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</table>
7.1 GLOSSARY OF TERMS

Abutment
The areas of unmined rock at the edges of a stoping block that carry many large regional loads. Generally a zone of support for ground arching.

Accident
An event which results in, or is likely to result, in injury, illness or damage (this also includes dangerous occurrence and near miss).

Acclimatisation
The physiological adaptation of the human body to increased heat stress resulting in increased tolerance to that stress.

Air cooling power (ACP)
Takes into account the dry bulb and wet bulb temperatures, wind speed, and other factors such as radiant heat, essentially the ability of air to cool the body. This ability is strongly influenced by the clothing and PPE worn, the heavier the clothing, the more difficult it is for air to cool the body. (Brake, Donahue & Bates 1998.)

Arching
The transfer of rock stress or load from an active mining area, e.g. stope back, to a more stable area or abutment; this may result in the release of rock blocks.

Audit
Systematic examination against defined criteria to determine whether activities have been carried out in line with planned arrangements, whether the arrangements have been implemented effectively, and whether these arrangements are suitable to achieve stated aims and objectives.

Batter slope
The sections of rock mass between catch berms within pit walls - usually excavated to a specific inclination/angle from the horizontal.

Bedding plane slip
Relative movement or slip of continuous bedding planes or foliation planes in response to large areas of stope wall moving into a void, filled or unfilled. May be observed in areas where extensive stoping has been carried out in a well-bedded rock mass.

Bedding planes
Planes of weakness in the rock that usually occur at the interface of parallel beds or laminae of material within the rock mass.

Body Core Temperature
The temperature of the deep core tissues in the body.

Buttress
A body of material either left unmined or placed against a section of the pit wall to prevent continued movement or propagation of wall failure.

Cable bolts
One or more steel reinforcing strands placed in a hole drilled in rock, with cement or other grout pumped into the hole over the full length of the cable. A steel face-plate, in contact with the excavation perimeter, is usually attached to the cable by a barrel and wedge anchor. The cable(s) may be tensioned or untensioned. The steel rope strand may be plain strand or modified to improve the load transfer between the grout and the steel strand.
<table>
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<tr>
<td>Catch berm</td>
<td>The width of lateral ground (bench) separating successive batter slopes. The purpose of the catch berm is to both reduce the overall angle of the pit walls, and to catch any loose material or local scale rock mass failures, thus reducing the risk of injury to the workforce at the base of the pit.</td>
</tr>
<tr>
<td>Catch fence</td>
<td>A fence constructed either vertically or at an angle to the vertical at the required off-set distance from the toe of a slope. The purpose of the catch fence is to catch any loose material falling from overlying blocky ground, thus reducing the risk to the workforce at the base of the pit walls.</td>
</tr>
<tr>
<td>Checklist</td>
<td>A reminder of what you’re looking for and a record of what you found.</td>
</tr>
<tr>
<td>Communication</td>
<td>Process of passing on information in a variety of ways so that the receiver understands the same message as the transmitter intended to give.</td>
</tr>
<tr>
<td>Competency</td>
<td>Ability to apply appropriate skills and knowledge for the effective and efficient completion of a job or task in a variety of situations.</td>
</tr>
<tr>
<td>Compressive stress</td>
<td>A stress or pressure that tends to push or clamp objects together. The state of stress found in the rock mass before mining occurs. Tends to hold the rock mass together.</td>
</tr>
<tr>
<td>Consultation</td>
<td>Seeking information or advice from another person taking into account their feelings, interests and expertise.</td>
</tr>
<tr>
<td>Contractor</td>
<td>Provider of services to a person or organisation and who is not a direct employee.</td>
</tr>
<tr>
<td>Controlled drilling and blasting</td>
<td>The art of minimising rock damage during blasting. It requires the accurate drilling and placement and initiation of appropriate explosive charges in the perimeter holes to achieve efficient rock breakage with least damage to the remaining rock around an excavation.</td>
</tr>
<tr>
<td>Cooling power index (W/m²)</td>
<td>The measure the velocity of air in watts per square metre.</td>
</tr>
<tr>
<td>Core risk program</td>
<td>Managed program developed too effectively eliminate/minimise high-risk activities in a specific workplace.</td>
</tr>
<tr>
<td>Destressed zone</td>
<td>A zone of rock around the perimeter of an excavation where the rock stress field has exceeded the strength of the rock mass at some time during its mining history. The rock mass is in a post-peak loading condition and it may be capable of carrying significant loads with low levels of lateral confinement being provided by reinforcement.</td>
</tr>
<tr>
<td>Dilution</td>
<td>The contamination of ore with barren wall rock during stoping operations.</td>
</tr>
<tr>
<td>Dip</td>
<td>The angle a plane makes with the horizontal.</td>
</tr>
<tr>
<td>Discontinuity</td>
<td>Any significant mechanical break or fracture of negligible tensile strength in a rock.</td>
</tr>
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<tr>
<td>Document control</td>
<td>A system of managing, distributing and controlling documents.</td>
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<td>Dowel</td>
<td>An untensioned rock bolt, anchored by full column or point anchor grouting, generally with a face plate in contact with the rock surface.</td>
</tr>
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<td>Dry bulb temperature</td>
<td>Is the temperature of the cur, commonly used and referred to in weather reports (Brake Fulker 1999)</td>
</tr>
<tr>
<td>Earthquake</td>
<td>The local shaking, trembling or undulation of the ground surface and the radiated seismic energy caused most commonly by sudden fault slip, volcanic activity or other sudden stress changes in the Earth.</td>
</tr>
<tr>
<td>Elastic</td>
<td>Capable of sustaining stress without permanent deformation. Tending to return to its original shape or state when the applied stress is removed.</td>
</tr>
<tr>
<td>Elastic limit</td>
<td>See yield point.</td>
</tr>
<tr>
<td>Emergency</td>
<td>High risk situations that if not controlled could lead to disaster.</td>
</tr>
<tr>
<td>Expert</td>
<td>Those who do the job and have particular experience, skills and knowledge.</td>
</tr>
<tr>
<td>Fault</td>
<td>A naturally occurring plane or zone of weakness in the rock along which there has been movement. The amount of movement can vary widely.</td>
</tr>
<tr>
<td>Fill</td>
<td>Waste sand or rock, cemented or uncemented in any way, used either for support, to fill stope voids underground, or to provide a working platform or floor.</td>
</tr>
<tr>
<td>First aid injury/illness</td>
<td>Work related injury/illness requiring first aid treatment on site only.</td>
</tr>
<tr>
<td>Foliation</td>
<td>Alignment of minerals into parallel layers; can be planes of weakness in rocks.</td>
</tr>
<tr>
<td>Footwall</td>
<td>The rock below the orebody.</td>
</tr>
<tr>
<td>Forms</td>
<td>Documentation used to record and support program and procedures.</td>
</tr>
<tr>
<td>Friction rock stabilisers</td>
<td>Steel reinforcing elements, typically a “C” shaped shell, that are forced into holes drilled in the rock. Frictional forces between the side of the hole and the element to generate forces to limit rock movement. The anchorage capacity of the device depends on the anchorage length above any plane of weakness and the frictional interference between the bore-hole wall and the outer surface of the shell. Anchorage capacity is dependent on the hole diameter and the effective anchorage length in solid ground.</td>
</tr>
<tr>
<td>Geology</td>
<td>The scientific study of the Earth, the rock of which it is composed, and the changes which it has undergone or is undergoing.</td>
</tr>
<tr>
<td>Geological structure</td>
<td>A general term that describes the arrangement of rock formations. Also refers to the folds, joints, faults, foliation, schistosity, bedding planes and other planes of weakness in rock.</td>
</tr>
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Geotechnical engineering
The application of engineering geology, hydrogeology, soil mechanics, rock mechanics and mining seismology to the practical solution of ground control challenges.

Ground control
The ability to predict and influence the behaviour of rock in a mining environment, having due regard for the safety of the workforce and the required serviceability and design life of the openings.

Hanging wall
The rock above the orebody.

Hazard
Source of potential harm.

Health assessments
Medical assessments that focus on determining the ability of a person to perform particular tasks/jobs safely.

Health surveillance
Monitoring of individuals for the purpose of identifying changes in health status that may be due to occupational exposure to a hazard.

Heat illness
Debilitating condition brought on by exposure to heat stress and including heat rash, heat syncope (heat collapse), heat exhaustion, heat stroke, neurological disorders (i.e., nausea, loss of coordination, lethargy, concentration lapses) and dehydration.

Heat strain
The physiological response to heat stress that may or may not result in heat illness.

Heat stress
The sum of environmental and metabolic heat loads on the individual (Lyne, B, 1999).

Heat stress index
The index eligible for selection for use in the management procedure/plan that must be a recognised heat stress management index that is technically documented. Some of these indices include; air cooling power, thermal work load, or Wet bulb globe temperature. Indices include:

- Effective Temperature (ET)
- Corrected Effective Temperature (CET)
- Air Cooling Power (ACP)
- Thermal Work Limit (TWL)
- Wet Bulb Globe Temperature (WBGT)

Heat stroke
A life threatening advanced state of heat illness characterised by a failure of the body’s thermo-regulatory system. In essence, the body sends too much blood to the surface of the skin in an attempt to cool itself down. This blood is diverted away from organs (e.g., the heart), which then begin to shut down.

Heat Trigger Level
A trigger level may be singular or a combination of measureable factors that, when reached require and specify the action to be taken. Factors such as air velocity, wet bulb, dry bulb, body core temperature, time or other matter as agreed with the workers involved, may be used.
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<td>Illness/disease</td>
<td>Usually results from long or repeated exposure to a hazardous agent eg noise-induced hearing loss, silicosis, dermatitis.</td>
</tr>
<tr>
<td>Induced stress</td>
<td>The stress that is due to the presence of an excavation. The induced stress depends on the level of the in-situ stress and the shape of the excavation.</td>
</tr>
<tr>
<td>Injury management plan</td>
<td>Activities associated with ensuring an early, safe and durable return to work following workplace injury.</td>
</tr>
<tr>
<td>Injury</td>
<td>Usually the result of a single, traumatic event where the harm or hurt is immediately obvious such as a cut, burn and strain.</td>
</tr>
<tr>
<td>In-situ stress</td>
<td>The stress or pressure that exists within the rock mass before any mining has altered the stress field.</td>
</tr>
<tr>
<td>Inspection</td>
<td>Looking for hazards in the workplace using an ordered, scheduled and documented approach.</td>
</tr>
<tr>
<td>Instability</td>
<td>Condition resulting from failure of the intact rock material or geological structure in the rock mass.</td>
</tr>
<tr>
<td>Job safety analysis (JSA)</td>
<td>Systematic breakdown of a job into tasks/steps in order to identify hazards, assess risks and select the best control.</td>
</tr>
<tr>
<td>Joint</td>
<td>A naturally occurring plane of weakness or break in the rock, along which there has been no visible movement parallel to the plane.</td>
</tr>
<tr>
<td>Kinematic analysis</td>
<td>Considers the ability or freedom of objects to move without reference to the forces involved.</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Ability to obtain and retain theoretical information relating to a specific subject and being able to research further information.</td>
</tr>
<tr>
<td>Loose</td>
<td>Rock that should be removed by scaling to make the workplace safe.</td>
</tr>
<tr>
<td>Lost time injury/illness</td>
<td>Work related injury/illness where the affected person is unable to complete the next shift.</td>
</tr>
<tr>
<td>Medical/hospital injury/illness</td>
<td>Work related injury/illness requiring medical or hospital treatment.</td>
</tr>
<tr>
<td>Metabolic Heat</td>
<td>The total sum of heat generated by the activity of working muscles, and by the activity of other body organs and processes.</td>
</tr>
<tr>
<td>Mineral resource</td>
<td>An in-situ mineral occurrence quantified on the basis of geological data and an assumed cut-off grade only. More correctly referred to as an Identified Mineral Resource. Strict professional and technical criteria exist for the determination of mineral resources.</td>
</tr>
<tr>
<td>Mining induced seismicity</td>
<td>The occurrence of seismic events in close proximity to mining operations. During and following blast times there is usually a significant increase in the amount of seismic activity in a mine. Mining-induced seismicity is commonly associated with volumes of highly-stressed rock, sudden movement on faults or intact failure of the rock mass.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<td>-----------------------------</td>
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</tr>
<tr>
<td>Notifiable accidents/incidents</td>
<td>Categories of accidents/incidents that must be reported to statutory authorities.</td>
</tr>
<tr>
<td>Ore</td>
<td>Part of an ore reserve. See ore reserve.</td>
</tr>
<tr>
<td>Ore reserve</td>
<td>That part of a mineral resource that is considered to mineable in terms of tonnage and grade following an appropriately detailed study of the technical and economic criteria and data. The plural may also used to refer to a list of known ore zones that a mine has identified as being suitable for mining at some time in the future. Strict professional and technical criteria exist for the determination of ore reserves.</td>
</tr>
<tr>
<td>Overhead Work</td>
<td>Work that is carried out above shoulder height, usually with upper body muscle groups. Overhead work requires considerably more effort that work below shoulder height and therefore generates more stress and more metabolic heat.</td>
</tr>
<tr>
<td>Overbreak</td>
<td>The excess rock broken outside the design perimeter of an underground excavation. Overbreak increases the amount of rock to be moved and may reduce mining efficiency. It may also increase the amount of barring down and ground support required.</td>
</tr>
<tr>
<td>Pillar</td>
<td>An area of ore left to support the overlying rock or hanging wall. There are temporary pillars recovered at sometime in the future and permanent pillars left in place for the life of the mine.</td>
</tr>
<tr>
<td>Plane of weakness</td>
<td>A naturally-occurring crack or break in the rock mass along which movement can occur.</td>
</tr>
<tr>
<td>Plastic</td>
<td>Capable of deformation at constant stress once the yield point is exceeded. The ability of a material to undergo permanent deformation without returning to its original shape or failing.</td>
</tr>
<tr>
<td>Policy</td>
<td>A general statement of an organisation's (or an operation's) aims, commitment, responsibilities and resources necessary to achieve a particular objective.</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment.</td>
</tr>
<tr>
<td>Positive performance indicators</td>
<td>Defined measurable outcomes that provide a tool for comparison to actual performance (may also be referred to as health and safety target).</td>
</tr>
<tr>
<td>Procedure</td>
<td>Step-by-step description of what’s to be done and by whom.</td>
</tr>
<tr>
<td>Program</td>
<td>Grouping of various activities or strategies employed to manage a particular function or hazard.</td>
</tr>
<tr>
<td>Principal</td>
<td>Person or organisation that purchases the services provided by contractor.</td>
</tr>
</tbody>
</table>
Ravelling

The gradual failure of the rock mass by rock blocks falling/sliding from the opening perimeter under the action of gravity, blast vibrations or deterioration of rock strength. A gradual failure process that may go unnoticed. The term unravelling is also used to mean the same thing.

Reinforcement

The use of tensioned rock bolts and cable bolts, placed inside the rock, to apply large stabilising forces to the rock surface or across a joint tending to open. The aim of reinforcement is to develop the inherent strength of the rock and make it self-supporting. Reinforcement is primarily applied internally to the rock mass.

Release of load

Excavation of rock during mining removes or releases the load that the rock was carrying. This allows the rock remaining to expand slightly due to the elastic properties of the rock.

Review

Overview of health and safety performance.

Risk

The combination of the likelihood of a specific unwanted event and the potential consequences if it should occur.

Risk assessment

A process that involves measurement of risk to determine priorities and to enable identification of appropriate level of risk treatment (used also to describe the overall process of risk management).

Risk control

Selection/implementation of strategies to prevent/control hazards.

Risk management process

The overall description of the steps taken to manage risk identify, assess and control.

Risk rating

The category or level or risk assigned following risk assessment (such as high, medium and low).

Rock bolt

A tensioned bar or hollow cylinder, usually steel, that is inserted into a drill hole in the rock and anchored by an expansion shell anchor at one end and a steel face plate and a nut at the other end. The steel face plate is in contact with the rock surface.

Rock mass

The sum total of the rock as it exists in place, taking into account the intact rock material, groundwater, as well as joints, faults and other natural planes of weakness that can divide the rock into interlocking blocks of varying sizes and shapes.

Rock mass strength

Refers to the overall physical and mechanical properties of a large volume of rock which is controlled by the intact rock material properties, groundwater and any joints or other planes of weakness present. One of the least well understood aspects of geotechnical engineering.

Rock mechanics

The scientific study of the mechanical behaviour of rock and rock masses under the influence of force fields.

Rock noise

Sounds emitted by the rock during failure, may be described as cracking, popping, tearing and banging.
Rockburst
The instantaneous failure of rock causing a sudden violent expulsion of rock material at the surface of an excavation. Can be a serious hazard to people and equipment. Sometimes used to describe a seismic disturbance to a surface or underground mine where damage results to the mine structure or equipment.

Safe work procedure (SWP)
Step by step description of the safest and most effective way to carry out a particular job. May also be known as:
- Safe Operating Instruction
- Task Instruction
- Work Instruction
- Work Method Statement

Scaling
The art and function of making the ground safe using a scaling bar to locate and remove loose rock from the walls, face and backs of the workplace. Loose or potentially unstable rock is prised off the rock surface with a scaling bar. Also referred to as barring down.

Scaling bar
A solid steel bar with a straight chisel point at one end and a heel and toe chisel point at the other end, used to remove loose potentially unstable rock. Hollow aluminium bars, fitted with steel chisel tips at each end, can provide longer reach in high headings.

Seismic event
Earthquakes or vibrations caused by sudden failure of rock releasing stored strain energy. Not all seismic events produce damage to the mine structure, hence all seismic events are not necessarily rockbursts.

Seismicity
The geographic and historical distribution of earthquakes.

Seismology
The scientific study of earthquakes by the analysis of vibrations transmitted through rock and soil materials. The study includes the dynamic analysis of forces, energy, stress, duration, location, orientation, periodicity and other characteristics.

Shear
A mode of failure where two objects or pieces of rock tend to slide past each other.

Shear stress
A stress that tends to cause an object to slide.

Shotcrete
Pneumatically applied cement, water, sand and fine aggregate mix that is sprayed at high velocity on the rock surface and is thus compacted dynamically. Tends to inhibit blocks ravelling from the backs, walls and face of an excavation.

Skills
Practical ability to apply theoretical knowledge to particular situations.

Slabbing
Unstable slabs of rock formed by close spaced foliation or bedding planes in the backs or walls. Can also be caused by high stress levels that produce flat slabs parallel to the walls or backs.

Slope
Any continuous face of rock mass within the overall pit wall (without stepping/herms).

Smooth blasting
The use of closely spaced parallel perimeter holes charged with low strength explosives, fired after the main round. Can be used to reduce blast damage to the rock mass and improve rock stability.
SMP

Safety Management Plan.

Spalling

Stress induced failure of the rock mass that results in small, thin, curved, sharp edged pieces of rock ejected or falling from the backs or walls of an excavation. Generally accompanied by rock noise, usually associated with high rock stress.

Stope

An excavation where ore is extracted on a large scale.

Stope lift

A horizontal slice of ore mined from the back of a stope. Generally applied to cut and fill stoping methods.

Strain

The change in length per unit length of a body resulting from an applied force. Within the elastic limit strain is proportional to stress.

Strength

The largest stress that an object can carry without breaking. Common usage is the stress at failure.

Stress

May be thought of as the internal resistance of an object to an applied load. When an external load is applied to an object, a force inside the object resists the external load. The terms stress and pressure refer to the same thing. Stress is calculated by dividing the force acting by the original area over which it acts. Stress has both magnitude and orientation.

Stress field

A descriptive term to indicate the pattern of the rock stress (magnitude and orientation) in a particular area.

Stress shadow

An area of low stress level due to the flow of stress around a nearby excavation, eg a large stope. May result in joints opening up causing rock falls.

Strike

The bearing of a horizontal line in a plane or a joint.

Subdrill

The length of blast hole which extends beyond the next bench floor level. Subdrill is included in the blast design to provide adequate broken rock subgrade for developing working benches.

Support

The use of steel or timber sets, concrete lining and steel liners, that are placed in contact with the rock surface to limit rock movement. The rock mass has to move on to the support before large stabilising forces are generated. Support is applied externally to the rock mass.

Tensile

The act of stretching of material. Tensile forces can cause joints to open and may release blocks causing rock falls.

Tectonic forces

Forces acting in the Earth’s crust over very large areas to produce high horizontal stresses which cause can earthquakes. Tectonic forces are associated with the rock deforming processes in the Earth’s crust.

Tensile stress

A stress that tends to cause a material to stretch. Can cause joints to open and may release blocks causing rock falls.
Ultramafic rock

Typically, dark coloured rocks that have been intruded into the Earth or extruded underwater in a marine environment. May have been altered by heat and pressure producing foliation in the rock. They can be low strength, sheared and altered and a potential source of challenging ground conditions.

Wall

A wall can refer to a section of, or the complete profile of, the perimeter of an open pit excavation.

Wedge

A block of rock bounded by joints on three or more sides that can fall or slide out under the action of gravity, unless supported.

Wet bulb globe temperature (WBGT)

Is the temperature at which water evaporates into the air (at a particular Dry bulb temperature) once equilibrium between water and air has occurred. It is very much more important than the dry bulb temperature to physiologist as the evaporation of sweat is released to the partial pressure of water vapour in the air (in effect, the humidity). Knowing any two of dry bulb temperature, wet bulb temperature or humidity (along with barometric pressure) will allow calculation of the third. (Brake fulker 1999). It is not the temperature of water vapour in air.

Windrow

A continuous mound of loose material, of appropriate height, placed at the toe or crest of a slope as a barricade to falling objects or to prevent personnel/mine equipment from falling inadvertently down pit walls. (Can also be referred to as a bund).

Winze

An internal connection between two levels constructed by developing downward.

Yield point

The maximum stress that a material can sustain without permanent deformation or rupture. The limit of proportionality between stress and strain. Also known as the elastic limit.

VRT – Virgin rock temperature

The temperature of undisturbed surrounding rock strata. This temperature increases with depth and is a result of the flow of heat from the earth’s core to the surface. The Virgin Rock Temperature is modified by the local affects of groundwater and geothermal anomalies.

Yield point

The maximum stress that a material can sustain without permanent deformation or rupture. The limit of proportionality between stress and strain. Also known as the elastic limit.
7.2 JURISDICTIONAL DESCRIPTIONS

Information for this section is sourced from the Chief Inspector of Mines website, www.agso.gov.au/ccim, at the time of publication.

7.2.1 NEW SOUTH WALES

7.2.1.1 PORTFOLIO ARRANGEMENTS

Minister for Mineral Resources     Hon E O’beid
Director-General, Department of Mineral Resources     A. Coutts
Director, Mine Safety and Environment     G. Terrey
Assistant Director, Safety Operations     R. Regan
Assistant Director, Environment     K. Hollands
Assistant Director, Performance Improvement     R. Morrison

7.2.1.2 LINE RESPONSIBILITY

Director, Mine Safety and Environment reports to Director-General, Department of Mineral Resources.

Chief Inspector of Coal Mines and Assistant Director Safety Operations to Director, Mine Safety and Environment.

Chief Inspector of Mines (Metalliferous) to Director, Mine Safety and Environment.

7.2.1.3 MINISTERIAL COUNCIL ON MINERALS

The Director-General is a member of the Standing Committee of Officials, which supports the Ministerial Council on Minerals with responsibilities for minerals.

7.2.1.4 LEGISLATIVE ARRANGEMENTS

Existing

Coal Mines Regulation Act 1982 No. 67 and various regulations.*
Mining Act 1992 No. 29.
Mines Inspection Act 1901 No. 75 and General Rule 2000.*
Dangerous Goods Act 1975 No. 68 and various regulations.
Petroleum (Onshore) Act 1991 No. 84 and various regulations.
Petroleum (Submerged Lands) Act 1991 No. 13 and various regulations.
Environmental Planning and Assessment Act 1979 No. 203 and various regulations.

* Associated legislation under the umbrella of the OHS Act 2000.

Proposed

A new regulatory model is being considered.
The Coal Mines Regulation Act and the Mines Inspection Act are currently being reviewed.

Coverage

Coal: Underground and open-cut mines and associated surface operations including environment. Coverage related to activities, equipment and is influenced by mining lease boundaries.

Metalliferous: Underground and open-cut mines and associated surface operations.

Coverage related to activities, equipment and is not influenced by mining lease boundaries. Metalliferous includes extractive industries.
Operational Responsibilities

Mines Inspectorate
The Director, Mines Safety and Environment is currently addressing the recommendations from the Mine Safety Review. This includes devolution of environmental issues from inspectors to an environmental unit within the Division. The Division has restructured, setting clear priorities, and is changing its skills profile, reviewing and formalising its process, and computerising its “management information system”.

7.2.2 NEW ZEALAND

7.2.2.1 PORTFOLIO ARRANGEMENTS
Department of Labour, OSH Service

General Manager, Workplace Health and Safety R. Hill
Business Adviser (Mining) G. Munro

Acting Chief Inspector of Mines, Quarries and Tunnels J. Walrond

7.2.2.2 LINE RESPONSIBILITY
Business Adviser (Mining) to National Operations Manager, Operations Policy Unit, Chief Inspector of Mines, Quarries and Tunnels to Branch Manager, OSH Service.

7.2.2.3 LEGISLATIVE ARRANGEMENTS
Existing
Extractives inspectors are appointed under the Health and Safety in Employment Act (HSE Act) 1992 to cover the mining, coal mining, quarrying, tunnelling, geothermal and petroleum industries. All workplace inspectors are appointed under this Act.

Some Extractives inspectors are also appointed as enforcement officers under the Crown Minerals Act 1991. This is the statute under which mining privileges are issued.

Due to the large number of Coal Mining Licences and Mining Licences that were issued prior to the introduction of the Crown Minerals Act, and the subsequent repeal of the Coal Mines Act 1979 and the Mining Act 1981, most inspectors have obligations in a range of environmental matters which form consent conditions.

Regulations administered by the Extractives Inspectors include the HSE Regulations 1995, the HSE (Mining Administration) Regulations 1996, the HSE (Mining - Underground) Regulations 1999, the HSE Petroleum (Exploration and Extraction) Regulations 1999 and the HSE Pipelines Regulations 1999. The Geothermal Regulations remain in place under the now-repealed Geothermal Energy Act.

Operational Responsibilities
The operational responsibilities of extractives inspectors can be broadly described as the administration and enforcement of health and safety in the mining industry. There is a strong emphasis on health and safety education.

Other responsibilities include work program approvals for all operations licensed under the repealed legislation referred to above, legislation reviews, participation in Mines Rescue Trust Board and liaison with local government organisations in respect of work program approvals under the Crown Minerals Act.

The extractives inspectorate is funded from the allocation granted to the OSH Service of the Dept. of Labour.

7.2.3 NORTHERN TERRITORY

7.2.3.1 PORTFOLIO ARRANGEMENTS
Minister for Business, Industry and Resource Development Paul Henderson
Chief Executive Officer Dept of Business, Industry & Resource Development Peter Blake
General Manager Minerals & Energy Brian Ely
Director of Mines Tony McGill
Manager, Engineering & Technical Support Tim Gosling
Chief Government Mining Engineer Kee Hah
7.2.3.2 LINE RESPONSIBILITY

General Manager, Minerals & Energy reports to the Chief Executive Officer.

Director of Mines reports to the General Manager, Minerals & Energy.

Manager-Engineering & Technical Support to Director of Mines.

Chief Government Mining Engineer to Manager-Engineering & Technical Support.

7.2.3.3 MINISTERIAL COUNCIL ON MINERALS

The Chief Executive Officer is a member of the Standing Committee of Officials, which supports the Ministerial Council on Minerals.

7.2.3.4 LEGISLATIVE ARRANGEMENTS

Existing

Mining Act (2001)

Mining Management Act 2001

The Mining Management Act (2001) commenced on 1 January 2002. The new Act repeals the Mine Management Act and the Uranium Mining (Environment Control) Act. It expands the requirement to obtain an Authorisation before carrying out mining activities from uranium mining to all mining and to exploration involving substantial disturbance. The new Act makes no reference to the Chief Government Mining Engineer and mines inspectors are replaced by Mining Officers. Operators for mines are required to submit a mining management plan when applying for the Authorisation and this will require at least annual review.

Coverage

The Mining Management Act (2001) deals with the safety, health and environmental aspects of exploration, mining and rehabilitation activities involving underground and open cut metalliferous mining, mining of barren rock and extractive minerals (e.g., sand, gravel, soil, etc.) irrespective of tenure. Tenure is granted under the Mining Act, but conditions relating to OHS and environmental management are included in an Authorisation issued under the Mining Management Act. The detail of the OHS and environmental management plans are incorporated into the Mining Management Plans for the mining site.

Operational responsibilities

Mining Officers located within Mines Division monitor and enforce the management, safety, health and environmental requirements for exploration, mining and rehabilitation activities. This is done by inspecting, auditing and educating industry personnel on the standards sought by the government.

7.2.4 QUEENSLAND

7.2.4.1 PORTFOLIO ARRANGEMENTS

Minister for Natural Resources and Minister for Mines Stephen Robertson

Director-General, Department of Natural Resources and Mines Terry Hogan

Deputy Director-General, Mines Bryan Coulter

Executive Director, Safety and Health Peter Dent

Chief Inspector of Mines Peter Minahan

Deputy Chief Inspector of Mines (Coal) Brian Lyne

Deputy Chief Inspector of Mines (Metalliferous) Roger Billingham

7.2.4.2 LINE RESPONSIBILITY

Deputy Director-General reports to the Director General.

ED Safety and Health Division reports to the Deputy Director-General, Mines.

Chief Inspector reports to the ED Safety and Health Division.

Deputy Chief Inspectors report to the Chief Inspector.
7.2.4.3 MINISTERIAL COUNCIL ON MINERALS

The Deputy Director-General, Mines is a member of the Standing Committee of Officials, which supports the Council, with responsibilities for minerals.

The Natural Resources area of the Department of Natural Resources and Mines has extensive involvement with the Natural Resource Management Ministerial Council, which replaced ANZECC.

7.2.4.4 LEGISLATIVE ARRANGEMENTS

Existing

Coal Mining Safety and Health Act 1999 and Coal Mining Safety and Health Regulation 2001.

Mining and Quarrying Safety and Health Act 1999 and Mining and Quarrying Safety and Health Regulation 2001.

Note:

1. The majority of the elements of the two Acts are identical, but the regulations are different.

Coverage

Coal: Underground and open-cut mines and associated surface operations. Does not cover railways, ports, environmental or tenure issues.

Metalliferous: Underground and open-cut mines, concentrators, smelters, quarries with blasting and crushing, exploration. Where ports and rail are integral to mine they are covered by the Act. Smelters and refineries remote from minesites are excluded from the Act. Does NOT cover environmental or tenures issues.

Mining tenures covered by Mineral Resources Act, administered by Department of Natural Resources and Mines. Environmental issues are covered by the Environment Protection Agency.

Operational responsibilities

Mines Inspectorate works closely with Explosives Inspectorate and Petroleum & Gas Inspectorate (also in Safety and Health Division).

They are not involved in administration of environmental or tenure issues.

They work as one inspectorate covering coal and metalliferous issues.

7.2.5 VICTORIA

7.2.5.1 PORTFOLIO ARRANGEMENTS

Minister for Energy and Resources C Broad

Secretary - Department of Natural Resources and Environment C Munro

Executive Director, Minerals and Petroleum, Victoria S Ashby (A/g)

Manager, Minerals and Petroleum Regulation R King

Chief Mining Inspector (CMI) G McLaughlan

Chief Inspector of Quarries (CIQ) J Mitas

7.2.5.2 LINE RESPONSIBILITY

Executive Director of Minerals and Petroleum, Victoria Reports to the Secretary of Department of Natural Resources and Environment.

Manager of Minerals and Petroleum Regulation to Executive Director of Minerals and Petroleum, Victoria.

CMI & CIQ to Manager of Minerals and Petroleum Regulation.

7.2.5.3 LEGISLATIVE ARRANGEMENTS


Occupational Health and Safety Act 1985 - for quarries, offshore petroleum facilities and oil & gas pipelines (currently not mines).

Dangerous Goods Act 1985 - for the manufacture, storage and use of explosives within licensed mining and extractive sites.

Coverage

Mining: The Mineral Resources (Health and Safety) Regulations 1991 and/or the Mineral Resources (Health and Safety in Large Opencut Mines) Regulations 1995 cover all work within a mining licence area.

Extractive: The Extractive Industry Regulations 1996 and Occupational Health and Safety Act 1985 and regulations cover extractive operations within a licensed Work Authority area. Mines Inspectors, by agreement with the Victorian WorkCover Authority (VWA), administer the OHS Act and regulations within the Work Authority area (excluding manufacturing and processing plants).

Officers of the VWA administer the legislation dealing with processing plants such as brick pressing, block making and concrete plants.

Explosives: The Dangerous Goods (Explosives) Regulations 2000 cover the manufacture, storage and use of explosives within the boundaries of the mining licence/Work Authority.

Operational responsibilities

The Minerals and Petroleum Regulation unit is involved in all stages from mining licence/work authority application to mine and/or extractive site closure. Staff includes mining engineers, environmental specialists and generalist technical officers. Work is team based (by region) and all staff cover general OHS and environmental matters. Mining engineers handle higher level OHS matters, and higher level environmental matters are dealt with by specialist environmental officers.

7.2.6 WESTERN AUSTRALIA

7.2.6.1 PORTFOLIO ARRANGEMENTS

Minister for State Development

Director-General,
Department of Mineral and Petroleum Resources Jim Limerick

State Mining Engineer
(General Manager - Mining Safety) Martin Knee

Director Mining Operations & Explosives and Dangerous Goods Malcolm Russell

7.2.6.2 LINE RESPONSIBILITY

State Mining Engineer reports to Director who reports to Executive Director (Statutory Operations) who, in turn, reports to the Director-General with a separate reporting channel direct to the Minister on certain matters.

7.2.6.3 MINISTERIAL COUNCIL ON MINERALS

The Director-General is a member of the Standing Committee of Officials, which supports the Council.

7.2.6.4 LEGISLATIVE ARRANGEMENTS

Existing

Mines Safety and Inspection Act (1994) covers both metalliferous and coal mining

Proposed

Independent external review (mandated in the statute itself) of the operation of the MSI Act is currently underway.

Regulations are to be reviewed (internally) following the completion of the review of the Act.
Coverage

The Act covers all mining activity, including exploration, construction and development, quarries, and metalliferous mining and processing, refineries and downstream processing, and mineral export facilities and major iron ore railways.

Operational responsibilities

The operational organisation of the Department is under review following the amalgamation of the former Departments of Minerals and Energy and Resources Development.

One significant change is the establishment of a Statutory Operations Group under an Executive Director with a direct reporting line to the Minister as well as via the Director General. This group encompasses mining and petroleum safety and environmental matters, mineral and petroleum titles, land access and native title issues in relation to minerals and petroleum and royalties.
7.3 LEGISLATIVE CROSS-REFERENCE

As mining legislation moves from a prescriptive regime to a systems-based safety management approach, mine sites are required to develop site-specific solutions to health and safety issues. To help develop those solutions it is planned to provide information that links legislative requirements and objectives with this Handbook. This material may be provided in any future update.

As a result, you are encouraged to develop this section by creating your own cross-reference between the regulatory requirements of your State or Territory with this Handbook. This will help in identifying what elements have been considered in the development of the safety management systems adopted by the operation.
7.4 AUSTRALIAN STANDARDS AND OTHER CODES

7.4.1 AUSTRALIAN STANDARDS

The following Australian Standards may provide useful information when seeking specific guidance on occupational health and safety related matters.

PART 1 ADMINISTRATION MANAGEMENT, RESPONSIBILITIES, DOCUMENTATION AND SAFETY SYSTEMS

Management

<table>
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<tr>
<th>Standard</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>AS 2124 - 2000</td>
<td>General Conditions of Contract.</td>
</tr>
<tr>
<td>ISO 9002</td>
<td>Quality Systems - Model for Quality Assurance in Production Installation and Servicing.</td>
</tr>
<tr>
<td>ISO 9003</td>
<td>Quality Systems - Model for Quality Assurance in Final Inspection and Test.</td>
</tr>
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</table>

Risk Management

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
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<tbody>
<tr>
<td>AS/NZS 3931 (Int) - 1995</td>
<td>Risk Analysis of Technological Systems - Applicable Guide.</td>
</tr>
</tbody>
</table>

Injury/Illness Reporting

<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
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<tbody>
<tr>
<td>AS 1614</td>
<td>Safety Signs for Mines and Tunnels.</td>
</tr>
<tr>
<td>AS 3166</td>
<td>Safety Signs for High Voltage Electricity.</td>
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<tr>
<td>AS 3790</td>
<td>Safety Triangles for Motor Vehicles.</td>
</tr>
<tr>
<td>AS 1742, 1743, 1744</td>
<td>Safety Signs for Road Traffic Control.</td>
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</table>
**PART 2  PROCEDURES AND PROCESSES**

**Emergencies**

ISO 3193  

AS 1851 - (Parts 1 - 16)  
Maintenance of Fire Protection Equipment.

AS 1851.1 - 1995  
Portable Fire Extinguishers and Fire Blankets.

AS 1851.2 - 1995  
Fire Hose Reels.

AS 1851.3 - 1995  
Automatic Fire Sprinkler Systems.

AS 1851.4 - 1994  
Fire Hydrant Installations.

(Amdt - 1997)

AS 1851.5 - 1981  
Automatic Smoke/Heat Venting Systems.

AS 2419.1 - 1994  
System Design, Installation and Commissioning.

(Amdt - 1996)

AS 2419.2 - 1994  
Fire Hydrant Values.

AS 2792 - 1992  
Fire Hose - Delivery Layflat.

AS 2444 - 2001  
Portable Free Extinguishers and Fire Blankets - Selections and Location.

AS 2441 - 1988  
Installation of Fire Hose Reels.

AS 3745 - 2002  

AS 4603-1999  
Flashback Arresters - Safety devices for use with Fuel Gases and Oxygen or Compressed Air.

**PART 3  PEOPLE**

**Personal Protective Equipment Workplace Atmosphere**

AS/NZS-1715 - 1994  
Selection, Use and Maintenance of Respiratory Protective Devices.

AS/NZS-1716 - 1994  
Respiratory Protection Devices.

(Amdt - 1996)

AS 3544-1988  
Industrial Vacuum Cleaners for Particulates Hazardous to Health.

**Safety Helmets**

AS 1800-1998  
The Selection, Care and Use of Industrial Safety Helmets.

AS 1801-1997  
Industrial Safety Helmets (incorporating Amendment 1).
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<th>Category</th>
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<tr>
<td>Gloves</td>
<td>AS/NZS 2161-1 to 9 2000/01</td>
<td>Occupational Protective Gloves.</td>
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<tr>
<td>Footwear</td>
<td>AS/NZS 2210</td>
<td>Occupation Protective Footwear.</td>
</tr>
<tr>
<td></td>
<td>AS 1674-1 - 1997</td>
<td>Fire Precautions.</td>
</tr>
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<td></td>
<td>AS 1674.2 - 1990</td>
<td>Electrical.</td>
</tr>
<tr>
<td>Body Protection</td>
<td>AS 3765 - 1990</td>
<td>Clothing for Protection Against Hazardous Chemicals.</td>
</tr>
<tr>
<td></td>
<td>AS 3765.1 - 1990</td>
<td>Protection Against General of Specific Chemicals.</td>
</tr>
<tr>
<td></td>
<td>AS 3765.2 - 1990</td>
<td>Limited Protection Against Specific Chemicals.</td>
</tr>
</tbody>
</table>
PART 4  WORKING ENVIRONMENT

Buildings and Structures

AS 1664 - 1997  Aluminium Structures.(also known as the SAA Aluminium Structures Code).
AS 1680 - 1998  Interior Lighting.
AS 1720 - 1997  Timber Structures (also known as the SAA Lift Code).
(Amdt - 1998)
AS 2208 - 1996  Safety Glazing Materials for Use in Buildings
(Amdt - 1999)  (Human Impact Considerations).

AS 2601 - 2001  The Demolition of Structures.
AS 2982 - 1997  Laboratory Construction.
AS 3600 - 2001  Concrete Structures.
AS 4100 - 1998  Steel Structures.

Height Safety

AS/NZS 1576 - 1995  Scaffolding.
AS/NZS 4576  Guidelines for Scaffolding.
AS1170 - 1994  Minimum Design Loads on Structures (also known as the SAA Loading Code).
AS/NZS 1891.3 - 1983  Industrial Fall - Arrests Systems and Devices.
AS 2210  Industrial Safety Belts and Harness - Selection, Use and Maintenance.
Ladders
AS 1892.1 - 1996 Portable Ladders - Metal.
AS 1892.2 - 1992 Portable Ladders - Timber.

Confined Space

Vibration

Noise
AS/NZS 2399 - 1998 Acoustics - Speculation for Personal Sound Exposure Meters

Dust

Ultra Violet Radiation
(Amdt - 1994)
Hazardous Substances

AS 1345 - 1995  Identification of the Contents of Piping, Conducts and Dusts.
AS 1940 - 1993  Storage and Handling of Flammable Combustible Liquids.
AS 3580 - 1 to 13 1990/2001 Methods for Sampling and Analysis of Ambient Air .

Dangerous Goods

AS 1216.3 - 1981  NFPA Hazardous Identification System.
AS 1216.4 - 1981  UN Substance Identification Numbers.
AS 2030 - 1985/1999 The approval, filling, inspection, testing and maintenance of cylinders for the storage and transport of compressed gases (also known as the SAA Gas Cylinders Code).

Hazardous Areas

AS/NZS 1596 - 2002  The Storage and Handling of LP Gas
AS 2337 - 1999  Gas Cylinder Test Stations.
AS/NZS 2430 - 1987/1997 Classification of Hazardous Areas (9 Parts)

Explosives

AS 2601 - 2001  The Demolition of Structures.

Flammable and Combustible Liquids

AS 1940 - 1993  The Storage and Handling of Flammable and Combustible Liquids.
Energy Sources

AS 1824.2 - 1985               Application Guide (IEC 71-2 and IEC 72-3).
AS 2067 - 1984                 Switchgear Assemblies and Ancillary Equipment for Alternating Voltages Above 1KV.
AS 2086 - 1996                 High Voltage AC Switchgear and Control gear - Metal Enclosed - Rated Voltages above 1KV up to and including 72.5 KV (IEC 298).
AS 2790 - 1989                 Electricity generating sets - Transportable (up to 25kW).
AS 2802 - 2000                 Electric Cables - Reeling and Trailing - for Mining and General Use/other than Coal Mines.
AS 3007 - 1987                 Electrical Installation - Surface Mines and Associated Processing Plant.
AS 3008.1 - 1989               Cables for Alternating Voltages up to and including 0.6/1 KV.

Transformers and Safety Isolating Transformers

AS/NZS 2381.1 - 1999          Electrical equipment for explosive atmospheres - Selection, installation and maintenance - General requirements.
AS 238 - 2 to 7               Electrical equipment for explosive atmospheres - Selection, installation 1989/1995 and maintenance.
AS 3439 - 1993                Low Voltage Switchgear and Controlgear assemblies.
Isolation


**PART 5  EQUIPMENT AND MACHINERY**

**Mobile Equipment**

**AS/NZS 1125 - 4240** - 1994  Remote Controls for Mining Equipment.

**AS 1180 - 1972**  Methods of Test for Hose made from Elastomeric Materials.


**AS 2294 - 1997**  Earthmoving Machinery - Protective Structures.

**AS 2359 - 1996**  Industrial Trucks (SAA Industrial Truck Code).

**AS 2359.1 - 1995**  Design and Manufacture.

**AS 2359.2 - 1985**  Operation.

**AS 2664 - 1983**  Earthmoving Machinery - Seat Belts and Seat Belt Anchorages.


**AS 2740-2001**  Wedge-Type Sockets.


**AS 2956 - 1 to 6 - 1988**  Earth-Moving Machinery - Instrumentation and Operator’s Controls.


**AS 2987 to 2988-1987**  General Conditions of Contract for the Supply of Equipment with or without Installation.


**AS 3791 - 1991**  Hydraulic Hose.


**Fixed Plant**

**AS/NZS 1200 - 2000**  Pressure Equipment.

**AS 1210 - 1997**  Unfired Pressure Vessels SAA Unfired Pressure Vessels Code.

**AS 1228 - 1997**  Pressure Equipment - Boilers
AS 2971 - 2002 Serially Produced Pressure Vessels.
AS 3768 - 1990 Boilers and Pressure Vessels - In-Service Inspection.
AS/NZS 3788 - 2001 Pressure Equipment - In-Service Inspections.
AS 4041 - 1998 Pressure Piping.
AS 4297-1995 Underground Mining - Stationary Air Compressors
AS 4332-1995 The Storage and Handling of Gases in Cylinders.

Dredges

Cranes and Hoists
AS 1418-1 - 1999/2002 Cranes (including Hoists and Winches - Parts 1 to 18).

Machine Guarding

Hot Work
AS 1554 - 1983/2000 Structural Steel Welding (known as the SAA Structural Steel Welding Code - Parts 1 to 3).
AS/NZS 1554 - 1994/2000 Structural Steel Welding (Parts 1 to 6).
AS 1674 Safety in Welding and Allied Processes.
Abrasive Wheels

AS 1788 Abrasive Wheels.
AS 1788.1 - 1987 Design Construction and Safeguarding.
AS 1788.2 - 1987 Selection Care and Use.

Piping

AS 1345C - 1982 Wallchart - Pipeline Identification.

PART 6 SHAFTS, WINDING AND HOISTING SYSTEMS

AS 3637 Underground Mining - Winding Suspension Equipment.
AS 3637.2 - 1989 Detaching Hooks.
AS 3637.3 - 1989 Rope Cappings.
AS 3637.4 - 1989 Draw Bars and Connecting Links.
AS 3637.5 - 1989 Rope Swivels and Swivel Hooks.
AS 3637.6 - 1991 Shackles and Chains.
AS 3785 Underground Mining - Shaft Equipment.
AS 3785.4 - 1992 Conveyances for Vertical Shafts.
AS 3785.5 - 1991 Headframes.
AS 3785.6 - 1992 Guides and Ribbing Ropes for Conveyances.
AS 3785.7 - 1993 Sheaves.
AS 3785.8 - 1994 Personnel Conveyances in other than Vertical Shafts.

For further information refer to the latest catalogue of Australian Standards and complete listing published by:

Standards Australia
Head Office and Administration
286 Sussex Street
Sydney NSW 2000
Mail
GPO Box 5420
Sydney NSW 2001
Telephone: (02) 8206 6000
Facsimile: (02) 8206 6001

Customer Service
Telephone: 1300 654646
Facsimile: 1300 454949
E-mail: sales@standards.com.au
Internet: www.standards.com.au
7.4.2 OTHER CODES

**NSW Department of Mineral Resources**

Mechanical Design Guidelines - MDG 1 to MDG 9 Series.
Mechanical Design Guidelines - MDG 10 to MDG 31 Series.
Mechanical Design Guidelines - MDG 32 to MDG 39 Series.
Mining Design Guidelines - MDG 1001 to MDG 1009 Series.
Mining Design Guidelines - MDG 1010 to MDG 1029 Series.
Electrical - MDG 2003 to MDG 2004 Series.
General Mining Documents - MDG 3001 Series.
System Safety Accident Investigation - MDG 3002 Series.
Summary of Reportable Accidents & Dangerous Occurrences - MDG 3003 Series.
Special Reports - MDG 3004 Series.
Vibration Related Back Injuries - MDG 3005 Series.
Hydraulic Safety - MDG 3007 Series.
List of Coal Mines - MDG 3008 Series.
Safety Alerts - MDG 3009 Series.
Significant Incident Reports - MDG 3010 Series.
List of MDG's - MDG 3011.
Safety Communiqué - MDG 3012 Series.
Case Study - MDG 4001 Series.
Mine Safety Review - MDG 5001 Series.
7.5  USEFUL WEB SITE OH&S LINKS

The following list of internet sites provide statistical reports, guidelines, safety alerts and many other forms of information in relation to health & safety issues.

International

- www.msha.gov - Mine Safety and Health Administration (MSHA) of the United States Department of Labour.
- www.cdc.gov/niosh/ - National Institute for Occupational Safety and Health (NIOSH) US federal agency responsible for conducting research and making recommendations for the prevention of work-related disease and injury.
- www.hse.gov.uk/ - Health and Safety Executive - British government agency.
- www.ccohs.ca - Canadian Centre for Occupational Health and Safety.

Australia/National

- www.miningitab.com.au - National Mining Industry Training Advisory Body (NMITAB) provides a forum for employers and employees to influence the direction of vocational education and training policies.
- www.smenet.org - Society for Mining, Metallurgy and Exploration.
- www.nightshift.com - Night Shift initiative serving the shiftwork community.

New South Wales


Northern Territory


Queensland

- www.detir.qld.gov.au - Department of Employment and Training, Department of Industrial Relations.
Western Australia

- www.safetyline.wa.gov.au - Department of Consumer and Employment Protection.

South Australia

- www.pir.sa.gov.au - Department of Primary Industries & Resources.
- www.workcover.com - WorkCover.

Tasmania

- www.mrt.tas.gov.au - Department of Infrastructure, Energy and Resources.

Victoria

- www.nre.vic.gov.au - Department of Natural Resources and Environment.
7.6 WORK IN PROGRESS

This section contains a number of topics under development or to be developed in response to:

- new or recently identified health and safety concerns;
- incidents; and
- developments in other areas/sections of the industry, other industries and other countries.

The table is structured to show the second tier numbering system used in the Handbook and topics listed by bullet points have been identified to be included in any future edition or are under development or to be developed.

Generally, the document type may be classified as a code, standard, guideline, guidance note, recognised standard or applied guideline (legislation based) or an approved code of practice (referenced at law).
### Part 1: Administration - Management, Responsibilities, Documentation and Safety Systems

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<thead>
<tr>
<th>Reference/Topic</th>
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<th>Comments/ reason for development</th>
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<th>Responsibility/Contact</th>
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<td>1.2 DOCUMENT CONTROL</td>
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<tr>
<td>- Approvals &amp; authorisations</td>
<td>Guideline</td>
<td>Identified health and safety concerns</td>
<td>To be commenced</td>
<td>New South Wales Department Of Mineral Resources – G Terrey <a href="mailto:terreyg@minerals.nsw.gov.au">terreyg@minerals.nsw.gov.au</a></td>
</tr>
<tr>
<td>1.3 RESPONSIBILITIES AND ACCOUNTABILITIES</td>
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<tr>
<td>- Government commitment</td>
<td>Guideline</td>
<td>Identified health and safety concerns</td>
<td>To be commenced</td>
<td>New South Wales Department Of Mineral Resources – G Terrey <a href="mailto:terreyg@minerals.nsw.gov.au">terreyg@minerals.nsw.gov.au</a></td>
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<tr>
<td>- Investigations</td>
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<td>- Boards of inquiry</td>
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<td>- Inspection of Underground Coal Mine Workings</td>
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### Part 2  Procedures and Processes

#### 2.1 COMMUNICATION AND CONSULTATION
- Consultation  
  - Guideline  
  - Develop in line with new OH&S Act  
  - Draft  
  - New South Wales Department Of Mineral Resources – G Terrey terreyg@minerals.nsw.gov.au

#### 2.2 SAFE OPERATING PROCEDURES

#### 2.3 WORKPLACE INSPECTION

#### 2.4 ACCIDENT INVESTIGATION
- Learning the lessons  
  - Guideline  
  - Identified health and safety concerns  
  - To be commenced  
  - New South Wales Department Of Mineral Resources – G Terrey terreyg@minerals.nsw.gov.au

#### 2.5 EMERGENCY PLANNING AND RESPONSE
- Underground Emergency  
  - Preparedness Management Plan  
  - MDG 1022 Guideline  
  - Update/revision  
  - last update 24/9/99  
  - New South Wales Department Of Mineral Resources – R Leggett and G McDonald-leggett@minerals.nsw.gov.au, mcdonald@minerals.nsw.gov.au
- Quality of Stonedust Sampling and analysis of roadway dust in underground coal mines  
  - Recognised Standard  
  - Drafting  
  - Queensland Department of Natural Resources and Mines

#### 2.6 PURCHASING

### Part 3  People

#### 3.1 ACCESS TO THE MINE

#### 3.2 PEOPLE WORKING ALONE

#### 3.3 LABOUR HIRE

#### 3.4 EMPLOYEE MANAGEMENT

#### 3.5 TRAINING AND DEVELOPMENT

#### 3.6 HEALTH AND FACILITIES
- Fitness for Work  
  - Fatigue  
  - Physical fitness  
  - Psychological fitness  
  - Guidelines  
  - Guidance note  
  - Guidance note  
  - Guidance note  
  - Draft  
  - New South Wales Department Of
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Guideline

To be commenced

New South Wales Department Of Mineral Resources – G Terrey
@minerals.nsw.gov.au

To be commenced

New South Wales Department Of Mineral Resources – I Anderson
@minerals.nsw.gov.au
### 4.8.2 ELECTRICITY
- The safe use of electricity in mines

| Guideline | Identified health and safety concerns | Under development | Victorian Department of Natural Resources and Environment |

### 4.9 VIBRATION

### 4.10 NOISE

### 4.11 WORKPLACE TEMPERATURES
- Heat Management

| Different requirements for coal and metal | Under review | Queensland Department of Natural Resources and Mines |

### 4.12 DUST

### 4.13 VENTILATION
- System Components
- Risk Assessment
- Design aspects
- Document Control
- Gas Outbursts
- Ventilation Training

| Guideline | Guideline | Identified health and safety concerns | To be commenced | New South Wales Department Of Mineral Resources – G Terrey terreyg@minerals.nsw.gov.au |

| Guideline | To be commenced | New South Wales Department Of Mineral Resources – R Regan regannr@minerals.nsw.gov.au |

| Guideline | To be commenced | New South Wales Department Of Mineral Resources – G Cowan cowang@minerals.nsw.gov.au |

### 4.14 HAZARDOUS SUBSTANCES
- Crystalline Silica
- Arsenic
- Hydrogen Fluoride
- Flammable Chemicals
- Bitumen
- Lead
- Diesel, Oils

| MDG 1021 Guideline | Update/revision | last update 3/9/99 | New South Wales Department Of Mineral Resources – G Terrey terreyg@minerals.nsw.gov.au |

| MDG 1023 Guideline | Update/revision | last update 10/9/99 | New South Wales Department Of Mineral Resources – R Regan regannr@minerals.nsw.gov.au |

| MDG 1021 Guideline | Identified health and safety concerns | To be commenced | New South Wales Department Of Mineral Resources – G Cowan cowang@minerals.nsw.gov.au |
### Part 7: Other References

#### 4.15 FUMES

**Use of explosives in underground coal mines**
- MDG 1012 Guideline
- Identified health and safety concerns
  - Last update 9/8/99
  - To be commenced

New South Wales Department Of Mineral Resources - A Ryan
ryan@minerals.nsw.gov.au

New South Wales Department Of Mineral Resources – G Terrey
terreyg@minerals.nsw.gov.au

#### 4.16 EXPLOSIVES USE

- Administrative controls
- Document control
- Flyrock

**Guideline**
- Flyrock

**Document control**
- New South Wales Department Of

**Administrative controls**
- Guideline

**Guideline**
- To be commenced

Part 5  Equipment and Machinery

#### 5.1 HAZARD AWARENESS

#### 5.2 HAZARDOUS PLANT

#### 5.3 TOOLS

- Auger
- Band Tool
- Concrete mixer

**Guideline**
- Identified health and safety concerns
- To be commenced

New South Wales Department Of Mineral Resources – G Terrey
terreyg@minerals.nsw.gov.au

**Guideline**
- To be commenced

New South Wales Department Of Mineral Resources – G Terrey
terreyg@minerals.nsw.gov.au

#### 5.4 MAINTENANCE AND repairs

#### 5.5 CRUSHING, SCREENING AND CONVEYOR MACHINERY

#### 5.6 ACCESS TO PLANT

#### 5.7 DREDGES (OPEN AND STILL WATER)

#### 5.8 ORE-CONVEYING SLURRY PIPELINES

#### 5.9 LIFTING EQUIPMENT

#### 5.10 MOBILE PLANT AND MACHINERY

#### 5.11 MOBILE EQUIPMENT USED ON THE SURFACE

#### 5.12 MOBILE CRANES

#### 5.13 MOBILE EQUIPMENT USED UNDERGROUND

- Construction and use of non-flammable vehicles in underground coal mines

#### 5.14 RAISE BORING

**Recognised Standard**
- Queensland Department of Natural Resources and Mines

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**Part 7: Other References**

July 2002

Minerals Industry Safety Handbook
### Part 6  Shafts, Winding and Hoisting Systems

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