

Example of a Health and Safety Management System for Small Tasmanian Quarries

Developed for Cement, Concrete and Aggregates
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Introduction

The Mines Work Health and Safety (Supplementary Requirements) Act requires that all Tasmanian quarry operators develop, implement, maintain and review a health and safety management system for the quarry that is commensurate with the nature, size and complexity of the quarry and quarry operations and the associated risks.

Mining operations must not be commenced at a quarry unless the above health and safety management system is in place.

A health and safety management system is an auditable, documented system that complies with the requirements in the Mines Work Health and Safety (Supplementary Requirements) Regulations for health and safety management systems and which systemically protects, so far as is reasonably practicable, the health and safety of quarry workers and other persons who may be exposed to risks arising from quarry operations.

The Mines Work Health and Safety (Supplementary Requirements) Regulations requires that a health and safety management system include the following elements:

- (a) Documentation of the management structure for the quarry,
- (b) Major hazard management plans
- (c) Processes and procedures for –
 - (i) identifying hazards; and
 - (ii) risk assessments; and
 - (iii) the elimination or, where elimination is not reasonably practicable, management, of the risks to health and safety to which the risk assessment relates; and
 - (iv) the reliable implementation of the management of the risks to health and safety to which the risk assessment relates; and
 - (v) ongoing monitoring and review of the risks to health and safety to which the risk assessment relates;
- (d) Emergency and emergency response plans

- (e) Provision for the review and improvement of the health and safety management system;
- (f) Fitness-for-work program
- (g) Health monitoring program

Individual sites may choose to include other elements to satisfy corporate or regional requirements, but the health and safety management system must include the above elements for it to be compliant with the Tasmanian legislation.

This example of a basic health and safety management system was developed by the Principal Mining Inspector – WorkSafe Tasmania, for a presentation that was given at the Cement, Concrete and Aggregates Australia (CCAA) Safety Seminar in October 2018. It is designed to give quarry operators an idea of the format and content of a health and safety management system for a small Tasmanian quarry, taking into account the common hazards and risks found at these quarries and the requirements of the Tasmanian legislation.

The Mines Work Health and Safety (Supplementary Requirements) Act requires that during the preparation or amendment of any part of the health and safety management system relevant to their activities, the quarry operator must consult, so far as is reasonably practicable, with workers who may be exposed to risks to their health or safety arising from the quarry operations. This is a very important provision, as experience has shown that health and safety management systems which are developed with extensive input from workers are far more effective than those that are developed externally and imposed on a site with no or limited consultation.

The Mines Work Health and Safety (Supplementary Requirements) Act also requires that the quarry operator ensures, so far as is reasonably practicable, that any work at the quarry, including work undertaken by contractors and their workers, is carried out in compliance with the health and safety management system. This is another important provision, as it requires that the Site Senior Officer and other workers are thoroughly familiar with the contents of the health and safety management system and use it as a live document to manage health and safety at the quarry.

Finally, it should be noted that the health and safety management system which is described in this document is an example only and is not intended to be exhaustive. The actual hazards, risks and risk controls will vary from site to site and must be determined by the quarry operator through a suitable process of hazard identification and risk management. Similarly, in this document, the Site Senior Officer has been assigned most of the responsibility for implementing and monitoring the risk controls. On larger sites, the Site Senior Officer may choose to delegate the responsibility for some of these tasks to other persons at the quarry.

Example of Health and Safety Policy

“The Quarry Operator is committed to ensuring, so far as is reasonably practicable, the health and safety of persons at this quarry. The Quarry Operator will achieve this by providing and maintaining, so far as is reasonably practicable, the following:

- A work environment where risks to health and safety are eliminated or, if it is not reasonably practicable to eliminate the risks, minimised so far as is reasonably practicable.
- Safe plant and structures.
- Safe systems of work.
- The safe use, handling and storage of plant, structures and substances.
- Adequate facilities for the welfare at work of workers in carrying out work for the Quarry Operator, including ensuring access to those facilities.
- Any information, training, instruction or supervision that is necessary to protect all persons at the quarry from risks to their health and safety arising from work carried out as part of the conduct of the Quarry Operator.

The Quarry Operator will also ensure that the health of workers and the conditions at the quarry are monitored for the purpose of preventing illness or injury of workers arising from the conduct of the Quarry Operator.”

Note: A health and safety policy is not specified by the Mines Work Health and Safety (Supplementary Requirements) Regulations as a mandatory element in the health and safety management system. However, as the health and safety policy states the quarry operator’s commitment to health and safety at the site, it is considered good practice to include it. Quarry operators may choose to include other corporate or regional commitments in the policy.

Example of Management Structure

The management structure at this quarry is as follows:

- Quarry Owner Details
- Quarry Operator Details
- Company Officer Details
- Site Senior Officer Details
- Site Manager Details
- Site Supervisor Details
- Mechanical Fitter
- Electrician Details
- Other Competent Persons Details

Note: Details should include name, position and areas of responsibility and accountability. Some of these roles may not exist at a small quarry, or may be combined.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 13(1)(a).

Major Hazard Management Plans - General

The Quarry Operator acknowledges that it has a legal duty under the Mines Work Health and Safety (Supplementary Requirements) Regulations to implement and maintain four Major Hazard Management Plans, which describe how the risks associated with Mobile Plant, Electricity, Airborne Dust and Inrush and Flooding are managed, if these hazards exist at the quarry.

The Quarry Operator also acknowledges that it has a legal duty to ensure that other Major Hazard Management Plans are developed and implemented if other principal hazards are identified at the workplace. A principal hazard is defined in the legislation as *“a hazard that is foreseeable and that has a reasonable potential, which is not negligible, to result in multiple human deaths in a single incident one or more deaths in more than one incident.”*

The Quarry Operator considers that the only other hazard at the workplace which fits the definition of a principal hazard is explosives, as there is a foreseeable risk that an unplanned detonation of explosives while charging would result in multiple fatalities. However, an Explosives Management Plan has already been developed and implemented by the Quarry Operator pursuant to the Explosives Act and is referenced in this document rather than developing a separate Major Hazard Management Plan for Explosives.

To ensure that the Major Hazard Management Plans are kept up to date, the Site Senior Officer is responsible for reviewing and, if necessary, revising them, under the following circumstances:

- Before the introduction for the first time at the workplace of any plant or substance
- Before work of a type not previously performed at the workplace commences
- When there is a change at the workplace in the type of work, work practices or plant
- When new information becomes available concerning work, work practices, plant, or substances that may affect the health or safety of a worker or other person at the workplace

- Whenever a new hazard or potential hazard is introduced or identified at the workplace.
- As soon as practicable if there is evidence to indicate that the plan is no longer adequate
- If none of the above occur, at least every 2 years

The Site Senior Officer is also responsible for:

- Ensuring that the review and revision of the Major Hazard Management Plans is carried out in consultation with relevant workers; and
- Ensuring that the up-to-date Major Hazard Management Plans are displayed on the notice board at the workplace and that previous Plans are filed and kept in the archives for at least seven years.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 13(1)(b).

Example of Major Hazard Management Plan for Mobile Plant

The Quarry Operator recognises that the use of mobile plant creates foreseeable risks of a fatal injury or illness occurring at this quarry.

An identification and assessment of these risks was carried out by the Site Senior Officer, in consultation with workers and the following risks were identified:

1. The risk of mobile plant fatally injuring a pedestrian
2. The risk of mobile plant colliding with structures or other pieces of mobile plant and fatally injuring the operator
3. The risk of mobile plant tipping over and fatally injuring the operator
4. The risk of mobile plant making contact with overhead power lines and fatally injuring the operator
5. The risk of mobile plant being struck by lightning and the operator being fatally injured
6. The risk of mobile plant catching fire and fatally injuring the operator
7. The risk of fatal injury to persons while inspecting or maintaining mobile plant
8. The risk of mobile plant driving over a live edge and fatally injuring the operator
9. The risk of a rockfall striking mobile plant while loading in the quarry and fatally injuring the operator
10. Other site-specific risks

The Quarry Operator recognises that it has a legal duty to eliminate those risks so far as is reasonably practicable and, if it is not reasonably practicable to eliminate the risks, minimise those risks so far as is reasonably practicable.

The Quarry Operator does not consider that it is reasonably practicable to eliminate these risks, so the following control measures have been put in place to ensure that the risks are minimised, so far as is reasonably practicable.

- Mobile plant is fitted with the following safety devices:

- Flashing light, to improve visibility
- Seatbelts, to restrain the operator in the event of a collision or rollover
- Fire extinguisher, to allow the Plant Operator to deal with a fire on the plant
- Reversing alarm, to warn pedestrians and other Plant Operators that the plant is about to reverse.
- UHF radio, to allow communication with other Plant Operators and pedestrians
- Roll over and falling object protection
- If any of these devices are damaged or defective, the Plant Operator is responsible for reporting the defect to the Site Senior Officer. The Site Senior Officer is responsible for ensuring that the plant is not used until the defect has been rectified.
- Persons who operate and maintain mobile plant are authorised to do so by the Site Senior Officer. Before granting the authorisation, the Site Senior Officer is responsible for ensuring that the person has received adequate training and instruction to enable the person to operate the mobile plant safely and in accordance with the manufacturer's instructions.
- Mobile plant is kept in a safe condition through regular servicing, in accordance with the manufacturer's recommendations and through the repair of any faults that develop during use of the plant. The Plant Operator is responsible for carrying out a visual check of the plant before using it and for reporting any faults that are found during the pre-start check, or which develop during use, to the Fitter. The Fitter is responsible for servicing and repairing the plant in accordance with the manufacturer's recommendations.
- The Plant Operator is responsible for operating mobile plant in accordance with the manufacturer's instructions and his or her training.
- To protect truck and excavator operators from falling rocks or from injury during roll overs, these items of plant are fitted with falling object protection and roll over protection above the cabs.
- When inspecting, maintaining or refuelling mobile plant, the Plant Operator is responsible for ensuring that the plant is stable and that uncontrolled movement will not occur. The Plant Operator is also responsible for ensuring

that mobile plant is parked in a safe location where it will not be struck by other items of plant and does not create a risk to workers.

- Speed limits have been posted around the site. The Plant Operator is responsible for ensuring that mobile plant is operated at speeds that are within these limits and that are appropriate for the road and environmental conditions.
- The Site Senior Officer is responsible for ensuring that the design and construction (including the width, gradient, camber, radius of curvature of bends and berms or bunding) of each road and other area at which vehicles are operated enables the safe operation of all powered mobile equipment authorised to travel on the road or in the area and that these roads and other areas are maintained accordingly.
- The Site Senior Officer is responsible for ensuring that an adequate berm or bund of material is provided on the outer edge of roadways in the quarry and on the outer edge of any roadway on the surface adjacent to a bank or steep slope.
- The Site Senior Officer is responsible for implementing safe practices for the dumping or stockpiling of material to ensure the stability of the dump or stockpile and the safety of personnel.
- If rear dump trucks are required to dump up to, or over, an edge, the Site Senior Officer is responsible for ensuring the construction and maintenance of a berm or bund of suitable height to reduce the risk of the trucks toppling over the edge, so far as is reasonably practicable.
- There is an overhead power line running over the workplace, which is high enough to allow trucks to pass underneath without contacting the power line or coming close enough to allow arcing to occur. However, the Site Senior Officer is responsible for authorising any other work near this power line.
- Other site-specific risk controls.

The Site Senior Officer is responsible, through workplace inspections, task observations and other monitoring, for ensuring that these risk controls are fit for purpose, suitable for the nature and duration of the work and installed, set up and used correctly.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 8.

Example of Major Hazard Management Plan for Electricity

The Quarry Operator recognises that the use of electricity creates foreseeable risks of a fatal injury or illness occurring at this quarry.

An identification and assessment of these risks was carried out by the Site Senior Officer, in consultation with workers and the following risks were identified:

- The risk of electrocution from faulty or damaged electrical equipment
- The risk of electrocution from overhead power lines
- The risk of electrocution from buried electrical cables
- The risk of electrocution from lightning strikes
- The risk of fire caused by faulty or damaged electrical equipment
- Other site-specific risks

The Quarry Operator recognises that it has a legal duty to eliminate those risks so far as is reasonably practicable and, if it is not reasonably practicable to eliminate the risks, minimise those risks so far as is reasonably practicable.

The Quarry Operator does not consider that it is reasonably practicable to eliminate these risks, so the following control measures have been put in place to ensure that they are minimised, so far as is reasonably practicable.

- Any electrical work at the site, including the connection, disconnection, removal and restoration of electrical power is carried out by a licensed Electrician who has been authorised by the Site Senior Officer.
- The Site Senior Officer is responsible for ensuring that the electrical equipment is inspected and maintained by the licensed Electrician in accordance with the manufacturer's recommendations.
- Operators are responsible for reporting any faulty or damaged electrical equipment to the Site Senior Officer. The Site Senior Officer is responsible for ensuring that the equipment is not used until it has been repaired by the licensed Electrician.

- While carrying out the inspection and maintenance of the electrical equipment, the licensed Electrician is responsible for bringing to the attention of the Site Senior Officer any of the following defects:
 - the safe and satisfactory operation of the installation is impaired by interference, damage, ageing or wear
 - the live parts of the installation are not properly insulated or protected, against inadvertent contact with any person
 - the earthing system for the installation does not operate effectively
 - the equipment is being used in a manner that exceeds the operating limits imposed by its design or installation
 - the equipment has become a significant potential cause of fire for the surrounding environment
- The Site Senior Officer is responsible for ensuring that the defective electrical equipment is not used until the defect has been rectified.
- There is an overhead power line running over the workplace, which is high enough to allow mobile plant to pass underneath without contacting the power line or coming close enough to allow arcing to occur. Any excavation work near this power line is authorised and supervised by the Site Senior Officer.
- There are buried electrical cables at this workplace. The Site Senior Officer is responsible for ensuring that before any work is carried out in the vicinity of these cables, risks to health and safety from accidental contact with the power line have been eliminated or, if it is not reasonably practicable to eliminate the risks, that they have been minimised so far as is reasonably practicable.
- To minimise, so far as is reasonably practicable, the risk of persons or equipment being struck by lightning, the Site Senior Officer is responsible for suspending operations and ensuring that persons are removed to a safe location if an electrical storm is approaching.
- The Site Senior Officer is responsible for ensuring that earth leakage protection is installed on circuits which are used to supply portable electrical equipment and that the protection circuits and the equipment are tested and tagged by a competent person in accordance with the legislation.
- Other site-specific risk controls

The Site Senior Officer is responsible, through workplace inspections, task observations and other monitoring, for ensuring that these risk controls are fit for purpose, suitable for the nature and duration of the work and installed, set up and used correctly.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 9

Example of Major Hazard Management Plan for Airborne Dust

The Quarry Operator acknowledges that the generation of airborne dust and respirable crystalline silica (RCS) creates foreseeable risks of a fatal illness occurring at this quarry.

An identification and assessment of these risks was carried out by the Site Senior Officer, in consultation with workers and the following risks were identified:

- The risk of persons developing silicosis
- The risk of persons developing chronic obstructive pulmonary disease
- The risk of workers developing lung cancer
- The risk of persons developing other diseases, such as asthma and renal disease
- Other site-specific risks

The Quarry Operator recognises that it has a legal duty to eliminate those risks so far as is reasonably practicable and, if it is not reasonably practicable to eliminate the risks, minimise those risks so far as is reasonably practicable.

The Quarry Operator does not consider that it is reasonably practicable to eliminate these risks, so the following control measures have been put in place to ensure that they are minimised, so far as is reasonably practicable.

- Mobile plant is fitted with positive pressure cabs, where the air is drawn through a dust filter which is designed to filter out harmful dust. The Site Senior Officer is responsible for ensuring that these filters are inspected and maintained in accordance with the manufacturer's recommendations.
- Airborne dust can be created when mobile plant operators bring dust or dirt into the cab on their boots or clothing. The Site Senior Officer is responsible for ensuring that the cabs of mobile plant are regularly cleaned of excessive dust by the Operators and that this is carried out using a suitable vacuum cleaner which contains the dust.

- The Site Senior Officer is responsible for ensuring that the roads are watered regularly during dry or windy conditions to suppress dust.
- The Site Senior Officer is responsible for ensuring that persons do not expose themselves to high levels of dust. In circumstances where this cannot be avoided, the Site Senior Officer is responsible for ensuring that suitable respirators are provided and that these respirators are worn by the persons while they are in these areas. The Site Senior Officer is also responsible for ensuring that signs are erected in these areas stating that respiratory protection must be worn while equipment is operating.
- The Site Senior Officer is responsible for ensuring that persons who are required to wear respiratory protection are provided with any information, training, instruction or supervision that is necessary to protect the person from risks to their health and safety arising from airborne dust.
- Persons who are required to wear respirators are responsible for ensuring that they are clean shaven, to ensure that an adequate seal exists between the respirator and the person's face.
- The Site Senior Officer is responsible for ensuring that monitoring of airborne dust levels by an Occupational Hygienist occurs at intervals recommended by the Occupational Hygienist. The Site Senior Officer is also responsible for obtaining a monitoring report from the Occupational Hygienist and providing information about the monitoring to workers, in accordance with the legislation. The Site Senior Officer is also responsible for ensuring that the recommendations of the Occupational Hygienist are followed, if it is reasonably practicable to do so.
- The Site Senior Officer is responsible for ensuring that workers are provided with any information, training, instruction or supervision that is necessary to protect the person from risks to their health and safety arising from airborne dust.
- Other site-specific risk controls

The Site Senior Officer is responsible, through workplace inspections, task observations and other monitoring, for ensuring that these risk controls are fit for purpose, suitable for the nature and duration of the work and installed, set up and used correctly.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

*Reference: Mines Work Health and Safety (Supplementary Requirements)
Regulation 10.*

Example of Major Hazard Management Plan for Inrush and Flooding

The Quarry Operator recognises that inrush from nearby bodies of water creates foreseeable risks of a fatal injury or illness occurring at this quarry.

An identification and assessment of these risks was carried out by the Site Senior Officer, in consultation with workers and the following risk was identified:

- The risk of inrush into the quarry from nearby dams and rivers.
- Other site-specific risks

The Quarry Operator recognises that it has a legal duty to eliminate those risks so far as is reasonably practicable and, if it is not reasonably practicable to eliminate the risks, minimise those risks so far as is reasonably practicable.

The Quarry Operator does not consider that it is reasonably practicable to eliminate these risks, so the following control measures have been put in place to ensure that they are minimised, so far as is reasonably practicable.

1. The Site Senior Officer must suspend operations and ensure that persons are withdrawn to a safe location if he or she forms a reasonable belief that there is an imminent risk that the river may flood, or a large storm may occur that could cause flooding.
2. A separation pillar has been designed by a geotechnical engineer between the quarry and the nearest body of water to minimise the risk of the quarry being inundated. The Site Senior Officer is responsible for ensuring that the width of this pillar is not compromised by mining and that persons are withdrawn to a safe location if it appears that increased inflow of water is occurring through the pillar.
3. The Site Senior Officer is responsible for ensuring that accurate plans exist which show the location of the bodies of water and the quarry and for ensuring that these plans are updated whenever the distance between the bodies of water and the quarry changes.
4. Other site-specific risk controls

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 11.

Example of Fitness for Work Program

The Quarry Operator recognises that the impairment of workers from alcohol, drugs or fatigue increases risks to health and safety.

The Quarry Operator recognises that it has a legal duty to eliminate those risks so far as is reasonably practicable and, if it is not reasonably practicable to eliminate the risks, minimise those risks so far as is reasonably practicable.

The Quarry Operator does not consider it to be reasonably practicable to eliminate these risks, so the following control measures have been put in place to ensure that they are minimised, so far as is reasonably practicable:

- a) The Site Senior Officer is responsible for ensuring that workers receive any information, training and instruction that is necessary to inform them about the risks associated with alcohol, drugs and fatigue.
- b) Workers are responsible for ensuring that they do not report for work if they have a reasonable belief that they may be impaired by alcohol, drugs or fatigue.
- c) Workers are responsible for ensuring that, while they are at the workplace, they do not consume any alcohol or illicit drugs.
- d) Workers are responsible for ensuring that, while they are at the workplace, they do not consume any prescription drugs which may cause impairment.
- e) If a person has a reasonable belief that the person or another person at the workplace may be impaired from alcohol, drugs or fatigue, the person is responsible for bringing this to the attention of the Site Senior Officer.
- f) The Site Senior Officer is responsible for ensuring that any worker who appears to be impaired by alcohol, drugs or fatigue is stood down from his or her task until the cause of the impairment can be established.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulations 13(1)(f).

Example of Risk Management

The Quarry Operator acknowledges that its operations expose persons at this quarry to a number of hazards and risks to health and safety and that it has a legal duty to eliminate those risks so far as is reasonably practicable and, if it is not reasonably practicable to eliminate the risks, minimise those risks so far as is reasonably practicable, in accordance with the hierarchy of risk controls.

In addition to the hazards and risks described in the Major Hazard Management Plan, Explosives Management Plan and Fitness for Work Plan, the Quarry Operator has identified, through a process of hazard and risk identification and assessment, other hazards and risks at the quarry.

To assist it in managing these risks, the Quarry Operator has developed a Hazard and Risk Register, which lists the known hazards and risks, the measures which are used to minimise the risks, the monitoring that is carried out to ensure that these measures are effective and the persons who are responsible for carrying out this monitoring. The Hazard and Risk Register is shown below.

To ensure that the Hazard and Risk Register is kept up to date, the Site Senior Officer is responsible for reviewing and, if necessary, revising it, under the following circumstances:

- Before the introduction for the first time at the workplace of any plant or substance
- Before work of a type not previously performed at the workplace commences
- When there is a change at the workplace in the type of work, work practices or plant
- When new information becomes available concerning work, work practices, plant, or substances that may affect the health or safety of a worker or other person at the workplace
- Whenever a new hazard or potential hazard is introduced or identified at the workplace.
- As soon as practicable if there is evidence to indicate that the Risk Register is no longer adequate, e.g. if an incident occurs.

- If none of the above occur, at least every 5 years

The Site Senior Officer is responsible for ensuring that the review and revision of the Hazard and Risk Register is carried out in consultation with relevant workers.

The Site Senior Officer is also responsible for ensuring that an up to date Hazard and Risk Register is displayed on the notice board at the workplace and that previous Hazard and Risk Registers are filed and kept in the archives for at least seven years.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 13(1)(c).

Example of Hazard and Risk Register – Hazards Requiring Management Plan

Hazard	Risk Scenario	Risk Controls	Monitoring
Mobile Plant	Refer to Major Hazard Management Plan for Mobile Plant	Refer to Major Hazard Management Plan for Mobile Plant	Refer to Major Hazard Management Plan for Mobile Plant
Electricity	Refer to Major Hazard Management Plan for Electricity	Refer to Major Hazard Management Plan for Electricity	Refer to Major Hazard Management Plan for Electricity
Airborne Dust	Refer to Major Hazard Management Plan for Airborne Dust and Health Monitoring Program	Refer to Major Hazard Management Plan for Airborne Dust and Health Monitoring Program	Refer to Major Hazard Management Plan for Airborne Dust and Health Monitoring Program
Inundation and Inrush	Refer to Major Hazard Management Plan for Inundation and Inrush	Refer to Major Hazard Management Plan for Inundation and Inrush	Refer to Major Hazard Management Plan for Inundation and Inrush
Explosives	Refer to Explosives Management Plan	Refer to Explosives Management Plan	Refer to Explosives Management Plan
Alcohol, Drugs and Fatigue	Refer to Fitness for Work Program	Refer to Fitness for Work Program	Refer to Fitness for Work Program
Other Site-Specific Principal Hazards	Refer to Major Hazard Management Plan	Refer to Major Hazard Management Plan	Refer to Major Hazard Management Plan

Hazard and Risk Register - Other Hazards and Risks

Hazard (Example Only)	Risk Scenario (Example Only)	Risk Controls (Example Only)	Monitoring (Example Only)
Fixed Plant	A person is injured by contact with rotating machinery in the crushing and screening plant	Rotating machinery is guarded in accordance with the manufacturer's instructions and the requirements of the legislation. Guards are regularly inspected and maintained in good condition. Persons have been instructed not to remove guards while the machinery is operating and to replace guards after maintenance or cleaning.	Site Senior Officer checks that these risk controls are being used as intended.
Noise	A person suffers hearing loss from exposure to high levels of noise	New equipment is specified with noise suppression, where practical. Workers are fitted with appropriate hearing protection and wear it in areas of high noise.	Site Senior Officer checks that these risk controls are being used as intended. Audiometric testing is carried out every two years.
Falls from Height	A person is injured by a fall from height	Persons use access ladders and three points of contact when accessing and alighting from plant. Platforms and guard rails are fitted to plant and are maintained in good condition. EWPs are used for maintenance tasks which require working at height.	Site Senior Officer checks that these risk controls are being used as intended.
Falling Objects	A person is injured by a falling object	Excavators and trucks are fitted with falling object protection and this is maintained in good condition. No pedestrian access is permitted at the toe of the quarry face. Toe boards are fitted to all platforms. Persons working at height ensure that tools and equipment are secured.	Site Senior Officer checks that these risk controls are being used as intended.
Bushfire	A person is injured when a bushfire breaks out near the workplace	The Site Senior Officer activates the Emergency Plan. Persons are withdrawn to a safe location and Emergency Services are notified.	Site Senior Officer checks that these risk controls are being used as intended.
Fires	A person is injured when	Electrical equipment is maintained in good condition and inspected at	Site Senior Officer checks that

	a fire breaks out in the office, plant or refuelling station	recommended intervals. Fire extinguishers are provided and workers are trained in how to operate them.	these risk controls are being used as intended.
Manual Handling	A person sustains a manual handling injury	Persons use mechanical lifting devices or are assisted by other workers when lifting heavy loads.	Site Senior Officer checks that these risk controls are being used as intended.
Unauthorised Access	An unauthorised person enters the site and is injured by falling from height or from other hazards	The access gate is closed after hours and fencing or signs are erected around the site warning of the hazards.	Site Senior Officer checks that these risk controls are being used as intended.
Confined Spaces	A person sustains an injury or illness in a confined space	Any work within a confined space is authorised and supervised by the Site Senior Officer in accordance with the legislation.	Site Senior Officer checks that these risk controls are being used as intended.
Other site specific hazards	Other site-specific risks	Other site-specific risk controls	Site Senior Officer checks that these risk controls are being used as intended.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

Example of Health Monitoring Program

The Quarry Operator recognises that exposure to respirable crystalline silica can cause respiratory diseases such as asthma, silicosis, chronic obstructive pulmonary disease and lung cancer and that it has a legal duty to provide health monitoring if there is a significant risk to a worker's health because of exposure to this substance.

The Quarry Operator contracts an Occupational Hygienist to carry out airborne dust monitoring each year and after analysing the results of this monitoring, the Occupational Hygienist makes recommendations to the Quarry Operator about whether health monitoring should be provided and, if so, which workers should receive it.

The Site Senior Officer is responsible for ensuring that the dust monitoring is carried out and that workers are provided with health monitoring, if this is recommended by the Occupational Hygienist.

The Quarry Operator has arranged for a Registered Medical Practitioner with experience in health monitoring to oversee the health monitoring and to carry out the tests which are specified in the Work Health and Safety Regulations. These tests include an assessment of the demographic, medical and occupational history and personal exposure, the analysis of a respiratory questionnaire, respiratory function tests and a chest X ray.

The Site Senior Officer is responsible for consulting workers about the selection of the Registered Medical Practitioner.

The Quarry Operator is responsible for paying all costs associated with the health monitoring.

The Site Senior Officer is responsible for obtaining a copy of the health monitoring report for each worker from the Registered Medical Practitioner, ensuring that it contains the information that is specified in the Work Health and Safety Regulations and providing a copy of the report to the worker and to the worker's employer, in the case of contractors.

The Site Senior Officer is responsible for providing a copy of the report to WorkSafe Tasmania as soon as practicable after obtaining the report if the report contains any advice that test results indicate that the worker may have contracted a disease, injury or illness as a result of exposure to respirable crystalline silica, or any recommendation that the Quarry Operator take remedial measures, including whether the worker can continue to be exposed to respirable crystalline silica.

The Site Senior Officer is responsible for ensuring that health monitoring reports are kept as a confidential record, identifiable to the worker, for at least 30 years. The Quarry Operator will ensure that the health monitoring report and results of a worker are not disclosed to another person without the worker's written consent.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

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Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 13(1)(g).

Example of Emergency Plan

The Quarry Operator recognises that an emergency situation may develop at this quarry. An identification and assessment of credible emergency situations was carried out by the Site Senior Officer, in consultation with workers and the following scenarios were identified:

1. A person sustains a serious or fatal injury following an incident
2. A person suffers a serious illness, such as heart attack or stroke
3. A person becomes trapped in machinery and requires extrication
4. A person sustains an electric shock
5. An uncontrolled fire occurs which puts persons at risk of injury
6. A person suffers an injury or illness following exposure to a substance
7. A bushfire occurs near the quarry
8. An inrush of water occurs into the quarry

If an emergency occurs, the Site Senior Officer is responsible for ensuring that the injured person receives appropriate medical attention as soon as possible, that persons are evacuated to a safe location and that Emergency Services and WorkSafe Tasmania are notified immediately.

The Site Senior Officer is also responsible for ensuring that the incident scene is not disturbed, unless this is necessary to assist an injured person, to remove a deceased person, to make the site safe, to minimise the risk of a further notifiable incident, or if a police officer, inspector or the regulator has given permission.

First Aid kits are located in the Quarry Office.

The Site Senior Officer is also responsible for

- Ensuring that all persons on site are familiar with the Emergency Plan and that they receive adequate information, training and instruction to allow them to implement the emergency procedures.
- Ensuring that all workers have current First Aid tickets.
- Ensuring that First Aid kits are regularly checked and, if necessary, restocked.
- Ensuring that the Emergency Plan is tested at least once per year by carrying out practice evacuation drills.

- Ensuring that the Emergency Plan is reviewed and, if necessary, revised if there is evidence that it is no longer adequate, or in the absence of this evidence, every year.
- Ensuring that the Emergency Plan is implemented in the event of an emergency.

Details of relevant contact numbers are as follows:

Tasmania Police, Fire and Ambulance: 000 (24 hours)

WorkSafe Tasmania: 1300 366 322 (24 hours)

Site Senior Officer

Other

The name, address and GPS co-ordinates of this workplace are as follows:

Name, address, co-ordinates

The Site Senior Officer is responsible for ensuring that this information is displayed on the notice board and that it is kept up to date.

Note: The actual risks and risk controls may differ from the examples given above. The quarry operator is responsible for determining the site-specific risks and implementing risk controls which eliminate or minimise these risks, so far as is reasonably practicable.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 13(1)(d).

Example of Review of Health and Safety Management System

The Quarry Operator recognises that at this quarry, hazards and risks can change with time and control measures must be changed accordingly. The Site Senior Officer is responsible for ensuring that the health and safety management system is reviewed and, if necessary, revised so that risks to health and safety are eliminated or, where elimination is not reasonably practicable, minimised, under the following circumstances:

- a) if there is a significant change to the mining operations of the mine
- b) if there is evidence that the health and safety management system is inadequate, e.g. following an incident
- c) at least every 2 years after the system is developed

The Site Senior Officer is responsible for ensuring that the review and revision of the health and safety management system is carried out in consultation with relevant workers.

Reference: Mines Work Health and Safety (Supplementary Requirements) Regulation 13(1)(e).