basis.
- Sample notification messages are presented in Appendix H.
- Notify Director Dam Safety (DNRME) within 48 hours of activating the EAP.
- Engage a detailed engineering assessment as soon as practical.

Once elevated to Stand Up, the event will be managed by either the LDMG or DDMG as appropriate, whom will determine the frequency of ongoing updates.

Activation level shall remain at Stand Up until either a structural engineering review confirms the dam integrity has not been compromised, 48 hours has passed without further increase in damage.
4.4.4 **Structural concerns managed**

Activation level: **STAND DOWN**

Once either 48 hours has elapsed without further increase in the observed structural damage, or an engineering assessment has been undertaken and any prescribed actions to make the dam safe have been undertaken then:

**The Central Engineering Manager shall:**

- Notify all previously contacted parties of the intent to move activation level to Stand Down.
- Sample notification messages are presented in Appendix H.
- Ensure that an appropriate structural engineering assessment has been undertaken to address the observed defects as soon as possible if not already done so, and all recommended follow up actions prescribed by the certifying engineer are closed out.
- Prepare an Emergency Event Report and forward to Director Dam Safety (DNRME) within 30 business days after the end of the emergency event.

4.4.5 **New area of seepage, significant increase in seepage, or significant unexplained loss of storage contents**

As the dam is constructed from mass concrete keyed into bedrock, seepage through the dam or abutments is unlikely to lead to a progressive failure.

New areas of seepage, significant increases in seepage or significant unexplained loss of storage contents should be followed up with dam safety inspection, but does not trigger actions under the EAP.

4.5 **Potential contamination of dam**

Contamination of the dam potentially affects the environment, the users of the water including the downstream properties, Mica Creek Power Station and Diamantina Power Station. Early containment of the contamination and notification of the appropriate emergency services is critical.

Any operations undertaken by GMIM or Contractors which have the potential to contaminate a watercourse must include provision of a suitable spill collection kit and environmental management plan.

4.5.1 **Object crashing into the dam or dam catchment**

Activation level: **STAND UP**

Given the remote location and lack of existing access into the dam catchment, it is considered unlikely that aircraft, machinery, vehicles or materials will be dropped into or damaged within the dam catchment.

However, in the event that an incident occurs which contaminates or has the potential to contaminate the water supply:

**The Rifle Creek Dam Caretaker / person first identifying hazard shall:**

- Contact emergency services as soon as possible
- Identify the hazardous substance if possible
- Contact CEM and GMIMSC
- Take reasonable steps to isolate the spill or contaminant from the storage and prevent further contamination
- If storage is contaminated, shut off the outlet pipe valve at the base of the dam.

**The Central Engineering Manager shall:**
- Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the hazard
- Notify key contacts on properties within 20km downstream of the dam of the contamination and decision to cut of water supply.
- Notify Mica Creek Power Station and Diamantina Power Station of the contamination and decision to cut of water supply.
- Notify LDMG
- Sample notification messages are presented in Appendix H
- Notify Director Dam Safety (DNRME) within 48 hours of activating the EAP.

Once elevated to Stand Up, the event will be managed by either the LDMG or DDMG as appropriate, whom will determine the frequency of ongoing updates. Activation level shall remain at Stand Up until the emergency response team has confirmed that the contamination has been controlled.

### 4.5.2 Contamination concerns managed

**Activation level:** **STAND DOWN**

Once the team responsible for managing the contamination have confirmed that the contamination has been managed:

**The Central Engineering Manager shall:**
- Notify all previously contacted parties of the intent to move activation level to Stand Down.
- Sample notification messages are presented in Appendix H
- Prepare an Emergency Event Report and forward to Director Dam Safety (DNRME) within 30 business days after the end of the emergency event.

### 4.6 Terrorism / Security Threat

The emergency action described in this section relates to a potential dam hazard due to a terrorist threat or activity.

The vulnerability of Rifle Creek Dam to a terrorist attack is low.

The area likely to be affected by this dam hazard is described as:
- if dam failure does not occur then there will not be any area affected
- if dam failure does occur then the maximum area affected is the level shown by the SDF marked areas on the maps in Appendix B

#### 4.6.1 Terrorism or security threat which may pose risk of structural failure

**Activation level:** **LEAN FORWARD**

The following items may indicate that the integrity of the dam has been compromised, and requires precautionary measures to be undertaken:
• Observation of significant areas of damage to the dam face due to terrorism activity or
• Suspicious behaviour noticed at the dam or surrounding area.

Following identification of one or more of the above items, a potential risk of structural failure shall be noted and the following actions undertaken:

**The Rifle Creek Dam Caretaker shall:**

• As feasible, inspect all accessible areas of the dam to identify the extent of any damage, including new cracking, new seepage, deformation, or spalling of concrete on the dam face or abutments. Damage should be recorded in terms of notes estimating extent of damage as well as photographs.
• Continue to monitor and record the situation at suitable intervals until otherwise notified by the CEM

**The Central Engineering Manager shall:**

• Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the dam
• Notify Police or National Security hotline
• Notify LDMG of the potential structural risk
• Notify MIMSC of the potential structural risk
• Notify Director Dam Safety (DNRME) within 48 hours of activating the EAP.
• Sample notification messages are presented in Appendix H
• Engage a detailed engineering assessment as soon as practical.

The need to notify key contacts on downstream properties and frequency of updates will depend on the outcomes of the structural investigation. There is little benefit in advising the contacts of defects until there is reasonable cause to believe that there is a realistic threat of a structural failure. Should the structural assessment identify that there is significant cause to notify downstream contacts then that would be managed under subroutine 4.4.3.

Activation level shall remain at Lean Forward until either a structural engineering review confirms the dam integrity has not been compromised, or 48 hours has passed without further increase in damage.

4.6.2 Potential indicators of imminent structural failure from a terrorism or security threat

The following item may indicate that the integrity of the dam has been compromised, and requires immediate emergency measures to be undertaken:

• Observation of major areas of damage on dam face, such as new cracking actively leaking water greater than 1 litre per minute, any relative movement of part of the dam wall greater than 10mm, or cavitation blowouts over 1m² in area due to an explosion or object crashing into wall.

Following identification of one or more of the above items, an imminent risk of structural failure shall be noted and the following actions undertaken:

**The Rifle Creek Dam Caretaker shall:**

• Move to a safe location and as feasible continue to monitor visible areas of the dam to identify the extent of any damage, including new cracking, new seepage, deformation, or spalling of concrete on the dam face or abutments. Damage should be recorded in terms of notes estimating extent of damage as well as photographs.
• Continue to monitor and record the situation at suitable intervals until otherwise notified by the CEM.
The Central Engineering Manager shall:

- Liaise with the Rifle Creek Dam Caretaker or otherwise monitor the dam.
- Notify Police or National Security hotline
- Notify LDMG of the imminent risk of dam failure, with progressive updates on an hourly basis.
- Notify key contacts on properties within 20km downstream of the dam of the imminent risk of dam failure.
- Notify Mica Creek Power Station and Diamantina Power Station of the dam of the imminent risk of dam failure.
- Notify MIMSC of the imminent risk of dam failure, with progressive updates on an hourly basis.
- Sample notification messages are presented in Appendix H.
- Notify Director Dam Safety (DNRME) within 48 hours of activating the EAP.
- Engage a detailed engineering assessment as soon as practical.

Once elevated to Stand Up, the event will be managed by either the LDMG or DDMG as appropriate, whom will determine the frequency of ongoing updates.

Activation level shall remain at Stand Up until either a structural engineering review confirms the dam integrity has not been compromised, 48 hours has passed without further increase in damage.

4.6.3 Structural concerns managed

Activation level: **STAND DOWN**

Once either 48 hours has elapsed without further increase in the observed structural damage, or an engineering assessment has been undertaken and any prescribed actions to make the dam safe have been undertaken then:

The Central Engineering Manager shall:

- Notify all previously contacted parties of the intent to move activation level to Stand Down.
- Sample notification messages are presented in Appendix H.
- Ensure that an appropriate structural engineering assessment has been undertaken to address the observed defects as soon as possible if not already done so, and all recommended follow up actions prescribed by the certifying engineer are closed out.
- Prepare an Emergency Event Report and forward to Director Dam Safety (DNRME) within 30 business days after the end of the emergency event.
5 Supporting Documents and Reference Material

The following supporting documents form part of the Emergency Action Plan:

- Rifle Creek Dam Failure Impact Assessment (Aurecon, October 2018)
- Rifle Creek Dam Failure Impact Assessment (SMEC, October 2012)
- Queensland Dam Safety Management Guidelines (February 2002)
- ANCOLD Guidelines on Dam Safety Management (August 2003)
- Mines Regulations Act 1964 – 1983
- Metalliferous Mining Regulations 1995
- Mining and Quarrying Safety and Health Act 1999
- Mining and Quarrying Safety and Health Regulations 2001.

5.1 List of abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20kRes</td>
<td>Key contacts on properties within 20km downstream of the dam, including Mica Creek Power Station</td>
</tr>
<tr>
<td>CEM</td>
<td>Mount Isa Mines Central Engineering Manager</td>
</tr>
<tr>
<td>DCF</td>
<td>Dam Crest Flood</td>
</tr>
<tr>
<td>DCL</td>
<td>Dam Crest Level</td>
</tr>
<tr>
<td>DNRME</td>
<td>Director of Dam Safety, DNRME</td>
</tr>
<tr>
<td>EAP</td>
<td>Emergency Action Plan</td>
</tr>
<tr>
<td>EER</td>
<td>Emergency Event Report</td>
</tr>
<tr>
<td>FSL</td>
<td>Full Supply Level</td>
</tr>
<tr>
<td>LDMG</td>
<td>Chairman of the Local Disaster Management Group</td>
</tr>
<tr>
<td>GMIM</td>
<td>Glencore Mount Isa Mines</td>
</tr>
<tr>
<td>GMIMSC</td>
<td>Glencore Mount Isa Mines Security Control</td>
</tr>
<tr>
<td>PAR</td>
<td>Population at Risk</td>
</tr>
<tr>
<td>PMF</td>
<td>Probable Maximum Flood</td>
</tr>
<tr>
<td>SDF</td>
<td>Sunny Day Failure</td>
</tr>
</tbody>
</table>
### 5.2 Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>the Act</strong></td>
<td>Water Supply (Safety and Reliability) Act 2008</td>
</tr>
<tr>
<td><strong>Affected Persons</strong></td>
<td>Any persons which would be significantly and adversely affected as a result of an event, such as expected to lose an essential resource or be subject to an increased safety risk</td>
</tr>
<tr>
<td><strong>Alert</strong></td>
<td>The first stage of emergency response whereby a heightened level of vigilance is maintained due to the possibility of an emergency event occurring. Action is required to ensure the situation is monitored by someone capable of assessing the potential of the threat.</td>
</tr>
<tr>
<td><strong>Controlled document</strong></td>
<td>Having an EAP issued as a ‘controlled document’ means that specified copies of a document are kept up to date in a controlled manner using a system that distributes updated versions/pages of the document as they are issued and retrieves superseded versions/pages of the document as they become redundant. In this way, only the current version of the document is used during any event. A controlled document requires the following metadata to be recorded in the document and securely archived:  - Contents, versions and dates of versions;  - Name and role of the person approving each version and details of any prior consultation undertaken; and  - Names and roles of persons issued with copies.</td>
</tr>
<tr>
<td><strong>Dam Crest Flood (DCF)</strong></td>
<td>A flood event occurring when the dam is initially at Full Supply Level and results in maximum discharge from the dam correlating to the crest of the dam wall.</td>
</tr>
<tr>
<td><strong>Dam Crest Level (DCL)</strong></td>
<td>The level correlating to the top of the dam wall</td>
</tr>
<tr>
<td><strong>Downstream release hazard</strong></td>
<td>The Act defines a downstream release hazard in relation to a dam to be a reasonably foreseeable hazard to the safety of persons or property that could potentially be caused or aggravated by—  (a) a release of water from the dam’s spillway; or  (b) a controlled release of the water from the dam. Example— flooding of downstream properties and transport infrastructure caused by a release of water</td>
</tr>
<tr>
<td><strong>Emergency Event Report (EER)</strong></td>
<td>Report on the performance of the dam and the functioning of the EAP during emergency event which is presented to the chief executive following the end of the event</td>
</tr>
<tr>
<td><strong>Failure Impact Assessment (FIA)</strong></td>
<td>It is a process used under the Act to determine the number of people whose safety could be at risk should the dam fail. This assessment must be certified by a registered professional engineer in accordance with the Act.</td>
</tr>
<tr>
<td><strong>Full Supply Level (FSL)</strong></td>
<td>A situation where the dam storage is at the level of the spillway.</td>
</tr>
<tr>
<td><strong>Lean Forward</strong></td>
<td>The stage of emergency response prior to ‘stand up’ whereby a heightened level of situational awareness of a disaster event (either current or impending) is maintained and a state of operational readiness is developed. Personnel at dam are on standby; ready to activate EAP.</td>
</tr>
<tr>
<td><strong>Local Disaster Management Group (LDMG)</strong></td>
<td>Local Disaster Management Groups are established to support local government disaster management activities. The Local Group is supported by the relevant District Group if and when disaster management activities exceed the capacity of a Local Group. The functions of the Local Group include (but are not limited to):  - develop, regularly review and assess effective disaster management;  - assist local government for its area to prepare a local disaster management plan;  - ensuring the community is aware of ways of mitigating the adverse effects of an event, and preparing for, responding to and recovery from a disaster;  - identify, and coordinate the use of resources that may be used for disaster operations;  - manage disaster operations in the area under policies and procedures decided by the State Group; and  - ensuring disaster management and disaster operations in the area are consistent with the State Group’s SPF for disaster management for the State.</td>
</tr>
<tr>
<td><strong>Population at Risk (PAR)</strong></td>
<td>The number of people calculated under the FIA guidelines, whose safety will be at risk if the dam, or the proposed dam after its construction, fails.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>Referable Dam</td>
<td>A dam, or a proposed dam after its construction will be a referable dam if—&lt;br&gt;(a) a failure impact assessment of the dam, or the proposed dam, is required to be carried out under the Act; and&lt;br&gt;(b) the assessment states the dam has, or the proposed dam after its construction will have, a category 1 or category 2 failure impact rating; and&lt;br&gt;(c) The chief executive has, under section 349 of the Act, accepted the assessment.</td>
</tr>
<tr>
<td>Stand down</td>
<td>The final stage of emergency response when there is no longer a requirement to respond to the event and the threat is no longer present. At ‘stand down’ there is a transition from responding to an event back to normal core business and/or recovery operations.</td>
</tr>
<tr>
<td>Stand up</td>
<td>The operational state following ‘lean forward’ whereby resources are mobilised, personnel are activated and operational activities commenced. Moving into this operational state triggers the requirement for an emergency event report.</td>
</tr>
<tr>
<td>Sunny Day failure / Sunny Day dam break</td>
<td>The failure of a dam without any other general flooding or spillway discharges. Generally taken from the dam being initially at Full Supply Level.</td>
</tr>
</tbody>
</table>
Appendices

Appendix A

Locality Map

Distances and Times
From Duchess Rd. (end of bitumen) to Rifle Creek Dam

By Road = 26.8km
By Air = 22.0km

By Road = Approx. 30mins in dry/normal conditions.

In flood events, the road would be cut in various river and creek crossings.

During flood the dam wall is only accessible by air.

Refer to Appendix B for Detail Maps of Mt Isa

Figure A1. – Google Earth Map of Mount Isa to Rifle Creek Dam via Duchess Rd
Figure A2. – Google Map of Rifle Creek Access Road from city of Mount Isa
Figure A3. – Google Map of Rifle Creek Dam

Figure A4. – Google Earth view of Rifle Creek Dam
Appendix B

Flood Inundation Maps Mount Isa City and Warning times
Rifle Creek Dam
EMERGENCY ACTION PLAN

Figure A6:1 in 40,000 AEP Dam Flood Event
Rifle Creek Dam
EMERGENCY ACTION PLAN

Figure A17: Sunny Day Failure Event
Breach hydrographs for the Sunny Day and Flood Failure Scenarios can be found in Figure 4, Figure 5, Figure 6 and Figure 7.

Figure 4 – Breach Hydrograph – Sunny Day Dam Failure Scenario

Figure 5 – Breach Hydrograph – 1 in 10,000 AEP Flood Failure
Rifle Creek Dam
EMERGENCY ACTION PLAN

Flood Failure - Rifle Creek Dam

Figure 6 - Breach Hydrograph - 1 in 40,000 AEP Flood Failure

Figure 7 - Breach Hydrograph - PMP Design Flood Failure

[aurecon]
Flood Inundation Maps - Residents 20klms and Warning times
<table>
<thead>
<tr>
<th>Date</th>
<th>Project</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>8/10/2018</td>
<td>Rifle Creek Dam Failure Impact Assessment</td>
<td>1D HEC-RAS Assessment - Carbeen Park - Sunny Day Failure Inundation Extents</td>
</tr>
</tbody>
</table>
**Rifle Creek Dam**
**EMERGENCY ACTION PLAN**

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<table>
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<tr>
<th>Date</th>
<th>Project</th>
<th>Title</th>
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<tbody>
<tr>
<td>8/10/2018</td>
<td>Rifle Creek Dam Failure Impact Assessment</td>
<td>1D HEC-RAS Assessment - Rifle Creek Station - PMF</td>
</tr>
</tbody>
</table>

**Direction of Flow**

*No Dam Failure Flood Extents*

*Dam Failure Flood Extents*
Rifle Creek Dam
EMERGENCY ACTION PLAN

Date: 8/10/2018
Project: Rifle Creek Dam Failure Impact Assessment
Title: 1D HEC-RAS Assessment - Rifle Creek Station - 1 in 40,000 AEP Event

Direction of Flow

No Dam Failure Flood Extents
Dam Failure Flood Extents
1 in 40,000 AEP Dam Failure Hydrographs

- Dam
- Rifle Creek jet
- Metatecra
- Carpenter Park
Appendix C

Weather Information (Flood Warning)


**FLOOD WARNING**
Place cursor over AUSTRALIA then click Radar Images

Click on Mount Isa to view Mount Isa Radar Loop
Rainfall and River Conditions

Place cursor over QLD then click Rainfall & River Conditions
Appendix D

Discharge and Storage Curves

Figure 3. Stage Discharge Relationship

Figure 4. Stage Storage Relationship
## Appendix E

### Modified Mercalli Scale

<table>
<thead>
<tr>
<th>No.</th>
<th>Descriptive Term</th>
<th>Description</th>
<th>Acceleration (cm/s²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Imperceptible</td>
<td>Not felt. Marginal and long-period effects of large earthquakes.</td>
<td>&lt;1</td>
</tr>
<tr>
<td>II</td>
<td>Very Slight</td>
<td>Felt by persons at rest, on upper floor, or favourably placed.</td>
<td>1-2</td>
</tr>
<tr>
<td>III</td>
<td>Slight</td>
<td>Felt indoors. Hanging objects swing. Vibration like passing of light trucks. Duration estimated. May not be recognised as an earthquake.</td>
<td>2-5</td>
</tr>
<tr>
<td>IV</td>
<td>Moderate</td>
<td>Hanging objects swing. Vibration like passing of heavy trucks or sensation of a jolt like a heavy ball striking the walls. Standing motor cars rock. Windows, dishes, doors rattle. Glasses clink, crockery clashes. In upper range of IV, wooden walls and frames creak.</td>
<td>5-10</td>
</tr>
<tr>
<td>V</td>
<td>Rather Strong</td>
<td>Felt outdoors; direction estimated. Sleepers waken. Liquids disturbed, some spilled. Small unstable objects displaced or upset. Doors swing, close, open. Shutters, pictures move. Pendulum clocks stop, start, change rate.</td>
<td>10-20</td>
</tr>
<tr>
<td>VIII</td>
<td>Destructive</td>
<td>Steering of motor cars affected. Damage to masonry C: partial collapse. Some damage to masonry B, none to masonry A. Fall of stucco, some masonry walls. Twisting, fall of chimneys factory stacks, monuments, towers, elevated tanks. Frame houses move on foundations if not bolted down; loose panel walls thrown out. Decayed piling broken off. Branches broken from trees. Changes in flow or temperature of springs and wells. Cracks in wet ground, on steep slopes.</td>
<td>100-200</td>
</tr>
<tr>
<td>IX</td>
<td>Devastating</td>
<td>General panic. Masonry D destroyed; masonry C heavily damaged, sometimes with complete collapse; masonry B seriously damaged. Frame structures, if not bolted, shifted off foundations. Frames cracked. Serious damage to reservoirs. Underground pipes broken. Conspicuous cracks in ground. In alleviated areas sand, mud ejected, earthquake fountains, sand craters.</td>
<td>200-500</td>
</tr>
<tr>
<td>X</td>
<td>Annihilating</td>
<td>Most masonry and frame structures destroyed with their foundations. Some well-built wooden structures and</td>
<td>500-1000</td>
</tr>
</tbody>
</table>
bridges Destroyed. Serious damage to dams, dykes, and embankments. Large landslides. Water thrown on banks of canals, rivers, lakes, etc. Sand and mud shifted horizontally on beaches and flat land. Rails bent slightly.

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>XI</td>
<td>Disaster</td>
<td>Disaster Rails bent greatly. Underground pipelines completely out of service.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1000-2000</td>
</tr>
<tr>
<td>XII</td>
<td>Major Disaster</td>
<td>Major Disaster Damage nearly total. Large rock masses displaced. Line of sight and level distorted. Objects thrown into the air.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;2000</td>
</tr>
</tbody>
</table>
Appendix F

EMERGENCY RESOURCES

In an emergency situation, equipment, supplies and construction personnel will likely be needed on short notice. The table below lists general emergency resources, and also indicates how to access them.

<table>
<thead>
<tr>
<th>Item</th>
<th>Contact/Telephone</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Remploy 4743 4190</td>
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Appendix G

DAM inspection checklist and SAFETY EMERGENCY SITUATION REPORT

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<th>ITEM</th>
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GENERAL COMMENTS

Signed and Date: ____________________________
Signature: ____________________________
### Data Records - Monthly Inspection

#### Sample Record Sheet
(To be completed by the Water Distribution Inspector / Cameraker and entered into the Log Book along with any accompanying photographs)

#### Data Records: Rifle Creek Dam Monthly Inspection Data Record

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#### General Comments

- [Record sheet details]

- [Inspection details]

- [Signature]

- [Date: __/__/__]
DAM SAFETY EMERGENCY SITUATION REPORT

Photocopy and fill-out after termination of Emergency Situation.
Complete ALL sections that are applicable to the situation.

Dam Name: _____________________________________________________________

Dam Location: __________________________________________________________

Date: ___________________________ Time: _________________________________

Weather Conditions: _____________________________________________________

General Description of Emergency Situation: ________________________________

Area(s) of Dam Affected: _________________________________________________

Extent of Dam Damage: __________________________________________________

Possible Cause(s): _______________________________________________________

Effect on dam’s operation: _______________________________________________

Effect on operational capabilities of outlet works: __________________________

Initial Reservoir Elevation: __________________ Time: _______________________

Maximum Reservoir Elevation: ______ Time: _____________________________

Final Reservoir Elevation: __________________ Time: _______________________

Description of area flooded downstream/damages/injuries/loss of life:
_____________________________________________________________________

Other Data and Comments:
_____________________________________________________________________

Observer’s name and telephone number: _________________________________
## Communication Record

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<th>Time: AM/PM</th>
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**Communication With:**
- Communication:  
  - Conversation
  - Telephone

**Subject:**

**Telephone Number Called:**
- Affiliation:

**Other Pertinent Information:**

**Discussion Summary:**

**Action Item** | **Action Resolution/Completion**
--- | ---
1. | 1. |
2. | 2. |
3. | 3. |
4. | 4. |
5. | 5. |

**Distribution List:**

**Author’s Signature:**

(Print name, then sign.)

(Date)

**Water Distribution Department**
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Appendix H

Standard phone, SMS and email messages to the immediately affected downstream residents and others

**ALERT NOTIFICATION FOR SECTION 4.3.1** (LDMG, GMIMSC)

Dam: Rifle Creek

Event: 4.3.1 Dam spillway overtopping, increased downstream flows expected. Flood at XXXX (XXX below Abutment Crest Level).

Act Level: Alert. Moderate flooding possible.

Notification Updates: 24 hourly updates.

Refer: [www.bom.gov.au](http://www.bom.gov.au) and contact Local Emergency Mgt. Group on 47473280 for more details

**ALERT NOTIFICATION FOR SECTION 4.3.2** (LDMG, 20kRes, GMIMSC, DNRME)

Dam: Rifle Creek

Event: 4.3.2 Flood at XXXX and (rising / steady / falling).

Act Level: Lean Forward. Moderate flooding expected.

Notification Updates: 8 hourly updates.

Refer: [www.bom.gov.au](http://www.bom.gov.au) and contact Local Emergency Mgt. Group on 47473280 for more details

**ALERT NOTIFICATION FOR SECTION 4.3.3** (LDMG, 20kRes, GMIMSC, DNRME)

Dam: Rifle Creek

Event: 4.3.3 Flood at XXXX and (rising / steady / falling).

Act Level: Stand Up. High level of flooding expected.

Notification: Every 8 hours.

Refer: **Immediately contact** the Local Emergency Mgt. Group on 47473280 for more details
**ALERT NOTIFICATION FOR SECTION 4.3.4** (LDMG, 20kRes, GMIMSC, DNRME)

Dam: Rifle Creek  
Event: 4.3.4 Flood levels receding.  
Act Level: Stand Down. No further updates pending.  
Notification Updates: CEM to notify all previously contacted parties of the intent to move activation level to Stand Down.  
Refer: [www.bom.gov.au](http://www.bom.gov.au) and contact Local Emergency Mgt. Group on 47473280 for more details.

**ALERT NOTIFICATION FOR SECTION 4.4.2** (LDGM, GMIMSC, DNRME)

Dam: Rifle Creek  
Event: 4.4.2 Potential structural integrity issue identified  
Act Level: Lean Forward.  
Notification Updates: After structural engineer can confirm integrity or 48 hours without further damage.  
Refer: Contact the Local Emergency Mgt. Group on 47473280 for more details.

**ALERT NOTIFICATION FOR SECTION 4.4.3** (Emergency Services, LDMG, GMIMSC, 20kRes, DNRME)

Dam: Rifle Creek  
Event: 4.4.3 – Dam structural condition identified with dam failure potential.  
Act Level: Stand Up.  
Notification Updates: After structural engineer can confirm integrity or 48 hours without further damage.  
Refer: **Immediately contact** the Local Emergency Mgt. Group on 47473280 for more details.

**ALERT NOTIFICATION FOR SECTION 4.4.4** (Emergency Services, LDMG, GMIMSC, 20kRes, DNRME, MIWB)

Dam: Rifle Creek  
Event: 4.4.4 – Dam structural condition identified with dam failure potential.  
Act Level: Stand Down. No further updates pending.  
Notification Updates: CEM to notify all previously contacted parties of the intent to move activation level to Stand Down.
**ALERT NOTIFICATION FOR SECTION 4.5.1** (Emergency Services, LDMG, GMIMSC, 20kRes, DNRME)

Dam: Rifle Creek  
Event: Object crashing into dam or catchment  
Act level: Stand Up.  
Notification Updates: Until the emergency response teams can confirm contamination is under control.  
Refer: **Immediately contact** Local Emergency Mgt. Group on 47473280 for more detail

**ALERT NOTIFICATION FOR SECTION 4.5.2** (Emergency Services, GMIMSC, 20kRes, DNRME, MIWB)

Dam: Leichhardt River  
Event: 4.5.2 – Object crashing into dam or catchment.  
Act Level: Stand Down. No further updates pending.  
Notification Updates: CEM to notify all previously contacted parties of the intent to move activation level to Stand Down.

**ALERT NOTIFICATION FOR SECTION 4.6.1** (Emergency Services, National Security Hotline, LDMG, MIMSC, 20kRes, DNRME)

Dam: Rifle Creek  
Event: Terrorism or security threat which may pose risk of structural failure  
Act Level: Lean Forward.  
Notification Updates: After structural engineer can confirm integrity or 48 hours without further damage.  
Refer: **Immediately contact** Local Emergency Mgt. Group on 47473280 for more details

**ALERT NOTIFICATION FOR SECTION 4.6.2** (Emergency Services, National Security Hotline, LDMG, MIMSC, 20kRes, DNRME)

Dam: Rifle Creek  
Event: Potential indicators of imminent structural failure from a terrorism or security threat  
Act Level: Stand Up.  
Notification Updates: After structural engineer can confirm integrity or 48 hours without further damage  
Refer: **Immediately contact** the Local Emergency Mgt. Group on 47473280 for more details
**ALERT NOTIFICATION FOR SECTION** – 4.6.3 (Emergency Services, LDMG, GMIMSC, 20kRes, DNRME, MIWB)

Dam: Rifle Creek

Event: 4.6.3 – Structural concerns managed

Act Level: Stand Down. No further updates pending.

Notification Updates: CEM to notify all previously contacted parties of the intent to move activation level to Stand Down.
Appendix I

Public Access to Notification List via Internet

**USING THE INTERNET** -
http://www.mountisamines.com.au

Click on this link

Click on Sustainability

Click here for access to supply personal information to receive emergency notifications
1. Fill out appropriate fields