



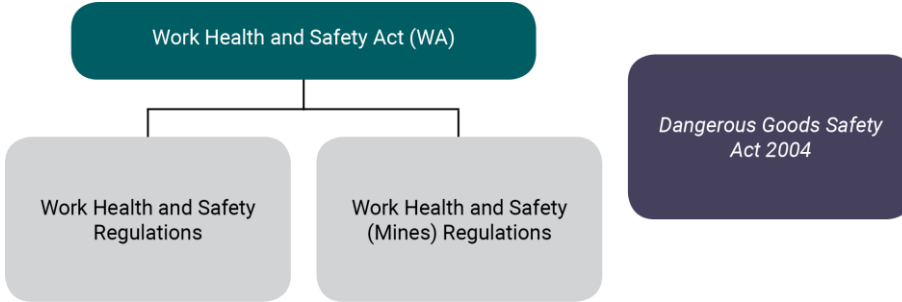
Government of **Western Australia**
Department of **Mines, Industry Regulation and Safety**

Proposal for Work Health and Safety (Mines) Regulations for Western Australia

Based on National Mines Safety Framework
drafting instructions and Mines Safety and Inspection
Regulations 1995

Introduction

For mines, both the general workplace regulations and mines regulations will be applicable, see schematic below



The attached document does not contain drafted provisions. These are concepts only. Based on this document and stakeholders comments, drafting instructions will be prepared for PCO to draft regulations. While drafting, it will be ensured that any term used in the general regulations has the same meaning. Where necessary, reference to the general regulations will be made in the mines regulations for clarity. Dangerous goods and major hazard facilities will remain under dangerous goods legislation. However, the approach to dangerous goods, including major hazard facilities will be reviewed within two years of the WHS Act being proclaimed in Western Australia, with a view to determining whether dangerous goods and major hazard facility regulations are brought under the WHS Act.

Background information

The model harmonised Work Health and Safety Regulations developed by the Safe Work Australia (SWA) were to include mining specific regulations. These were released for consultation in 2011 (core regulations). The dominant mining States, including WA, were of the opinion that these regulations did not sufficiently cover the hazards associated with the complex mining industry in their respective State and therefore did not accept these provisions.

The SWA coordinated with the National Mines Safety Framework (NMSF) for the development of additional drafting instructions (DI) to supplement the core regulations. The NMSF was a tripartite body with representatives from government, unions and industry bodies from WA, NSW and QLD.

The NMSF developed supplementary [NMSF DI](#) in 2011.

The SWA further coordinated with the dominant mining States for drafting of model mining regulations until 2014. These proposed conceptual regulations are based on NMSF DI and the coordinated drafting work carried out by the three dominant mining States.

Some provisions (radiation and mining specific electricity regulations) are proposed to be retained from MSIR as these are not covered by NMSF DI.

The attached table, at Attachment 1, provides further details of comparison of the proposed regulations with Mines Safety and Inspection Regulations.

Key features of the proposal

The following key features should be noted:

- The introduction of a single Act for all industries will reduce jurisdictional issues.
- Most prescription in MSIR will be removed and replaced with risk-based management of hazards.
- For the purpose of hazard management, the mine operator will be required to develop and implement Mine Safety Management System (MSMS).
- Certification by Board of Examination to hold some statutory positions (except mine surveyors) will be removed.
- Most responsibilities in the proposed mines regulations are of Mine Operator.

Reading this document

The following abbreviations have been used:

NMSF-DI National Mine Safety Framework drafting instructions

MSIA *Mine Safety and Inspection Act 1994*

MSIR Mine Safety and Inspection Regulations 1995

WHS Work Health and Safety

Conceptual Work Health and Safety (Mines) Regulations

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Chapter 1 Preliminary

Division 1 Introductory matters

M1 Citation

PCO to finalise.

M2 Commencement

PCO to finalise.

M3 Authorising provisions

PCO to finalise.

M4 Application

These regulations apply to all mines.

M5 Relationship with Work Health and Safety Regulations

- (1) The Work Health and Safety Regulations apply to all mines and mining operations.
- (2) The terms defined in the WHS Regulations when used in these regulations, unless stated otherwise, have the same meaning.

M6 Definitions

In these Regulations:

explore —

- (a) means to carry out an operation that relates to exploration for minerals, but
- (b) does not include —
 - (i) to carry out an underground operation; or
 - (ii) to excavate surface pits beyond the extent permitted under the conditions of a relevant exploration or prospecting tenement/licence, or other authorisation; or
 - (iii) to carry out remote sensing activity using airborne or satellite mounted equipment (except for ground based activity in support of such remote sensing activity);

inrush hazard means a hazard involving the potential inrush of any substance;

mine —

- (a) when used as a noun — has the meaning given in regulation M7; and
- (b) when used as a verb — includes any manner or method of mining operations;

mine operator—see regulation M11;

Note: A mine operator is a person conducting a business or undertaking.

mineral—see regulation M9;

mining operations—see regulation M8;

principal mining hazard— see regulation M10;

quarry or **open cut** or **open pit** means a surface mining operation in which mineral, rock or soil is extracted from the earth by excavating into a natural surface;

site senior executive, in relation to a mine, means the person appointed in accordance with the regulation M136 as the site senior executive at the mine;

shaft means:

- a vertical or steeply inclined development opening into or within a mine through which persons and materials are raised or lowered, and
- a vertical or steeply inclined development opening into or within a mine used for ventilation;

supervisor means a person who allocates task to another person and supervises the person and the task, but does not include supervisors in the administrative office and training centres and also any class of supervisor exempt by the Regulator. A person may have more than one supervisor.

underground means an excavation beneath the natural surface of the earth that involves a person entering the excavation and includes any shaft or winze that are open to surface;

winder means any plant that is used to move, by means of 1 or more ropes, conveyances in a shaft for the transport of persons, material or plant.

Note:

Further definitions will be added by PCO to clarify certain terms.

Division 2 Important terms

M7 Mine

- (1) A mine is a place at which mining operations are carried out and it includes any fixture, fitting, plant or structure at the place.
- (2) If mining operations (must be of same mine operator) are carried out at 2 or more places that are used in conjunction with one another, those places are to be taken to constitute one mine unless the regulator notifies the mine operator in writing that each of those places, or one or more of those places as specified in the notice, are to be regarded as a separate mine for the purposes of these Regulations.

Note: Refer to definition of mine in s. 4 of MSIA

M8 Mining operation

- (1) In this regulation —

mine site —

- (a) means a place at which an activity referred to in subsection (2) is, or is to be, carried out; and
- (b) includes any fixture, fitting, plant or structure at the place;

processed products means products resulting from the processing in the State of minerals extracted in the State, but does not include manufactured goods.

accommodation premises —

- (a) means residential premises —
 - (i) the occupation of which is necessary for the purposes of workers' engagement at a mine because other accommodation for the workers is not reasonably available; and
 - (ii) that are not situated within a townsite as defined in the *Land Administration Act 1997* section 26(1) or the metropolitan region as defined in the *Planning and Development Act 2005* section 4(1); and
 - (iii) that are situated on a mining tenement as defined in the *Mining Act 1978* section 8(1);
- and
- (b) includes land, buildings and recreational facilities used in connection with the occupation of those premises;

- (2) A mining operation is an activity carried out for the purpose of any of the following —
 - (a) exploring for minerals;
 - (b) extracting minerals (including extracting minerals from the sea, the sea bed or a natural water supply);

- (c) processing minerals and processed goods (including extractive metallurgical processing);
 - (d) handling or transporting minerals extracted or processed in the State or processed products.
- (3) Without limiting subregulation (2), a mining operation includes the following activities —
- (a) planning, designing, preparing or constructing a mine site if the activity is carried out at or in the vicinity of the mine site;
 - (b) commissioning, operating or maintaining a mine site;
 - (c) pelletising or packaging minerals if the activity is carried out at or in the vicinity of a mine site;
 - (d) decommissioning a mine site or removing any fixture, fitting, plant or structure from a mine site;
 - (e) removing, handling, transporting or disposing of tailings, contaminants, waste rocks and other waste material if the activity is carried out at or in the vicinity of a mine site;
 - (f) stacking, handling or loading minerals or processed products at —
 - (i) a rail or road terminal; or
 - (ii) a port (landside operations only) unless the minerals or products are in a closed container;
 - (g) constructing, commissioning, operating or maintaining administrative and other support facilities at or in the vicinity of a mine site;
 - (h) an activity relating to the care, security or maintenance of a mine site carried out at or in the vicinity of the mine site;
 - (i) an activity relating to the rehabilitation or closure of a mine site carried out at or in the vicinity of the mine site;
 - (j) an educational, research or tourism activity carried out at a mine site;
 - (k) constructing, commissioning, operating or maintaining accommodation premises at or in the vicinity of a mine site;
- (4) A mining operation does not include the following activities —
- (a) an activity carried out in relation to the extraction of minerals on private land for the private and non-commercial use of the owner of the land;
 - (b) an activity carried out by a self-employed person under the authority of a miner's right as defined in the *Mining Act 1978* section 8(1);
 - (c) fossicking within the meaning of the *Mining Act 1978*;
 - (d) an activity where the extraction of minerals is incidental to the activity;
 - (e) an activity carried out on a railway to which the *Rail Safety National Law (WA)* applies;
 - (f) an activity carried out on a road as defined in the *Road Traffic (Administration) Act 2008* section 4;

- (g) air travel to or from a mine;
- (h) an activity carried out at a geothermal energy facility or petroleum facility.

Note:

1. Refer to definition of mining operation in s.4 of the MSIA. A mine site should have one of the four primary activities listed in subregulation 2 and a mining operation is to include all associated activities at or in the vicinity of the mine site.
2. Some mining operations carried on by or for State agency or instrumentality or any local government and excluded earlier from the definition will fall within the definition of mining operation.
3. Prospecting under miner's right and fossicking has been excluded from the definition of mining operation to provide clarity for hobby prospectors.
4. Exclusion of air travel will provide clarity. It is covered under other legislation/s.

M9 Meaning of mineral

Mineral means a natural occurring substance obtained or obtainable from any land but does not include —

- (a) water; or
- (b) petroleum; or
- (c) a meteorite as defined in the Museum Act 1969 section 6;

In this regulation land includes the following —

- (a) water;
- (b) the foreshore as defined in the *Mining Act 1978* section 25(1)(a);
- (c) the seabed and subsoil between the mean low water springs level and the inner limits of the coastal waters of the State as defined in the *Offshore Minerals Act 2003* section 16(1) and (2).

Note: Refer to definition in s. 8 of the Mining Act 1978 – modified to expand scope to cover all mines.

M10 Meaning of principal mining hazard (PMH)

A principal mining hazard is any activity, process, procedure, plant, structure, substance, situation or other circumstance relating to the carrying out of mining operations that has a reasonable potential to result in multiple deaths in a single incident or a series of recurring incidents, in relation to any of the following:

- (i) ground or strata instability,
- (ii) inrush of any substance,
- (iii) mine shafts and winding system,
- (iv) roads or other vehicle operating areas,
- (v) fire or uncontrolled explosion,
- (vi) any other hazard identified by the mine operator.

Note: Refer to NMSF DI part 3 and later discussion between WA, NSW and QLD. Underground coal mining specific PMHs have been excluded.

M11 Mine operator

(1) In this regulation—

Government agreement means an agreement referred to in paragraph (a) of the definition of **Government agreement** in the *Government Agreements Act 1979* section 2 and, if the agreement has been varied, means the agreement as varied.

(2) The mine operator for a mine is the person conducting a business or undertaking —

(a) who —

- (i) is authorised under the *Mining Act 1978* to carry out mining operations at the mine; or
- (ii) is authorised under a Government agreement to carry out mining operations at the mine; or
- (iii) is authorised under a licence, permit or other authority granted by a local authority to carry out mining operations at the mine; or
- (iv) is otherwise the owner, occupier, lessee or sub-lessee of the land on which the mine is located;

and

(b) who has overall control of the mine and mining operations at the mine.

(3) To avoid doubt, a reference in these Regulations and WHS Regulations to a person conducting a business or undertaking at a mine includes a reference to the mine operator of the mine

Note:

1. The mine operator replaces the current role of ‘principal employer’ as defined in s. 4 of the MSIA. Same criterion is applicable to the mine operator of exploration operation as well.
2. Status quo is maintained by not adopting NMSF DI recommending two separate roles of ‘mine holder’ and ‘mine operator’. Refer to NMSF DI 2.19 and 2.20.

Division 3 Notices

M12 Mine operator notification

- (1) Before mining operations begin at a mine, the name, address and other details of the mine operator must be provided by the mine operator to the regulator in the form and manner prescribed by the regulator.
- (2) The regulator may ask for additional information/clarification, if necessary. The mine operator must provide the information as requested in subregulation (1).
- (3) Any change in the details prescribed in sub-regulation (1) must be notified to the regulator as soon as practical by the mine operator.
- (4) If mining operations begin at a mine and sub-regulation (1) has not been complied with, an offence against sub-regulation (1) is committed by the person who the regulator determines to have been the mine operator at the mine when the mining operations began.
- (5) A mine operator may be an individual, a corporation, a partnership, or a syndicate or other association of persons.
- (6) If mining operations are to be carried out by a syndicate or other association of persons in such a way that no person is employed at the mine, the name and address of an entity, partnership, or person who is to assume the duties and responsibilities of mine operator in respect of those mining operations must be provided in writing, before mining operations begin, to the regulator; and that entity, partnership or person is deemed to be the mine operator for the purposes of these Regulations.
- (7) If mining operations begin at a mine and sub-regulation (6) has not been complied with, each person who is a member of the syndicate or other association of persons concerned commits an offence.
- (8) Where a duty arises under sub-regulation (6) to provide to the regulator the name and address of a partnership, syndicate or other association of persons (an association) there is also a duty to provide the name and address of each member of the association.
- (9) If there is likely to be a change of mine operator for a mine, then
 - (a) the current mine operator must notify the regulator of the proposed change, and
 - (b) the new mine operator must notify the regulator and provide details as per subregulation (1) or (6).

Note: Refer to s. 32 of the MSIA.

M13 Duties of mine operators

- (1) A mine operator must ensure, so far as is reasonably practicable, that the mining operations and anything arising from the mining operation are without risks to the health and safety of any person.
- (2) However, a mine operator does not owe a duty under subregulation (1) to a person who is at the mine for an unlawful purpose.
- (3) The mine operator of a mine must make the financial and other arrangements that are necessary to ensure, so far as is reasonably practicable, that the facility is planned, designed, constructed, managed and operated in accordance with this Act.
- (4) The mine operator of a mine must identify hazards and manage risks at all stages of the mining operation starting from planning until closure.

Note: Refer to NMSF DIs 10.4.

M14 Notice of commencement

- (1) **Substantial change** to a mining operation, in this regulation, means major expansion, addition, or change to an existing mining operation for which a notice had not been given earlier and that will introduce new hazard and associated risks or significantly increase the existing risk.
- (2) The mine operator must not commence or allow another person to commence mining operations without giving the notice of commencement to the regulator in the form and manner prescribed by the regulator.
- (3) The mine operator must not make 'substantial change' or allow another person to make substantial change to the nature of an existing mining operation, without giving notice to the regulator in the form and manner as prescribed by the regulator.
- (4) The notice must reach the regulator 45 days prior to the proposed date of commencement or 30 days prior to the proposed substantial change. The notice period, if agreed to by the regulator, may be reduced.
- (5) The regulator may ask for additional information or seek clarification on the information provided in the notice under sub-regulation (2) or (3). The mine operator must provide the requested information (before commencement or making the proposed change).
- (6) The regulator must acknowledge receipt of the notification in writing.
- (7) The requirement is not applicable to exploration operation.

Note: Refer to MSIA 42, MSIR 3.12 and NMSF DI 5.1, 5.2, 5.3, 5.4, 5.5, 5.6 and 5.7.

M15 Notice of suspension

- (1) The mine operator must give notice of suspension of a mining operation in the prescribed form and manner to the regulator before mining operation is suspended.
- (2) The notice of suspension can be for the whole or part of the mine with defined boundaries.
- (3) **Suspension** in this regulation means stoppage of all mining operations for whole of the mine or at that part of the mine as stated in the notice. For clarity, mine or part of a mine on care and maintenance is not suspended.
- (4) These requirements not to apply to exploration operations.

Note: Refer to MSIA s. 42, MSIR 3.14 and NMSF DI Part 5. Additional notices for intermittent operations and significant interruption, recommended in NMSF DI, not adopted.

M16 Notice of recommencement

Before recommencing a suspended mining operation, the mine operator of the mine must give notice in the prescribed form and manner to the regulator.

Note: Refer to MSIA s. 42, MSIR 3.15 and NMSF DI Part 5.

M17 Notice of closure

- (1) The mine operator must give notice of closure of a mining operation in the prescribed form to the regulator before mining operation is closed.
- (2) The notice of closure can be for the whole or part of the mine with defined boundaries.
- (3) Before giving the notice of closure the mine operator must take measures for the long-term security of the mine and safety of persons and other works near the mine.
- (4) Having received a notice of closure the regulator must verify if the mine/part of the mine has been made safe and secured for the closure.
- (5) The regulator may ask the mine operator to take additional measures if in the regulator's opinion the site has not been made safe or secured for closure.
- (6) The regulator must confirm the closure of the mine in writing to the mine operator once the site has been made safe and secured to the regulator's satisfaction.
- (7) These requirements not to apply to exploration operations.

Note:

1. Refer to s. 42 and MSIR 3.16 and NMSF DI Part 5

2. The term 'abandonment' has been replaced with 'closure' to align with the Mining Act.

M18 Notice of exploration operation

- (1) Before commencement of exploration operations, the mine operator must give notice in the prescribed form and manner to the regulator.
- (2) On completion of notified exploration operations, the mine operator must notify the regulator in the prescribed form.

Note: Refer to MSIR 3.3 and 3.4.

Chapter 2 Managing risks

Division 1 General requirements

Note: Refer to NMSF DI 10.1 – 10.8.

M19 Managing risks to health and safety

- (1) A person conducting a business or undertaking at a mine must manage risks to health and safety associated with mining operations at the mine, in accordance with Part 3.1 of WHS Regulations.
- (2) A person conducting a business or undertaking at a mine must ensure that a risk assessment is conducted by a competent person who is competent to conduct the particular risk assessment having regard to the nature of the hazard for the purposes of subregulation (1).
- (3) In conducting a risk assessment, the person must have regard to:
 - (a) the nature of the hazard; and the likelihood of the hazard affecting the health or safety of a person; and
 - (b) the severity of the potential health and safety consequences.
- (4) Nothing in subregulation (3) limits the operation of any other requirement to conduct a risk assessment under these Regulations.

M20 Review of control measures

- (1) A person conducting a business or undertaking at a mine must review and as necessary revise control measures implemented under M19 in the following circumstances:
 - (a) an audit of the effectiveness of the mine safety management system for the mine indicates a deficiency in a control measure;
 - (b) a worker is moved from a hazard or assigned to different work in response to a recommendation contained in a health monitoring report provided under Chapter 7;
 - (c) an incident referred to in regulation M146 occurs.
 - (d) in the opinion of an inspector the control measures need to be reviewed and revised.
- (2) The mine operator of a mine must ensure that a control measure that is the subject of a request by a health and safety representative under WHS regulation 38(4) is reviewed and as necessary revised, whether the request is made directly to the mine operator or notified to the mine operator under subregulation (3) by another person conducting a business or undertaking at the mine.
- (3) A person conducting a business or undertaking at the mine who is not the mine operator of the mine must immediately notify the mine operator of a request

made to the person under WHS regulation 38(4).

- (4) A health and safety representative for workers at the mine may request a review of a control measure under WHS regulation 38(4) as if the circumstances referred to in subregulation (1) were included in WHS regulation 38(4)(a).

M21 Record of certain reviews of control measures — mine operator

- (1) This regulation applies to a mine operator at a mine who has, under WHS regulation 38, reviewed a control measure in response to:
 - (a) a notifiable incident; or
 - (b) an incident referred to in regulation M146.
- (2) The mine operator at a mine must keep a record of the following:
 - (a) the work health and safety issues arising from the incident;
 - (b) recommendations arising from consideration of the incident;
 - (c) a summary of any changes to the mine safety management system for the mine and any affected principal mining hazard management plan for the mine.

M22 Record of certain reviews of control measures — other persons conducting a business or undertaking

- (1) This regulation applies to a person conducting a business or undertaking at a mine, other than the mine operator, who has, under WHS regulation 38, reviewed a control measure in response to a notifiable incident.
- (2) A person conducting a business or undertaking at a mine must keep a record of the following:
 - (a) the work health and safety issues arising from the incident;
 - (b) recommendations arising from consideration of the incident.

Division 2 Mine safety management system

Subdivision 1 Establishing mine safety management system

Note: Refer to NMSF DI 9.1 to 9.39

M23 Duty to establish and implement mine safety management system

- (1) **Mine safety management system** in relation to a mine means a comprehensive and integrated documented management system developed and implemented by the mine operator to, so far as is reasonably practicable, minimize the risks to health and safety to workers and other persons. It includes any documented safety management system of a contractor that has been approved by the mine operator.
- (2) The mine operator of a mine must establish a mine safety management system for the mine in accordance with this Division.

Note: The mine operator must not start mining operations unless MSMS for those operations has been developed. Refer to NMSF DIs 9.1. For clarity it applies to exploration activities.
- (3) The mine operator must implement the mine safety management system for the mine, so far as is reasonably practicable.
- (4) The mine safety management system must form part of any overall management system that is in place at the mine.
- (5) The mine safety management system must be designed to be used by the mine operator as the primary means of ensuring, so far as is reasonably practicable:
 - (a) the health and safety of workers at the mine; and
 - (b) that the health and safety of other persons is not put at risk from the mine or work carried out as part of mining operations.
- (6) The mine safety management system must comply with subregulations (1) and (2) to the extent appropriate to the mine having regard to:
 - (a) the nature, complexity and location of the mining operations; and
 - (b) the risks associated with those operations.
- (7) The mine safety management system must be documented.

M24 Content of mine safety management system

- (1) The mine safety management system document for a mine must set out the following:
 - (a) the mine operator's health and safety policy, including broad aims in relation to the safe operation of the mine;
 - (b) brief description of current mining operations;
 - (c) the arrangements for managing risks in accordance with Part 3.1 of WHS

Regulations including;

- (i) selection and use of suitable methods for hazard identification and risk assessment;
 - (ii) details of identified hazards, risk assessment and control measures considered and selected for implementation that will be used to eliminate or minimise risks to health and safety associated with mining operations at the mine,
 - (iii) reference to any design principles, engineering standards and technical standards relied on for control measures,
 - (iv) process to manage gradual or sudden change in operations, conditions, systems, environment, or resources affecting health and safety of persons; (Refer to NMSF DI 9.28)
- (d) the systems, procedures, plans and other control measures that will be used to control risks to health and safety associated with mining operations at the mine, including:
- (i) the principal mining hazard management plans for the mine prepared under Division 2, subdivision 3;
 - (ii) emergency management plan,
 - (iii) health management plan,
 - (iv) if the mine is an underground mine – ventilation management plan,
 - (v) if Chapter 3, Division 4, subdivision 1 is applicable to the mine – radiation management plan;
- (e) the management and supervisory structure for the management of work health and safety at the mine, including:
- (i) details and responsibilities of persons performing statutory, management and supervisory functions (and where required their substitutes);
 - (ii) the competency requirements and assessment records for positions in the structure;
 - (iii) requirements relating to acting positions in the structure; and
 - (iv) arrangements for filling temporary and permanent vacancies.
- (f) the arrangements in place, between any persons conducting a business or undertaking at the mine, for consultation, co-operation and the co-ordination of activities in relation to compliance with their duties under the Act, WHS regulations and these regulations;
- (g) if a contractor is working or likely to work at the mine—the control measures that will be used to control risks to health and safety associated with the contractor's work at the mine, including:
- (i) how the contractor's work management system will be integrated with the mine safety management system for the mine; and

- (ii) the process for assessing health and safety policies and procedures (including competency requirements) of the contractor and integrating them into the mine safety management system; and
 - (iii) the arrangements for monitoring and evaluating compliance by the contractor with the health and safety requirements of the safety management system;
- (h) the procedures and conditions under which persons at the mine or a part of the mine are to be withdrawn to a place of safety and to remain withdrawn as a precautionary measure where a risk to health and safety warrants that withdrawal;
 - (i) the arrangements for the provision of information, training and instruction required under WHS regulation 39;
 - (j) the induction procedures for workers at the mine;
 - (k) the arrangements in place for the supervision (including type, frequency, and method) needed to protect workers and other persons at the mine from risks to their health and safety from work carried out at the mine;
 - (l) the safety role for workers developed under regulation M27A;
 - (m) the procedures for notifiable incident response and investigation at the mine;
 - (n) the procedures for records management for the mine to ensure compliance with the Act, WHS regulations and these regulations;
 - (o) the arrangements in place for monitoring, assessment and inspection of the working environment of the mine to be carried out for the purposes of the Act, WHS regulations and these regulations;
 - (p) the arrangements for the effective communication of relevant information across shifts by workers, supervisors and other relevant persons;
 - (q) the performance management system under regulation M25;
 - (r) the resources that will be applied for the development, effective implementation and use of the mine safety management system;
- (2) The mine safety management system document must:
- (a) contain a level of detail of the matters referred to in subregulation (1) that is appropriate to the mine having regard to:
 - (i) the nature, complexity and location of the mining operations; and
 - (ii) the risks associated with those operations; and
 - (b) so far as is reasonably practicable, be set out and expressed in a way that is readily understandable by persons who use it.
- (3) If any matter referred to in subregulation (1) is addressed in a plan or other document prepared under these Regulations for a mine, it is sufficient if the mine safety management system for the mine refers to the plan or document.
- (4) The relevant part of the Mine Safety Management System must be, when

requested, made available to any mine worker, S&H Representative, and inspector by the site senior executive.

M25 Performance standards and audit

The mine safety management system for a mine must include the following:

- (a) performance standards for measuring the effectiveness of all aspects of the mine safety management system that:
 - (i) are sufficiently detailed to show how the mine operator will ensure the effectiveness of the mine safety management system; and
 - (ii) include steps to be taken to continually improve the mine safety management system;
- (b) the way in which the performance standards are to be met;
- (c) a system for auditing the effectiveness of the mine safety management system for the mine against the performance standards, including the methods, frequency and results of the audit process.

M26 Maintenance

The mine operator of a mine must maintain the mine safety management system for the mine so that the mine safety management system remains effective to reflect changes in the mining operations.

M27 Review

- (1) The mine operator of a mine must ensure that the mine safety management system for the mine is reviewed at least once every 3 years and as necessary revised to ensure it remains effective. (Add: To be reviewed within 12 months of the commencement of the mining operation and then every 3 years. Refer to NMSF DI 9.7.)
- (2) In addition, if a risk control measure is revised under WHS regulation 38 or M20, the mine operator must ensure that the mine safety management system for the mine is reviewed and as necessary revised in relation to all aspects of risk control addressed by the revised control measure.
- (3) If a mine safety management system is revised, the mine operator must record the revisions, including any revision of a risk assessment, in writing in the plan.

M27A Mine operator must consult with workers

For the purposes of section 49(f) of the Act, the mine operator of a mine must consult with workers at the mine in relation to the following:

- (a) the development, implementation and review of the safety management system for the mine;
- (b) identification of and conducting risk assessments for principal mining hazard management plans;
- (c) preparing, testing and reviewing the emergency management plan for the mine;

M28 Regulator may request a review of the Mine Safety Management System

- (1) If in the opinion of the regulator the mine safety management system or part thereof is deficient in any way, the regulator by a written notice to the mine operator and stating the reason for the regulator's opinion, ask for a review of the relevant part of the Mine Safety Management System within a specified time.
- (2) The mine operator must comply with the request made under subregulation (1) and notify the regulator details and outcome of the review.

(The mine operator may seek a review of regulator's request made as per clause (1))

Note: Request for a review to cover contractor's H&S Plan

Subdivision 2 Mine Safety Management System and contractors

M29 Contractor

In this subdivision:

Contractor means a person who provides service, material, or workers to the mine and includes a subcontractor but does not include:

- (a) the mine operator,
- (b) a person, or class of persons, specified in an order of the regulator published in the Gazette.

M30 Duty on mine operator to provide information to contractor

The mine operator of a mine must ensure that a contractor who is to carry out mining operations at the mine is given, so far as is reasonably practicable, all relevant information and access to the mine to enable the contractor to identify any risks associated with the proposed operations.

Note: Refer to NMSF DI 9.15 – 9.21.

M31 Duty on contractor to provide information to mine operator

A contractor who is to carry out mining operations at a mine must ensure that the mine operator is given, so far as is reasonably practicable, all relevant information to enable the mine operator to identify any risks associated with the proposed operations.

Note: Refer to NMSF DI 9.15 – 9.21.

M32 Contractor to prepare plan or use mine safety management system

- (1) A contractor must not carry out mining operations at a mine unless:
 - (a) the contractor:
 - (i) has prepared a contractor health and safety management plan in accordance with subclause (2) and has provided a copy of the plan to the mine operator, and

- (ii) has obtained written notice from the mine operator that the mine operator has reviewed the plan and is of the opinion that the plan is consistent with the mine safety management system for the mine, and
 - (iii) has, so far as is reasonably practicable, implemented the plan, or
- (b) the contractor:
- (i) has reviewed the relevant parts of the mine safety management system for the mine, and
 - (ii) has given the mine operator written notice that the contractor has conducted the review and is of the opinion that the mine safety management system is consistent with the contractor's arrangements to manage the risks to health and safety from mining operations carried out by the contractor at the mine in accordance with regulation M19 and any other requirements under the WHS laws that relate to those operations; and
 - (iii) has, so far as is reasonable practicable, implemented the relevant parts of the Mine Safety Management System for the mine.

Note. Adopting the mine safety management system for the mine does not reduce the contractor's duty under section 19 of the WHS Act.

(2) A contractor health and safety management plan:

- (a) must set out the means by which the contractor will manage the risks to health and safety from mining operations carried out by the contractor at the mine in accordance with clause M19 and any other requirements under the WHS laws that relate to those operations, and
- (b) must be designed to be used by the contractor as the primary means of:
 - (i) ensuring, so far as is reasonably practicable, the health and safety of the contractor's workers at the mine, and
 - (ii) ensuring, so far as is reasonably practicable, that the health and safety of other persons is not put at risk from work carried out as part of the contractor's business or undertaking at the mine, and
- (c) must be documented, and
- (d) must, so far as is reasonably practicable, be set out and expressed in a way that is readily understandable by persons who use it.

Note: Refer to NMSF DI 9.15 – 9.21.

Subdivision 3 Principal mining hazard management plans

Note: Refer to NMSF DI 11.1 to 11.7.

M33 Identification of principal mining hazards and conduct of risk assessments

- (1) The mine operator of a mine must identify all principal mining hazards at the mine.
- (2) The mine operator must conduct, in relation to each principal mining hazard identified, a risk assessment that involves a comprehensive and systematic investigation and analysis of all aspects of risk to health and safety associated with the principal mining hazard.
- (3) The mine operator, in conducting a risk assessment, under subregulation (2), must:
 - (a) use investigation and analysis methods that are appropriate to the principal mining hazard being considered; and
 - (b) consider the principal mining hazard individually and also cumulatively with other hazards at the mine.
- (4) If the nature of the mining operation changes, the mine operator may add to or remove from the list of identified applicable principal mining hazards.

M34 Preparation of principal mining hazard management plan

- (1) The mine operator of a mine must prepare a principal mining hazard management plan for each identified principal mining hazard at the mine in accordance with this clause. For listed principal mining hazards the mine operator must have regard to the matters set out in Schedule 1
- (2) A principal mining hazard management plan must:
 - (a) provide for the management of all aspects of risk control in relation to the principal mining hazard; and
 - (b) so far as is reasonably practicable, be set out and expressed in a way that is readily understandable by persons who use it.
- (3) A principal mining hazard management plan must:
 - (a) describe the nature of the principal mining hazard to which the plan relates; and
 - (b) describe how the principal mining hazard relates to other hazards at the mine; and
 - (c) describe the analysis methods used in identifying the principal mining hazard to which the plan relates; and
 - (d) include a record of the risk assessment conducted in relation to the principal mining hazard; and
 - (e) describe the investigation and analysis methods used in determining the control measures to be implemented; and
 - (f) describe all control measures to be implemented to manage risks to

- health and safety associated with the principal mining hazard; and
- (g) describe the arrangements in place for providing the information, training and instruction required by WHS regulation 39 in relation to the principal mining hazard; and
 - (h) refer to any design principles, engineering standards and technical standards relied on for control measures for the principal mining hazard; and
 - (i) set out the reasons for adopting or rejecting all control measures considered.
- (4) A principal hazard management plan is part of the mine safety management system for the mine.

M35 Review

- (1) The mine operator of a mine must ensure that a principal mining hazard management plan is reviewed and as necessary revised if a risk control measure specified in the plan is revised under WHS regulation 38 or M20.
- (2) If a principal mining hazard management plan is revised, the mine operator must record the revisions, including any revision of a risk assessment, in writing in the plan.

Chapter 3 Specific control measures—all mines

Division 1 Operational controls

M36 Communication between outgoing and incoming shifts

The mine operator of a mine at which more than 1 shift is worked per day must implement a system that ensures that, as soon as practicable at the commencement of each shift:

- (a) the supervisor of each outgoing shift provides a written report to the supervisor of the incoming shift, in relation to the state of the mine workings and plant and any other matters that relate to work health or safety; and
- (b) the supervisor of the incoming shift communicates the content of the report to the workers on the incoming shift.

Note: Refer to NMSF DI 9.23, 9.24, 9.25 and 41.1(3).

M37 Movement of mobile plant

- (1) The mine operator of a mine must manage risks to health and safety associated with the movement of mobile plant at the mine in accordance with Part 3.1 of the WHS Regulations.
- (2) In managing risks to health and safety associated with the movement of mobile plant at the mine, the mine operator must have regard to all relevant matters including the following:
 - (a) the design, layout, construction and maintenance of all roads and other areas at the mine used by mobile plant;
 - (b) selection of suitable mobile plant;
 - (c) interactions between mobile plant, especially between large and small mobile plant;
 - (d) interactions between mobile plant and fixed plant or structures;
 - (e) interactions between mobile plant and pedestrians (including the use of pre- movement warnings for mobile plant in mine workings);
 - (f) the operation of remotely controlled mobile plant;
 - (g) the maintenance, testing and inspection of brakes, steering, lights and other safety features of the mobile plant; and
 - (h) competence of operators and maintenance personnel.

Note: Refer to MSIR regulations 6.4, 13.2, 13.3, 13.7 and NMSF DI 16.1 to 16.15.

M38 Inrush hazards

- (1) The mine operator of a mine must manage risks to health and safety associated with the inrush hazards at the mine in accordance with Part 3.1 of the WHS Regulations.

- (2) In managing risks to health and safety associated with the inrush hazards at the mine, the mine operator must have regard to all relevant matters including the following:
- (a) identification of potential sources of water and other substances that may cause inrush;
 - (b) potential paths and causes that may cause inrush;
 - (c) identification of possible events and their locations;
 - (d) the magnitude of maximum flow rates;
 - (e) identification and implementation of precautions and controls at different stages of mining, including design, construction, operation and decommissioning.

Note: Refer to MSIR regulation 4.11 and 10.18 and NMSF DI 14.1 to 14.16.

M39 Managing stability of geotechnical structures

- (1) **Geotechnical structure** in this regulation means any structure built in or using ground and includes all forms of underground and surface excavations, embankments, mine waste dumps, ore/waste stockpiles, foundations and trenches.

Ground in this regulation means either in-situ or placed rocks, soils, mine waste, back-filling materials and tailings.

- (2) The mine operator of a mine must manage risks to health and safety associated with the instability or failure of geotechnical structures at the mine in accordance with Part 3.1 of the WHS Regulations.
- (3) In managing risks to health and safety associated with the instability or failure of geotechnical structures at the mine, the mine operator must have regard to all relevant matters including the following:
- (a) geological structures, hydrological environment and their influence on stability;
 - (b) design, location, construction and maintenance of geotechnical structures;
 - (c) operational factors and their influence on stability of geotechnical structures;
 - (d) design, installation, quality control and maintenance of ground support and reinforcement;
 - (e) design life of ~~geological~~ **geotechnical** structures;
 - (f) inspection and monitoring of geological structures; and
 - (g) competency of designers, planners, supervisors and operators.

- (4) Sub-regulation (2) applies to design, construction, operation, maintenance, and closure of the mine.

Note: Refer to MSIR regulations 10.13, 10.28, 13.8 and NMSF DI 13.1 to 13.25.

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M40 Managing risks in quarry operations

- (1) The mine operator of a mine must manage risks to health and safety associated with the quarry operations at the mine in accordance with Part 3.1 of the WHS Regulations.
- (2) In managing risks to health and safety associated with the quarry operations at the mine, the mine operator must have regard to all relevant matters including the following:
 - (a) design, layout, operation, maintenance and closure of the quarry operation;
 - (b) loading and dumping of material into or from vehicles;
 - (c) demarcation of edges of structures and illumination;
 - (d) protection against fall of equipment and persons;
 - (e) adverse effects of quarry operation during mining and after closure of the mine on nearby structures that are not part of the mine;
 - (f) unauthorised inadvertent access in to quarry operations.

Note: Refer to Part 13 of the MSIR – regulations 13.1 to 13.15.

M41 Managing risks with explosives

- (1) The mine operator of a mine must manage risks to health and safety associated with the storage, transportation, use and disposal of explosives at the mine in accordance with Part 3.1 of the WHS Regulations.
- (2) In managing risks to health and safety associated with the storage, transportation, use and disposal of explosives at the mine, the mine operator must have regard to all relevant matters including the following :
 - (a) location and layout of surface and underground magazines with respect to their surroundings;
 - (b) capacity of an underground magazine keeping in view of consumption of explosives for underground usage;
 - (c) safe lighting in and around magazines and where explosives are prepared and used;
 - (d) selection, use, testing and maintenance of equipment used to transport, handle, prepare, test, charge and fire explosives;
 - (e) selection of explosives for specific duty and environment;
 - (f) transport of explosives to the magazines and workplaces;
 - (g) blast design;
 - (h) preparation, approval and implementation of blast plans;
 - (i) management of activities when and where explosives are prepared, charged, blasted, and making area safe;
 - (j) selection, testing, maintenance and use of initiation system/s;
 - (k) precautions against unintended detonation including precautions against electric storm, leakage of electric current, electrostatic charge, and

electromagnetic radiation;

- (l) drilling, excavating, loading or other activities in areas where explosives are or may be present;
 - (m) post blast inspection and detection of and dealing with misfires;
 - (n) precautions against fly rock affecting workers and public area, property or infrastructure not belonging to the mine operator;
 - (o) firing times;
 - (p) restriction of ignition sources including smoking at and near explosives;
 - (q) blasting in hot, reactive or wet ground;
 - (r) disposal of explosives;
 - (s) competency of people who design blasts and store, transport, handle, use, and dispose explosives;
 - (t) site specific procedure for activities associated with explosives including blast design, drilling, transportation, pre-charging inspection/activities, charging, guarding/restricting access, firing, blast warning, withdrawal and re-entry of persons, post-blast inspection, and resumption of normal operation.
- (3) The mine operator of a mine must ensure that the manufacture, storage, transport, supply, use and disposal of any explosive at the mine is in accordance with the *Dangerous Goods Safety Act 2004* and regulations made under it.
- (4) It is sufficient if some of the requirements in sub-regulation (2) are included in the Explosive Management Plan maintained under *Dangerous Goods Safety (Explosives) Regulations 2007* and approved by the mine operator.

Note: Refer to Part 8 of the MSIR – regulations 8.1 to 8.60 and NMSF DI 25.1 to 25.6.

M42 Operation of autonomous plant

- (1) In this regulation —

autonomous plant means unmanned plant the operation of which is controlled wholly or partially from a place that is not at the mine where the plant is located.

- (2) In this regulation reference to a person who conducts a business or undertaking is to a person that controls the operation of autonomous plant.
- (3) The mine operator and the person who conducts a business or undertaking must ensure, so far as is reasonably practicable, that the manner in which the operation of the autonomous plant is controlled is without risks to the health and safety of persons at the mine where the plant is located.

M43 Notification of high risk mining activities

- (1) The mine operator of a mine must ensure that a high risk activity identified in Schedule 2 and that applies to the mine pursuant to that Schedule is not carried out at or in relation to the mine unless:

- (a) the mine operator has given notice of the activity to the regulator, and
 - (b) the waiting period has elapsed, being the waiting period specified in Schedule 2 in relation to the activity, subject to any waiver or reduction of that period under subclause (6) or any extension of that period under subclause (7),
- and
- (c) the activity is carried out in the manner specified in the notice (or in the notice as amended under subclause (7)).
- (2) The notice is to be given in the manner and form approved by the regulator and must include the following:
- (a) the nature of the proposed high risk activity, including particulars of how the activity is to be carried out,
 - (b) the proposed commencement date for the activity,
 - (c) the location of the activity,
 - (d) any information or documents required by Schedule 2 in relation to the activity,
 - (e) the hazards identified as having the potential to arise from the activity,
 - (f) an assessment of the risks associated with the activity,
 - (g) the relevant parts of the mine safety management system for the mine that describe the systems, procedures, plans and other control measures that will be used to control risks to health and safety associated with the carrying out of the activity.
- (3) The mine operator of a mine must ensure that a copy of any notice given to the regulator under this clause (including under subclause (7)) is also given, as soon as is reasonably practicable, to the relevant health and safety representative for the mine.
- (4) If the regulator is of the opinion that a notice about a proposed high risk activity is inadequate, the regulator may inform the mine operator in writing that the notice is inadequate and that the notice must be resubmitted before the high risk activity can take place.
- (5) A notice is taken to have been given when it is received by the regulator. However, if the regulator informs a mine operator that the notice is inadequate then the notice is taken not to have been given.
- (6) The regulator may waive or reduce the waiting period in relation to a particular high risk activity (at the request of the mine operator or otherwise).
- (7) A notice given to the regulator under this clause may be amended by the mine operator giving further written notice to the regulator. The giving of any such further notice does not cause the waiting period to start again. However, the regulator may extend the waiting period by a reasonable time to allow the regulator time to consider the notice as amended.

- (8) Nothing in this clause affects any other obligation that a person may have under the WHS laws in relation to the carrying out of a high risk activity.

Note: For some of these activities either an approval or a notice is required as per MSIR. Refer to: shaft sinking – Part 12; installing and commissioning winders – Part 11; rising using entry method – r. 12.21; underground magazine – DG (Safety) Act and Regulation thereunder; underground dam – r. 10.19; construction of fuel storage and refueling facility – r. 10.58 and r. 10.60; approaching water body – r. 10.18; use of dredge – r. 14.3; use of explosives in reactive or hot ground – r. 8.55 and r. 8.54; installation of high risk equipment – r. 5.18. Also refer to NMSF DI 37.1 to 37.13.

M44 Prohibited uses

The mine operator of a mine must take all reasonable steps to ensure an item or substance specified in Schedule 3, column 1 is not used in a place or for a purpose that is prohibited or restricted as set out in Schedule 3, column 2 opposite that item or substance.

Note: Refer to NMSF DI 31.1 - 31.6, Schedule C and MSIR 10.48.

M45 Minimum age to work in mine

The mine operator of a mine must take all reasonable steps to ensure that:

- (a) a person under the age of 16 years is not engaged to carry out work in any open cut workings or in an underground mine; and
- (b) a person under the age of 18 years is not engaged to carry out work in an underground mine, unless the person is over the age of 16 years and is an apprentice or trainee under direct supervision in relation to the work.

Note: Refer to MSIR r. 10.4, NMSF DI 9.38 and 9.39.

M46 Inspections

- (1) The mine operator of a mine must ensure that arrangements are in place for the regular inspection of the working environment of the mine for the purposes of health and safety of persons.
- (2) The mine operator must ensure that, in the making of the arrangements, the following are taken into account:
 - (a) the procedures for conducting inspections,
 - (b) when inspections are to be carried out,
 - (c) the persons competence to conduct inspections,
 - (d) the number of competent persons required to conduct inspections.
- (3) The mine operator of a mine is to ensure that a risk assessment is conducted on all areas of the mine when taking account of the matters set out in subclause (2) (a)–(d).

Note: Refer to MSIR 3.17 – 3.22.

M47 Duty to provide information to mine operator of adjoining mine

The mine operator of a mine must as soon as practicable, on request, provide to the mine operator of any adjoining mine any information that the mine operator has about conditions at the mine or any activities or proposed activities at the mine that could create a risk to the health and safety of persons at the adjoining mine.

Division 2 Use of electricity

Note: Four mines specific electricity regulations are retained from MSIR (M49-52).

M48 Managing risks due to electricity

- (1) The mine operator must in accordance with Part 3.1 manage risks due to electricity at the mine.
- (2) In managing risks to health and safety associated with the generation, transmission and use of electricity at the mine, the mine operator must have regard to all relevant matters including the following:
 - (a) design, selection, installation, operation, testing and maintenance of electrical equipment and installations and use of electricity at the mine including:
 - (i) safe and secure location;
 - (ii) rating;
 - (iii) provision of appropriate switchgear;
 - (iv) prospective electrical fault level;
 - (v) arc fault control;
 - (vi) minimising potential impacts from voltage rise due to lightning, static electricity, voltage surges and other transient voltages to within acceptable limits;
 - (vii) reliable circuit interruption, under fault conditions, at all points in the mine's electrical distribution system;
 - (viii) electrical protective devices;
 - (ix) hazardous atmosphere;
 - (b) signage and warnings;
 - (c) written procedures for critical operations and dealing with emergencies;
 - (d) effective supervision and communication;
 - (e) competencies of persons working with or near electrical equipment and installations.

Note: Refer to MSIR Part 5 and NMSF DI 12.3, 23.1 – 23.14.

M49 Records to be kept

The mine operator at a mine must cause to be kept at the mine —

- (a) an electrical log book, approved by the regulator, in which the information required by this Part must be recorded;
- (b) up to date plans showing the location and details of all —
 - (i) low voltage and high voltage cabling and equipment installed at the mine;
 - (ii) low voltage and high voltage cables installed in the ground at the mine; and
 - (iii) main switches provided at the mine;

- (c) copies of any compliance and test certificates relating to equipment used or installed in hazardous areas; and
- (d) details of all electrical installing work carried out at the mine.

Note: Refer to MSIR r. 5.13.

M50 Earthing systems

- (1) The mine operator at a mine must ensure that —
 - (a) any earthing system installed in a quarry operation or an underground mine is connected to the earthing system established at the surface of the mine by means of a continuous earthing conductor;
 - (b) no earthing electrode is installed in a quarry operation or an underground mine;
 - (c) the neutral point of an alternating current electrical system is effectively earthed to the main earthing system;
 - (d) an earthing system that incorporates an impedance complies with the requirements for protection against indirect contact in AS/NZS 3007; and
 - (e) any single phase alternating current apparatus that is installed in a quarry operation or an underground mine is supplied from a double wound transformer having one pole of the secondary winding connected to earth.
- (2) The requirements in subregulation (1)(a), (b) and (e) do not apply to installations in any parts of quarry operations that are safe distances from places where electrical shot firing methods are employed.

Note: Refer to MSIR r. 5.23.

M51 Trailing cables and reeling cables

The mine operator at a mine must ensure that any trailing cable and reeling cable at the mine —

- (a) incorporates a pilot core arranged to cut off the supply of electricity in the event of a break in the earthing circuit; and
- (b) is installed, located and used in a way that minimizes the risk of damage to the cable and to any connecting or coupling device.

Note: Refer to MSIR r. 5.21.

M52 Earth continuity protection and monitoring

- (1) This regulation applies to the following equipment —
 - (a) any mobile equipment operating from either trailing cables or reeling cables; and
 - (b) any other equipment where the supply cable may be exposed to the risk of damage due to tension; and
 - (c) any equipment connected by restrained plugs and receptacles complying with AS/NZS 1299.

- (2) The mine operator at a mine must ensure that, in respect of any equipment to which this regulation applies, a system of monitoring of the earth continuity is provided that automatically disconnects the electricity supply to a cable in the event of a break in the earth conductor.

Note: Refer to MSIR r. 5.32.

Division 3 Air quality and monitoring

Note: General air quality provisions are given in MSIR regulations 9.8, 9.9, 9.11, 9.13, 9.15, 9.17, 9.18, 9.19, 9.30.

M53 Temperature and moisture content of air

In complying with regulation M19, the mine operator of a mine must:

- (a) manage risks to health and safety associated with extremes of either or both the temperature and moisture content of air; and
- (b) if risks associated with extreme heat exist in an underground mine implement control measures (including monitoring) to manage heat stress in places in the mine where:
 - (i) persons work or travel; and
 - (ii) the wet bulb temperature exceeds 27 degrees Celsius.

Note: Refer to NMSF DI Schedule G and MSIR 9.15.

M54 Ensuring exposure standards for dust not exceeded

(1) The mine operator of a mine must ensure that no person at the mine is exposed to 8-hour time-weighted average atmospheric concentrations of airborne dust that exceed:

- (a) for respirable dust—3.0 mg per cubic metre of air; and
- (b) for inhalable dust—10.0 mg per cubic metre of air.

(2) The Workplace Exposure Standards for Airborne Contaminants apply in relation to a concentration referred to in subregulation (1)(a) or (b) as if that concentration were an exposure standard referred to in those Standards.

(3) In subregulation (1):

inhalable has the same meaning as in the Workplace Exposure Standards for Airborne Contaminants.

respirable has the same meaning as in the Workplace Exposure Standards for Airborne Contaminants.

8-hour time-weighted average has the same meaning as in the Workplace Exposure Standards for Airborne Contaminants.

Note: Refer to MSIR r. 9.11 and the WHS Regulations r. 49.

M55 Monitoring exposure to airborne dust

WHS Regulation 50 applies to the mine operator of a mine in relation to airborne dust as if the concentration of airborne dust referred to in regulation M54(1)(a) or (b) were an exposure standard to which WHS regulation 50 applies.

M56 Air monitoring—use of devices

The mine operator of a mine who uses air monitoring devices to comply with air monitoring requirements under regulation 50 and this Chapter must ensure that:

- (a) the devices used are suitable and effective having regard to:
 - (i) the nature of the monitoring being carried out; and
 - (ii) the substance being monitored; and
- (b) the devices are positioned to ensure that they work to best effect.

M57 Air monitoring—signage

The mine operator of a mine, in complying with air monitoring requirements under WHS regulation 50 and this Chapter must ensure that signs are erected at the mine, that explain:

- (a) the meaning of any warning produced by an air monitoring device; and
- (b) what persons must do in response to the warning.

Division 4 Radiation

Subdivision 1 Radiation in Mines

Note: The provisions covering radiation hazard are not part of WHS Regulations or NMSF DI. In other States and Territories it is covered by other legislation/s. In WA radiation related provisions are in the MSIR. The proposed provisions are based on MSIR and Radiation Protection Series No. 9 – Code of Practice and Safety Guide for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing (2005) by Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

M58 Terms defined

Note: To be reviewed after other regulations are finalised.

M59 Application of sub- division

This sub-division applies only to and in relation to a mine if —

- (a) minerals (or naturally occurring radioactive materials or technologically enhanced naturally occurring radioactive materials) having radioactivity of 1 Bq (Becquerel) or more are mined at the mine; and
- (b) employees at the mine are likely to receive doses of radiation in excess of an effective dose of 1 millisieverts (0.001 Sv) per year arising from mining; or
- (c) members of the public at, or in the vicinity of, the mine are likely to receive doses of radiation, as a consequence of that mining operation, in excess of one half of the dose limits set out in paragraph (b).

M60. Results of baseline monitoring program

The mine operator at a mine must ensure that before mining operations commence at the mine the regulator is provided with the results of an approved environmental radiation-monitoring program.

Note: Refer to MSIR r. 16.6.

M61 Requirement of radiation management plan

- (1) The mine operator at a mine must ensure that mining operations are not commenced unless a radiation management plan for the mining operations has been approved by the Regulator.
- (2) For the purpose of subregulation (1) the mine operator must submit a radiation management plan for the proposed mining operation to the Regulator.

M62 Preparation of radiation management plan

- (1) The mine operator must in accordance with Part 3.1 manage risks due to ionising radiation at the mine.
- (2) The mine operator must, without limiting the generality of sub-regulation (1), prepare, maintain and implement a radiation management plan for the safe

management of radiation hazard at the mine that complies with clauses 2.7 2 and 2.8.2 of the Code Of Practice, "Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing" by Australian Radiation Protection and Nuclear Safety Agency, Australia (2005)

- (3) The radiation management plan is part of the Mine Safety Management System.

Note: Refer to MSIR r. 16.7.

M63 Notification

The mine operator at a mine must ensure that the regulator is notified in writing of —

- (a) any dose of radiation in excess of dose constraints, or absorbed dose rates or any contamination levels in excess of authorised limits;
- (b) the cause of the excessive dose or contamination levels referred to in paragraph (a) and the action taken to reduce those levels; and
- (c) any other incident that the regulator is required to be notified of under the radiation management plan.

Note: Refer to MSIR r. 16.11.

M64 Supervised areas and controlled areas

- (1) The mine operator at a mine must ensure that in any area designated in a radiation management plan as a controlled area —

- (a) access is limited to those persons who are required/authorised to work, or perform any duty in the area;
- (b) the boundaries of the area are clearly delineated and are made known to workers at the mine; and
- (c) any person entering the area has received appropriate instructions about the nature of the radiation hazards in the area.

- (2) The mine operator at a mine must ensure that in any area designated in a radiation management plan as a supervised area —

- (a) access by members of the public is supervised; and
- (b) the boundaries of the area are clearly delineated and are made known to workers at the mine.

Note: Refer to MSIR r. 16.12.

M65 Conditions for young persons

- (1) Each responsible person at a mine must ensure that a person under the age of 16 years is not employed in a mine if, as a direct consequence of that mining operation the young person may receive doses of radiation in excess of the dose limits set out in regulation 10.

- (2) Each responsible person at a mine must ensure that a person under the age of

18 years is not employed to work in a controlled area unless that person is adequately supervised, and then only for training purposes.

Note: Refer to MSIR r. 16.13.

M66 Designated employees

- (1) The mine operator at a mine must ensure that before mining operations commence at the mine each employee at the mine is classified as either a designated employee or a non-designated employee.
- (2) The manager of a mine must, so far as is practicable, limit the number of designated employees to the minimum number necessary for the proper conduct of the mining operation.

Note: Refer to MSIR r. 16.14.

M67 Dose limits

- (1) The mine operator at the mine must ensure that effective dose limit, effective doses, and annual equivalent dose limits for workers and other persons at a mine do not exceed the limits prescribed in Schedule 1 of the Code Of Practice, "Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing" by Australian Radiation Protection and Nuclear Safety Agency, Australia (2005)
- (2) The site senior executive manager of a mine must ensure that effective dose limit, effective doses, and annual equivalent dose limits for public do not exceed the public exposure limits prescribed in Schedule 1 of the Code Of Practice, "Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing" by Australian Radiation Protection and Nuclear Safety Agency, Australia (2005).

Note: Refer to MSIR regulations 16.5, 16.18, and 16.22.

M68 Assessment of doses

- (1) The mine operator at the mine must ensure that any assessment of doses of radiation —
 - (a) takes into account the results obtained from the monitoring program contained in the radiation management plan for the mine;
 - (b) does not, without the approval of the Regulator, take into account any protection factor for the use of protective clothing or respiratory protective equipment; and
 - (c) is done in accordance with a procedure approved by the Regulator.
- (2) If the assessed annual effective dose to a person exceeds 10 millisieverts, the mine operator at the mine must, so far as is practicable, re-assess the effective dose using more appropriate data as approved by the Regulator.

Note: Refer to MSIR r. 16.23 (2) 7 (3).

M69 Reporting of certain matters to Regulator

- (1) The mine operator at the mine must ensure that the following matters are reported to the Regulator in a form and at intervals approved by the State mining engineer —
 - (a) the results of the monitoring program approved in the radiation management plan; and
 - (b) the operation of the waste management system approved in the radiation management plan.
- (2) The mine operator at the mine must ensure that dose assessment records of an employee are sent to the Regulator upon the cessation of employment of that employee.
- (3) The mine operator at the mine must transfer all records specified by the Regulator, to the Regulator, before a mining operation is closed.

Note: Refer to MSIR r. 16.26.

M70 Approval for removal of radioactive material

A person must not remove or dispose of any radioactive material obtained from mining operations at a mine for use elsewhere in the State without the prior written approval of the Regulator.

Note: Refer to MSIR r. 16.27.

M71 Approval to use imported radioactive minerals (MSIR 16.28)

A person must not use or treat radioactive minerals that have been imported into the State in any mining operation unless the person has first obtained the written approval of the Regulator to do so.

Note: Refer to MSIR r. 16.28.

M72 Discharges (MSIR 16.34)

The mine operator at the mine must ensure that —

- (a) any discharges of radioactive waste at the mine are in accordance with the radiation management plan;
- (b) the Regulator is notified as soon as is practicable if the discharge of radioactive waste exceeds authorised limits; and
- (c) following any notification referred to in paragraph (b), such action is taken as is required by the Regulator.

Note: Refer to MSIR r. 16.34.

Subdivision 2 Use and storage of radiation sources and irradiating apparatus

M73 Use of sealed radiation sources and irradiating apparatus

- (1) Where sealed ionising radiation sources or irradiating apparatus are used in equipment in a mine, the mine operator must —
 - (a) formulate working rules and control measures specifically for the particular equipment and working situation, including appropriate instruction and training, supervision and secure storage, so as to ensure that radiation doses to any person are as low as is practicable and below the relevant dose limits specified in the *Radiation Safety (General) Regulations 1983*;
 - (b) arrange for periodic examination, testing and maintenance, and repair if necessary, of that particular equipment by a competent person to ensure its safe operation;
 - (c) record and retain the results of all measurements and examination and testing of that equipment;
 - (d) formulate emergency procedures to minimize radiation exposure in the event of an emergency;
 - (e) ensure that all radiation warning signs and labels are properly located, fixed and maintained in a clean and legible position;
 - (f) be able to account for all ionising radioactive material within his or her control at all times; and
 - (g) maintain a register of the current location in the mine of each piece of equipment that comes under the scope of this Division.
- (2) Despite subregulation (1), the mine operator must not use sealed ionising radiation sources or irradiating apparatus in equipment in a mine if such equipment is defective or may present a radiological hazard.
- (3) For the purposes of complying with this regulation, guidance may be found in the following Australian Government publications —
 - (a) Code of Practice for the Safe Use of Radiation gauges;
 - (b) Code of Practice for the Safe Use of Sealed Radioactive Sources in Borehole Logging;
 - (c) Code of Practice for the Safe Use of Soil Density and Moisture Gauges Containing Radioactive Sources;
 - (d) Code of Practice for the Safe Use of Industrial Radiography Equipment;
 - (e) Code of Practice for Protection against Ionising Radiation emitted from X-ray Analysis Equipment;
 - (f) Revised Statement on Cabinet X-ray Equipment for Examination of Letters, Packages, Baggage, Freight and other Articles for Security, Quality Control and other purposes; and
 - (g) Statement on Enclosed X-ray Equipment for Special Applications.

(To be reviewed and edited.)

- (4) The provisions of this regulation are in addition to, and not in substitution for, the provisions of the *Radiation Safety Act 1975*.

Note: Refer to MSIR r. 16.37

M74 Audit of sealed radiation sources and irradiating apparatus

- (1) The mine operator must ensure that an audit, in a form acceptable to the regulator, of all sealed radiation sources and of their location within the mine is carried out either annually or at such shorter intervals as specified by the regulator.
- (2) The manager must ensure that upon completion of the audit in subregulation (1) a copy of the audit is sent to the regulator.

Note: Refer to MSIR r. 16.38.

Division 5 Fitness for work

Note: Refer to NMSF DI 26.19 – 26.22 and MSIR 4.7.

M75 Fatigue

In complying with regulation M19, the mine operator of a mine must manage risks to health and safety associated with worker fatigue.

M76 Alcohol and drugs

- (1) In complying with regulation M19, the mine operator of a mine must manage risks to health and safety associated with the consumption of alcohol by workers.
- (2) In complying with regulation M19, the mine operator of a mine must manage risks to health and safety associated with the use of drugs by workers.

Chapter 4 Specific control measures— Underground mines

Division 1 All underground mines

Subdivision 1 Operational controls

M77 Managing risks in underground operations

- (1) The mine operator of a mine must manage risks to health and safety associated with the underground operations at the mine in accordance with Part 3.1 of the WHS Regulations.
- (2) In managing risks to health and safety associated with the underground operations at the mine, the mine operator must have regard to all relevant matters including the following:
 - (a) a person working alone;
 - (b) accounting of persons during and at the end of a shift;
 - (c) communication systems;
 - (d) lack of illumination and poor visibility;
 - (e) provision, installation, and use of ladders and ladder-ways;
 - (f) design and use of travel and drive ways;
 - (g) overhead protection for underground mining equipment;
 - (h) operation of remote controlled mobile equipment.

Note: Refer to MSIR Part 10, regulations 10.1 to 10.46.

M78 Connecting workings

- (1) The mine operator of an underground mine must ensure that, if 2 working faces are approaching each other at an underground mine, one of the workings is stopped, made safe and barricaded as soon as practicable before the distance separating the faces creates a risk to health or safety.
- (2) The mine operator of an underground mine, before connecting any underground mine workings to any other workings (including disused workings) must ensure that the other workings are inspected for water, gas, misfires, butts and any other circumstance that may be a risk to the health or safety of any person at the mine, other than a risk associated with an inrush hazard.

Note: Refer to NMSF DI 29.1 and MSIR 10.27.

M79 Dust explosion

- (1) In complying with regulation M19, the mine operator of an underground mine must manage risks to health and safety associated with an explosion associated with dust at the mine.
- (2) In managing risks to health and safety associated with dust at the mine, the mine operator must implement control measures that, so far as is reasonably practicable:

- (a) minimise the generation of potentially explosive dusts; and
- (b) suppress, collect and remove potentially explosive airborne dusts; and
- (c) suppress any dust explosion; and
- (d) restrict the propagation of any dust explosion so that other areas are not affected.

Note: Refer to MSIR r. 10.29 and NMSF DI 18.

M80 Managing fire risk

- (1) The mine operator of a mine must manage risks to health and safety associated with fires in underground operations at the mine in accordance with Part 3.1 of the WHS Regulations.
- (2) In managing risks to health and safety associated with fire in underground operations at the mine, the mine operator must have regard to all relevant matters including the following:
 - (a) transportation, use and storage of combustible and flammable material;
 - (b) selection, use and maintenance of plant and machinery;
 - (c) spontaneous combustion;
 - (d) managing ignition sources;
 - (e) fire warning systems;
 - (f) equipment and systems to mitigate fires; and
 - (g) trained and competent personnel.

Subdivision 2 Shafts and winders

Note: Refer to MSIR Part 11 (regulations 11.1 – 11.89) and Part 12 (regulations 12.1 – 12.19). In addition winder and shaft associated hazards are to be covered by Principal Mining Hazard Management Plan NMSF DI 15.1 – 15.15.

M81 Winding systems

- (1) In this part – ***Winding system*** means any plant with a rope (other than a winch or plant that is manually operated) that is used in a shaft to lift a person or material to or from an underground mine or between levels in an underground mine.

Shaft means a vertical or steeply inclined excavation into or within a mine used for transportation of persons or material or provision of mine services.

- (2) The mine operator of an underground mine must ensure that every winding system used or that may be put into use at the mine includes the following:
 - (a) Ropes and devices that can withstand all forces that can reasonably be expected to be borne by the ropes and devices;
 - (b) control measures and limiting devices to prevent, so far as is reasonably practicable, any shaft conveyance from being overwind, moving at an unsafe speed, excessive acceleration and deceleration and uncontrolled movements;

- (c) at least 2 braking (or equivalent) systems that ensure the winder remains under control in the event of failure in any one of the systems;
 - (d) control measures that detect any of the following malfunctions that may be present:
 - (i) slack rope,
 - (ii) rope slip,
 - (iii) unsafe balance rope condition,
 - (iv) unsafe coiling of rope.
 - (e) control measures that cause the winder to be brought to a safe state when a condition or malfunction referred to in paragraph (d) is detected;
 - (f) warning systems to alert persons at the mine to any emergency in a shaft;
 - (g) if it is reasonably practicable, remote monitoring of the functions of the system;
 - (h) an effective means of communication:
 - (i) between the surface and any shaft conveyance used for carrying persons; and
 - (ii) between the point of control of the winder and the entry to every shaft that is in use.
 - (i) a device that safely attaches ropes to conveyances,
 - (j) in the case of multi-rope winders—devices that load the ropes as uniformly as possible.
- (2) The mine operator must ensure that the condition and performance of the winding system, and its components, are tested and monitored at intervals to ensure the safe performance of the system.
- (3) The mine operator must ensure that energy lockout devices are fitted to all mechanical and electrical plant associated with any shaft at the mine, including any mechanical and electrical plant associated with the operation, maintenance or use of the shaft.

M82 Ropes

The mine operator of an underground mine must ensure that:

- (a) each rope used for the purposes of a winding system is regularly inspected and tested to ensure that it is safe for that use;
- (b) criteria are established to determine when a rope is no longer suitable for any such use; and
- (c) rope is discarded when it does not comply with the acceptance criteria or is unsafe to use.

M83 Operation of shaft conveyances

- (1) In this clause shaft conveyance means a conveyance that is connected to a winding system.

- (2) The mine operator of an underground mine must ensure that material or plant being carried in a shaft conveyance:
 - (a) does not protrude from the shaft conveyance, while it is moving, so as to contact a wall of the shaft or anything in the shaft; and
 - (b) is so secured to the shaft conveyance that it cannot leave the shaft conveyance except by being deliberately removed.
- (3) The mine operator of an underground mine must ensure that persons being carried in a shaft conveyance are adequately protected from another shaft conveyance in the same shaft, from any material or plant being carried by the other shaft conveyance and from the wall of the shaft or anything in the shaft. .
- (4) The mine operator of an underground mine must ensure that, if a shaft conveyance that combines a cage and skip is used, material is not carried in the skip while persons are being carried in the cage.
- (5) The mine operator of an underground mine must ensure that control measures are implemented to prevent a shaft conveyance from falling down the shaft.
- (6) The mine operator of an underground mine must ensure, so far as is reasonably practicable, that facilities for loading material or plant onto or into a shaft conveyance are implemented to prevent persons, rock, material and plant from falling down a shaft.

Subdivision 3 Use of diesel equipment

Note: MSIR Part 10, Division 4 (regulations 10.47 – 10.60) deals with hazards associated with use of diesel underground equipment.

M84 Diesel equipment requirements

- (1) The mine operator of an underground mine where diesel equipment is used underground must ensure that:
 - (a) the design and construction of the diesel unit is suitable for use in underground conditions,
 - (b) the diesel unit is maintained as per OEM specifications for use in underground,
 - (c) the exhaust gas emissions are less than
 - (i) 1000 ppm of oxides of nitrogen; and
 - (ii) 1500 ppm of carbon monoxideunder any condition of engine speed or load.
 - (d) suitable fire suppression devices are provided on diesel equipment.
- (2) The mine operator of an underground mine must take measures to minimise, so far as is reasonably practicable, the adverse effects of diesel exhaust emissions in an underground mine by:

- (a) selecting and using suitable diesel fuel, and
 - (b) treatment of exhaust emissions.
- (3) The mine operator of an underground mine must develop and implement a monitoring and maintenance schedule to ensure that the conditions prescribed in these regulations are complied with at all times when a diesel unit is permitted for use in the underground mine.

Note: Refer to MSIR regulations 10.50, 10.51, and 10.52(5)(b).

M85 Additional ventilation requirement for diesel equipment

- (1) The mine operator of an underground mine must ensure that when diesel equipment are used underground ventilation volume rate of not less than 0.05 cubic metres per second per kilowatt of the maximum rated engine output specified by the manufacturer, for the fuelling and timing configuration at which the engine has been set is provided.
- (2) If more than one diesel unit is operating in any ventilation circuit of a mine at the same time, the total ventilation volume rate of air in that circuit must be not less than the aggregate of the volume requirement for the individual diesel units.

Note: Refer to MSIR regulations 10.52(6) & 10.

Subdivision 4 Air quality and ventilation

Note: MSIR Part 9, regulations 9.5, 9.14, 9.16, 9.20 – 28, and 9.34 – 9.37 deal with underground ventilation in mines.

M86 Air quality—airborne contaminants

- (1) The mine operator of an underground mine must ensure that the concentration of any airborne contaminant (including any asphyxiant or explosive gas) is as low as is reasonably practicable.
- (2) The mine operator must comply with subregulation (1):
- (a) so far as is reasonably practicable, by suppression or the installation of a ventilation or exhaust extraction system; or
 - (b) if this is not reasonably practicable, by some other suitable means.
- (3) This regulation does not limit WHS regulations 49 and M54.

M87 Air quality—minimum standards for ventilated air

- (1) The mine operator of an underground mine must ensure that the ventilation system for the mine provides air that is of sufficient volume, velocity and quality to ensure that the general body of air in the areas in which persons work or travel:
- (a) has a concentration of oxygen that is at least 19.5% under normal

- atmospheric pressure; and
- (b) has dust levels that :
 - (i) are as low as is reasonably practicable; and
 - (ii) do not exceed the relevant levels specified in regulation M54; and
 - (c) if diesel engines are used underground—has a concentration of diesel particulates that is as low as is reasonably practicable.
- (2) In addition to subregulation (1), the mine operator of an underground mine (other than a coal mine) must ensure that the ventilation system for the mine provides air that is of sufficient quality to ensure that the general body of air in the areas in which persons work or travel has a level of contaminants that:
- (a) is as low as is reasonably practicable; and
 - (b) does not exceed the exposure level for that contaminant specified in the relevant exposure standard referred to in WHS regulation 49.
- (3) This regulation does not apply in relation to an area of the mine:
- (a) that is required to be entered in an emergency or for a mines rescue purpose; and
 - (b) in which all persons are wearing self- contained breathing apparatus.

M88 Air quality—monitoring

The mine operator of an underground mine must ensure that air monitoring is carried out at the mine in the following circumstances:

- (a) in relation to an underground mine other than an underground coal mine, if the mine operator is not certain on reasonable grounds whether or not regulation M87 is being complied with;
- (b) in relation to an underground coal mine, at intervals that ensure compliance with regulations M87(1) and M97.

M89 Requirements if air quality requirements and air safety exposure standards not complied with

- (1) This regulation applies if monitoring reveals that:
- (a) in an underground mine other than an underground coal mine:
 - (i) the oxygen level specified in regulation M87(1)(a) is not met; or
 - (ii) a dust level referred to in regulation M87(1)(b)(ii) is exceeded; or
 - (iii) an exposure level referred to in regulation M87(2)(b) is exceeded; or
 - (b) in an underground coal mine:
 - (i) the oxygen level specified in regulation M87(1)(a) is not met; or
 - (ii) a dust level referred to in regulation M87(1)(b)(ii) is exceeded; or
 - (iii) a concentration referred to or specified in regulation M97(1)(a)(ii),

(b)(ii) or (c)(ii) is exceeded.

(2) The mine operator of an underground mine must immediately notify:

- (i) any affected workers or other persons at the mine, and
- (ii) the regulator

of the relevant circumstance referred to in subregulation (1).

(3) The mine operator of an underground mine must ensure that the air quality at the mine is retested by a competent person as soon as practicable.

M90 Records of air monitoring

(1) The mine operator of a mine must keep a record of air monitoring carried out at the mine under these regulations.

(2) A record of air monitoring must include:

- (a) the results of the monitoring; and
- (b) details of the dates, location and frequency of the monitoring; and
- (c) the sampling method and equipment used.

(3) A record of air monitoring carried out under this Chapter must be kept for 7 years after the record is made.

(4) The mine operator must keep a record of air monitoring available for inspection under the Act.

(5) The mine operator must keep a record of air monitoring readily accessible to workers and other persons at the mine.

M91 Ventilation system—further requirements

(1) The mine operator of an underground mine must ensure that the air supplied to the ventilation system at the mine is obtained from the purest source available.

(2) The mine operator must ensure the following:

- (a) ventilation circuits at the mine do not allow uncontrolled recirculation of air;
- (b) plant and structures that regulate airflow are maintained in good working order;
- (c) unventilated headings are not entered unless:
 - (i) the purpose of entry is to establish ventilation; and
 - (ii) adequate auxiliary ventilation is provided to the person entering the heading.

M92 Monitoring and testing of ventilation system

(1) The mine operator of an underground mine must monitor and test all aspects of

the operation of the ventilation system at intervals that ensure that the system complies with regulations M87 and M91.

- (2) The mine operator of a mine must keep a record of all monitoring and testing of the ventilation system at the mine for at least 7 years.
- (3) The mine operator must keep the record available for inspection under the Act.
- (4) The mine operator must keep the record readily accessible to workers and other persons at the mine.

M93 Duty to prepare underground ventilation control plan

- (1) The mine operator of an underground mine must ensure that an underground ventilation control plan is prepared to provide for the management of all aspects of ventilation at the mine.
- (2) The ventilation control plan must describe all control measures implemented in relation to ventilation at the mine.
- (3) Without limiting subregulation (2), the underground ventilation control plan must include a description of the following, if applicable to the mine:
 - (a) the design, planning and operation of the ventilation system, including the standards applying to the placement, operation, maintenance and monitoring of ventilation plant;
 - (b) identification of factors that may have effect on the quantity and quality of air required for ventilation during normal operation and emergencies.
 - (c) integration of ventilation network with mine development and production schedules;
 - (d) arrangements and procedures for inspecting, monitoring, maintaining and testing the ventilation system;
 - (e) arrangements and procedures for managing auxiliary ventilation;
 - (f) selection, maintenance and calibration of monitoring equipment;
 - (g) appointment of ventilation officer and other competent persons for managing ventilation;
 - (h) arrangements for managing risks to health and safety associated with potential inrush of atmospheric contaminants;
 - (i) arrangements for an alternate and independent way of operating the main ventilation fan system in the event of a loss of power supply to the main ventilation system;
 - (j) procedures to ensure the health and safety of persons at the mine in the event of a total or partial ventilation failure;
 - (k) arrangements for managing isolated or fenced off areas and stopping inadvertent entry to these areas;
 - (l) modelling of the ventilation processes when a significant change is made to the ventilation arrangements;
 - (m) procedure to withdraw persons in case of unsafe atmospheric conditions;

- (n) maintaining records including:
 - (i) design calculations;
 - (ii) breakdowns, deficiencies noted in ventilation and details of corrective actions.
- (4) Underground ventilation control plan forms part of Mine safety management system.

M94 Ventilation plan

- (1) The mine operator of an underground mine must ensure that a plan of the ventilation system for the mine is prepared.
- (2) The ventilation plan must show:
 - (a) the direction, course and volume of air currents; and
 - (b) the position of all air doors, stoppings, fans, regulators and other ventilation plant and structures and ventilation monitoring devices at the mine.

Division 2 Underground coal mines

M95 Coal dust explosion

- (1) In complying with regulation M19 in relation to coal dust explosion, the mine operator of an underground coal mine must:
 - (a) limit coal dust generation, including its generation by mining machines, coal crushers and coal conveyors and at conveyor transfer points; and
 - (b) suppress, collect and remove airborne coal dust; and
 - (c) remove excessive coal dust accumulations on roadways and other surfaces in mine roadways; and
 - (d) limit coal dust accumulation on roadways and other surfaces in mine roadways to ensure that the amount of incombustible material contained in roadway dust at the mine is kept at or above the following concentration levels:
 - (i) for dust in a panel roadway within 200 metres outbye the last completed line of cut-throughs in the panel—85%;
 - (ii) for dust in any 200 metre section of panel roadway within 400 metres of a longwall face—85%;
 - (iii) for dust in a panel roadway within 200 metres of the main roadway, if subparagraphs (i) and (ii) do not apply—80%;
 - (iv) for dust in a return roadway to which subparagraphs (i) to (iii) do not apply— 80%;
 - (v) for dust in an intake roadway to which subparagraphs (i) to (iii) do not apply— 70%; and
 - (e) determine the stonedust or other explosion inhibitor application rate necessary to minimise the risk of a coal dust explosion and apply that rate; and
 - (f) restrict the propagation of any coal dust explosion so that other areas are not affected.
- (2) Subregulation (1)(d) does not apply in relation to dust in a roadway if there is sufficient natural make of water associated with the mining operations to prevent a coal dust explosion.
- (3) The mine operator must also establish procedures in relation to the following:
 - (a) the regular inspection, sampling and analysis of roadway dust layers, including laboratory analysis for incombustible material content;
 - (b) the applying of stonedust or another explosion inhibitor for suppressing coal dust explosion;
 - (c) the intervals at which dust sampling and analysis referred to in paragraph (a) must be carried out.
- (4) In this regulation:

intake roadway means a roadway used for the intake of air to mine workings;
return roadway means a roadway used for the removal of air and airborne contaminants from mine workings.

M96 Spontaneous combustion

In complying with regulation M19, the mine operator of an underground coal mine must:

- (a) manage risks to health and safety associated with spontaneous combustion at the mine; and
- (b) implement procedures to minimise the potential exposure of persons to airborne contaminants produced by spontaneous combustion.

M97 Air quality—minimum standards for ventilated air

(1) The mine operator of an underground coal mine must, in addition to complying with regulation M87(1), ensure that the ventilation system for the mine provides for air that is of sufficient quality to ensure that the general body of air in the areas in which persons work or travel:

- (a) has a concentration of a contaminant specified in Schedule 4 that:
 - (i) is as low as is reasonably practicable; and
 - (ii) does not expose a person to the contaminant in an airborne concentration that exceeds the applicable long term exposure limit for that contaminant; and
- (b) has a concentration of carbon dioxide that:
 - (i) is as low as is reasonably practicable; and
 - (ii) does not expose a person to carbon dioxide in an airborne concentration that exceeds 12 500 parts per million; and
- (c) has a concentration of methane that:
 - (i) is as low as is reasonably practicable; and
 - (ii) does not exceed 2.0%.

(2) Subregulation (1)(a) and (b) do not apply in relation to an area of the mine:

- (a) that is required to be entered in an emergency or for a mines rescue purpose; and
- (b) in which all persons are wearing self-contained breathing apparatus.

(3) In this regulation, applicable long term exposure limit, for a contaminant, means—

- (a) for a person working not more than 8 hours a day and not more than 40 hours a week—the long term exposure limit specified for the contaminant in Schedule 4, column 2; or

- (b) for a person working more than 8 hours a day or more than 40 hours a week—the long term exposure limit specified for the contaminant in Schedule 4, column 2 as adjusted having regard to the relevant [approved] code of practice.

M98 Additional requirements relating to methane

- (1) This regulation applies to an underground coal mine.
- (2) This regulation applies in addition to the requirements of regulation M97(1)(c).
- (3) The mine operator must ensure that the concentration of methane in intake air in the mine and at any entry to the mine does not exceed 0.25%.
- (4) The mine operator must ensure that arrangements are in place that cut the supply of electricity to a production area in which the concentration of methane exceeds 1.25%.
- (5) The mine operator must ensure that arrangements are in place to ensure that the internal combustion engine of a flameproof vehicle is stopped and not restarted if the concentration of methane in the air of the production area in which the vehicle is used exceeds 1.25%.
- (6) The mine operator must ensure that arrangements are in place to ensure that persons are evacuated from a part of the mine in which the concentration of methane exceeds 2.0%.
- (7) The mine operator must monitor the level of methane at the mine by using air monitoring devices that produce a visible or audible warning in each of the following circumstances:
 - (a) the concentration of methane in intake air is 0.25% or more;
 - (b) the concentration of methane in a production area is 1.25% or more;
 - (c) the concentration of methane in return air is 2.0% or more.
- (8) In this regulation, **production area** means an area of an underground coal mine where coal or stone is being extracted other than for the purpose of repairing or enlarging a roadway.

Chapter 5 Emergency management

Note: Refer to NMSF Part 5 and DI 27.1–27.24 covering provisions for all mines and specific provisions for underground mines. Also refer to MSIR regulations 4.23–4.32.

Division 1 Emergency management – all mines

M99 Duty to prepare emergency management plan

- (1) The mine operator of a mine must prepare an emergency management plan for the mine in accordance with this Subdivision.
- (2) In addition to the matters required by WHS regulation 43(1), the emergency management plan must:
 - (a) address all aspects of emergency response, including by ensuring:
 - (i) the establishment of a system that enables all persons at the mine to be promptly located; and
 - (ii) the provision of adequate rescue equipment; and
 - (iii) that an adequate number of persons trained in the use of rescue equipment are available to respond effectively to the emergency if a person is working at the mine; and
 - (iv) the provision of adequate patient transport if a person is working at a mine; and
 - (b) include all matters specified in Schedule 5; and
 - (c) so far as is reasonably practicable, be set out and expressed in a way that is readily understandable by persons who use it.
- (3) The emergency management plan for a mine must comply with the matters in subregulation (2)(a) and (b) to the extent that the matters are applicable to the mine having regard to:
 - (a) the nature, complexity and location of the mining operations; and
 - (b) the risks associated with those operations.
- (4) The emergency management plan for a mine must contain an appropriate level of detail about the matters set out in subregulation (2)(a) and (b) having regard to all relevant matters including:
 - (a) the nature, complexity and location of the mining operations; and
 - (b) the risks associated with those operations.

M100 Consultation in preparation of emergency management plan

- (1) In preparing an emergency management plan, the mine operator must consult with:
 - (a) Department of Fire and Emergency Services; and
 - (b) any other emergency service organisation, including any mines that may

be required to participate in implementing the emergency management plan; and

- (c) in relation to the principal mining hazards that may cause or contribute to an incident that may adversely affect the health and safety of persons in the area surrounding the mine—the local authority for the local authority area in which the mine is located. (Local authority means a local government or a regional local government.)

(2) The mine operator must ensure that the emergency management plan addresses any recommendation made by the emergency service organisations consulted under subregulation (1) in relation to:

- (a) the testing of the emergency management plan, including the way in which it will be tested, the frequency of testing and whether or not the emergency service organisations will participate in the testing; and
- (b) what incidents or events at the mine should be notified to the emergency service organisations.

(3) The mine operator must have regard to any other recommendation or advice given by a person consulted under subregulation (1).

M101 Implementation of emergency management plan

The mine operator of a mine must immediately implement the emergency management plan for the mine in the event of an emergency.

M102 Copies to be kept and provided

- (1) The mine operator of a mine must keep a copy of the emergency management plan at the mine.
- (2) The mine operator must ensure that a copy of the emergency management plan is available on request to any emergency service organisation consulted under regulation M100(1)(a).

M103 Resources for emergency management plan

- (1) The mine operator of a mine must ensure that:
 - (a) all resources required for the effective implementation of the emergency management plan are provided,
 - (b) all equipment, including communications systems and rescue equipment, specified in the emergency management plan is maintained in good working order.

M104 Testing of emergency management plan

The mine operator of a mine must test the emergency management plan for the mine at intervals of no more than 12 months and as soon as is reasonably practicable after there has been a significant revision to the plan. Any such test is to

have regard to the recommendations made by the emergency service organisations consulted under regulation M100 in preparing the plan.

M105 Review

The mine operator of a mine must ensure that the emergency management plan for the mine is reviewed and as necessary revised:

- (a) at intervals of no more than 12 months, and
- (b) as soon as is reasonably practicable after there has been a significant change to the mining operations at the mine.

M106 Training of workers

The mine operator of a mine is to ensure that workers at the mine are trained in relation to the emergency management plan:

- (a) before commencing work at the mine, and
- (b) as soon as is reasonably practicable after any significant revision to the plan.

Division 2 Underground mines

Note: Refer to NMSF DI 27 and MSIR regulations 4.33 - 4.37, 10.10, and 10.11.

M107 Emergency exits

- (1) The mine operator of an underground mine must ensure that the mine has at least 2 trafficable exits to the surface that comply with subregulations (2) and (3).
- (2) Each exit must:
 - (a) be accessible from each level in the mine in which coal extraction or stoping operations are being carried out; and
 - (b) allow for the passage of rescue persons and rescue equipment; and
 - (c) be marked or signposted so that it can be readily located in an emergency; and
 - (d) be maintained so that it remains effective.
- (3) The exits must be located so as to ensure, so far as is reasonably practicable, that an incident or event that occurs in relation to one exit, that prevents the exit from being used for the purpose of escape from the mine, does not prevent persons from using the other exit to escape.
- (4) The mine operator of a mine is not required to comply with subregulation (1) in either of the following circumstances if the mine operator ensures that the mine has at least 1 trafficable exit to the surface that complies with subregulation (2):
 - (a) a single entry drive or shaft is being developed;
 - (b) the most distant area of the mine is no more than 250 metres from the mine entrance.

M108 Safe escape and refuge

- (1) The mine operator of an underground mine must provide adequate means of communicating with all affected persons when the emergency management plan for the mine is implemented.
- (2) The mine operator of an underground mine must provide adequate means of escape that:
 - (a) in the case of an underground coal mine— enable persons to safely reach an exit; or
 - (b) in the case of other underground mines— enable persons to safely reach an exit or refuge, including through conditions of reduced visibility or irrespirable or unsafe atmospheres.

M109 Signage for refuges

The mine operator of an underground mine that includes a refuge must ensure that signs are prominently displayed at the mine showing the location of each refuge.

M110 Self-rescuers

- (1) The mine operator of an underground mine must ensure that a person who is to go underground is provided with an appropriate self-contained self-rescuer if there is a risk of an irrespirable atmosphere in the underground mine (including during an emergency).
- (2) The mine operator must ensure that the person is trained in the use of, and is able to use, the self-rescuer provided.

M111 Personal protective equipment in emergencies

- (1) This regulation applies in relation to a worker who is to enter an underground mine in an emergency in order to carry out first aid or rescue procedures.
- (2) The mine operator of the underground mine must ensure that oxygen respiratory equipment is available for use by, and is provided to, the worker in an emergency in which:
 - (a) the concentration of oxygen falls below a safe oxygen level; or
 - (b) the atmosphere in the underground mine has a harmful concentration of an airborne contaminant; or
 - (c) there is a serious risk of the atmosphere in the underground mine becoming affected in the way referred to in paragraph (a) or (b) while the worker is in the underground mine.
- (3) The mine operator must ensure, so far as is reasonably practicable, that a worker uses the personal protective equipment provided under subregulation (2) or (3).

M112 Competent persons at surface

The mine operator of an underground mine must ensure that at any time that persons are underground:

- (a) at least one person at the surface (the surface contact) is readily available to be contacted by those persons underground, and
- (b) at least one of the surface contacts has the authority, the competence and is readily available to activate the emergency management plan as necessary.

Chapter 6 Information, training and instruction

M113 Duty to inform workers about mine safety management system

- (1) The mine operator of a mine must ensure that, before a worker commences work at the mine:
 - (a) the worker is given a summary of the mine safety management system for the mine that is relevant to the worker's work at the mine; and
 - (b) the worker is informed of the right to see the documented mine safety management system for the mine prepared under regulation M24.
- (2) The mine operator must ensure that the documented mine safety management system is available on request to a worker at the mine.
- (3) If the mine safety management system is revised under regulation M27, the mine operator must ensure, so far as is reasonably practicable, that each worker at the mine is made aware of any revision that is relevant to work being carried out by the worker.

Note: Refer to NMSF DI 9.13, 9.14 and MSIR r.4.13.

M114 Duty to provide information, training and instruction

- (1) This regulation applies in addition to WHS regulation 39.
- (2) The mine operator of a mine must ensure that each worker at the mine is provided with suitable and adequate information, training and instruction in relation to the following:
 - (a) all hazards associated with the work being carried out by the worker;
 - (b) the implementation of risk control measures relating to the work being carried out by the worker, including controls in relation to fatigue, the consumption of alcohol and the use of drugs;
 - (c) the content and implementation of the mine safety management system for the mine;
 - (d) the emergency management plan for the mine.
- (3) A person conducting a business or undertaking at a mine must ensure that each worker engaged by the person is trained, and is competent in the nature of the work carried out by the worker and the basic risk management techniques used at the mine having regard to that work.

Note: Refer to NMSF DI 9.13, 9.14 and MSIR r. 4.13.

M115 Duty to provide induction for workers

The mine operator of a mine must ensure that before a worker commences work at the mine, the worker is given information, training and instruction on the general mining operations, system of works, safety procedures and the tasks required of the worker.

Note: Refer to NMSF DI 9.12 and MSIR 4.13

M116 Information for visitors

The mine operator of a mine must ensure that a visitor who enters the mine with the authority of the mining operator is, as soon as practicable:

- (a) informed about risks associated with mining operations to which the visitor may be exposed at the mine; and
- (b) instructed in health and safety precautions the visitor should take at the mine; and
- (c) instructed in the actions the visitor should take if the emergency management plan for the mine is implemented while the visitor is at the mine.

M117 Review of information, training and instruction

The mine operator of a mine must ensure that information, training and instruction provided to workers under regulations M113 and M114 or to visitors under regulation M116 are reviewed and as necessary revised to ensure that they remain relevant and effective.

M118 Record of training

The mine operator of a mine must:

- (a) make a record of any training provided to a worker under regulation M114; and
- (b) keep the record while the worker remains engaged at the mine.

Chapter 7 Health management

Note: Refer to NMSF DI re Health Control Plan, 26.1, 26.6 – 26.18 and Part 3, Division 4 regulations 3.24 – 3.40.

M119A Duty to prepare and implement health management plan

- (1) The mine operator of a mine must prepare and implement a health management plan.
- (2) The health management plan must identify and consider all health hazards that may have an adverse effect on health of persons at the mine and provide details of controls the mine operator will implement to manage associated risks in accordance with Part 3.1 of the WHS Regulations.
- (3) In managing the risks to health of persons at the mine, the mine operator must have regard to all relevant matters including:
 - (a) heat, humidity and contaminants to which a person may be exposed;
 - (b) any other health hazard including noise, chronic exposure to musculoskeletal stressors;
 - (c) assessment of risk due to identified health hazards;
 - (d) controls considered and implemented to, so far as is reasonably practicable, minimise the adverse effects of identified health hazards;
 - (e) establishing and implementing a monitoring schedule to identify any new health hazard and to assess the effectiveness of controls implemented;
 - (f) actions to be taken if monitoring indicates that implemented control measures are not effective;
 - (g) risk based biological and health monitoring of persons; and
 - (h) actions to be taken if biological or health monitoring indicates adverse effects on persons.
- (4) The health management plan is part of mine safety management system established under regulation M23.

M119 Biological monitoring of workers

- (1) The mine operator and each person conducting a business or undertaking at a mine must ensure that biological monitoring is carried out in respect of workers who engage in occupational exposure work at the resources facility, where there is a recognised biological monitoring procedure and a reasonable likelihood that accepted values might be exceeded.
- (2) The regulator may direct that biological monitoring be carried out in respect of specified workers at a mine.
- (3) The mine operator and each person conducting a business or undertaking at a mine must ensure that a direction given under subregulation (2) is complied with as soon as is practicable.
- (4) The regulator may require the results of any biological monitoring carried out in

respect of workers at a mine to be provided to the regulator.

- (5) The mine operator and each person conducting a business or undertaking at a mine must ensure that a requirement made under subregulation (4) is complied with as soon as is practicable.
- (6) The mine operator or person conducting a business or undertaking must provide to the regulator result of biological monitoring if the report contains results that the prescribed limit is exceeded.

Note: Refer to MSIR 3.28.

M120 Health monitoring of worker

- (1) The mine operator of a mine must ensure that health monitoring is provided in accordance with subregulation (2) to a worker at a mine engaged to carry out work at a mine if:
 - (a) there is a significant risk of an adverse effect on the worker's health because of the worker's exposure to a hazard associated with mining; and
 - (b) valid techniques are available to detect that effect on the worker's health.
- (2) The mine operator of a mine must also ensure that health monitoring is provided in accordance with subclause (3) to a worker at the mine, or in relation to a specific hazard at the mine, if the regulator so directs.
- (3) The health monitoring must be carried out:
 - (a) in accordance with this Part; and
 - (b) at intervals determined by a registered medical practitioner with experience in health monitoring.

Note: Refer to MSIR 3.30 and NMSF DI 26.6 – 26.18.

M121 Duty to provide health information

- (1) The mine operator of and each person conducting a business or undertaking at a mine must provide to a worker covered by M120(1)(a) information on:
 - (a) health effects of certain operations,
 - (b) health effects of exposure to hazardous chemicals or other agents,
 - (c) necessary precautions, and
 - (d) biological monitoring and health assessment.
- (2) The information to be provided as per subregulation (1) must be provided, so far as is reasonably practicable, before the worker is exposed to a health hazard.

M122 Duty to ensure health monitoring is carried out or supervised by registered medical practitioner with experience

- (1) The mine operator of a mine must ensure, so far as is reasonably practicable,

that the health monitoring of a worker under this Part is carried out by or under the supervision of a registered medical practitioner with experience in health monitoring.

- (2) The mine operator must ensure that the worker is consulted in relation to the selection of the registered medical practitioner.

M123 Duty to pay costs of health monitoring

- (1) The mine operator of a mine who engages a worker at the mine must pay all expenses relating to biological and health monitoring referred to in this Part.
- (2) If the mine operator of a mine has not engaged a worker at the mine, the mine operator must ensure that the person conducting the business or undertaking that engaged the worker pays all expenses relating to biological and health monitoring.

Note: Refer to MSIR r. 3.30.

M124 Duty to provide registered medical practitioner with information

The person conducting a business or undertaking who commissions health monitoring for a worker must provide the following information to the registered medical practitioner carrying out or supervising the health monitoring:

- (a) the name and address of the mine operator;
- (b) the name and date of birth of the worker;
- (c) the work that the worker is, or will be, carrying out that has triggered the requirement for health monitoring;
- (d) if the worker has started the work—how long the worker has been carrying out the work.

M125 Health monitoring report

- (1) Health monitoring must be documented in a health monitoring report in the form approved by the regulator.
- (2) The health monitoring report must include the following:
 - (a) the name and date of birth of the worker;
 - (b) the name and registration number of the registered medical practitioner;
 - (c) the name and address of:
 - (i) the mine operator; and
 - (ii) the person conducting a business or undertaking who commissioned the health monitoring;
 - (d) the date of the health monitoring;
 - (e) an explanation of the results;
 - (f) any advice indicating any adverse health effect resulting from exposure to a risk associated with mining operations;
 - (g) any recommendation that the mine operator take remedial measures, including whether the worker can continue to carry out the type of work

- that triggered the requirement for health monitoring;
- (h) whether medical counselling is required for the worker in relation to the work that triggered the requirement for health monitoring.

M126 Person conducting business or undertaking to obtain biological and health monitoring report

The person conducting a business or undertaking who has commissioned health monitoring must take all reasonable steps to obtain a health monitoring report from the registered medical practitioner who carried out or supervised the monitoring as soon as practicable after the monitoring is carried out in relation to a worker.

M127 Person conducting business or undertaking to give biological & health monitoring report to mine operator of mine

A person conducting a business or undertaking must, on request, give a copy of the biological and health monitoring report required to be kept under regulation M130(1) to the mine operator of any mine at which the worker carries out work.

M128 Duty to give biological & health monitoring report to worker

The mine operator of a mine must take all reasonable steps to ensure that a worker at the mine who is provided with health monitoring is given a copy of the health monitoring report as soon as practicable after the monitoring is carried out.

M129 Duty to give biological and health monitoring report to regulator

The mine operator of a mine must take all reasonable steps to ensure that a copy of a biological and health monitoring report relating to a worker at the mine is given to the regulator as soon as practicable if the report contains:

- (a) any advice indicating any adverse health effect resulting from exposure to a risk associated with mining operations; or
- (b) a recommendation that the mine operator should move the worker from a hazard or assign the worker to different work.

Add another clause placing duty on medical practitioner to provide information to regulator similar to prescribed in regulation 5.24 of *Occupational Safety and Health Regulations 1996*.

M130 Biological and health monitoring reports kept as records

- (1) The person conducting a business or undertaking that engaged a worker at the mine must ensure that a biological and health monitoring report in relation to the worker is kept as a confidential record.
- (2) The person must ensure that a biological and health monitoring report in relation to a worker is kept for at least:
 - (a) for hazards known to have a cumulative or delayed health effect—30

- years after the record is made; or
- (b) for other hazards—7 years after the record is made.
- (3) A person conducting a business or undertaking who obtains a biological or health monitoring report in relation to a worker under this Part must not disclose the report to another person without the worker's written consent.
- (4) Subregulation (3) does not apply if the report is disclosed to:
- (a) a mine operator to whom a copy report is given under regulation M127; or
 - (b) the regulator under regulation M129; or
 - (c) a new mine operator to whom all records are given under regulation M145(3); or
 - (d) a person who must keep the report confidential under a duty of professional confidentiality; or
 - (e) a health and safety representative in accordance with section 71(2) of the Act.
- (4) The person conducting a business or undertaking that engaged a worker at the mine must ensure, so far as reasonably practicable, that any biological and health monitoring report kept in relation to a worker under subregulation (2) is given to the worker if the business or undertaking at the mine is to be wound up or otherwise cease to exist.

Chapter 8 Mine survey plans

Note: Refer to MSIA section MSIR Part 3, Division 6, regulations 3.43 – 3.54 and NMSF DI 28.1 – 28.16.

M131 Survey plans to be prepared and maintained

- (1) The mine operator of a mine must prepare and maintain at the mine accurate and, so far as is reasonably practicable, up to date survey plans for all underground and quarry workings. The regulator may exempt, subject to conditions, a class of or a particular quarry operation from maintaining plans required under this clause.
- (2) The mine operator of a mine must, in addition to the plans prescribed in subregulation 1, maintain additional survey plans that are determined to be necessary based on assessment of risk carried out in this regard.
- (3) If the regulator has reason to believe that a survey plan maintained or provided under this part is inaccurate or incomplete, the regulator may direct the mine operator to have a check survey conducted at the mine operator's own cost and the mine operator must comply with such a direction without delay.
- (4) A person who contravenes subsection (1), (2), or (3) commits an offence.

M132 Survey plans requirements

- (1) In this regulation:

Australian Height Datum means the Australian Height Datum described in the Division of National Mapping Technical Report No. 12, The Adjustment of the Australian Levelling Survey, 1970-71 (2nd edition, 1975).

Geocentric Datum of Australia means the Geocentric Datum of Australia as defined in Commonwealth of Australia Gazette No. 35 of 6 September 1995 (GDA94 geocentric data set).

- (2) Survey plan required under this part must:
 - (a) If the survey plan is for underground operations, be prepared by or under the supervision of an authorised mine surveyor grade 1.
 - (b) If the survey plan is for quarry operations, be prepared by or under the supervision of an authorised mine surveyor grade 2
- (3) A person who carries out a survey at a mine must ensure that —
 - (a) the survey is carried out using instruments and equipment of precision equal to best current industry standards and technology; and
 - (b) the survey is carried out to a standard that accords with good engineering practice and is to an accuracy of not less than 1:5000 or an accuracy permitted by the regulator.
- (4) A person who carries out a survey of a mine must establish, in the general vicinity of the mine, a datum station which is to serve as the origin for the

survey and the co-ordinate system used.

- (5) The position of the datum station referred to in subregulation (3) must be established in terms of the Map Grid of Australia 1994 coordinate system and the Australian Height Datum (AHD).
- (6) A person who carries out a survey of a mine must ensure that if a local grid system is used for mine surveying and management the relationship between that grid system and the Map Grid of Australia 1994 in terms of distance and with respect to true bearing is established.
- (7) Survey plans maintained under this part must show:
 - (a) sufficient details of the workings and other features so that risk due to lack of information, so far as is reasonably practicable, is minimised.
 - (b) all features, including boreholes, that are necessary to identify any hazard or are necessary to deal with an emergency.
 - (c) certification by the person who made the plan that the plan is correct.
- (8) The mine operator of a mine must take all reasonable steps to obtain historical mine surveys of the mine to ensure the accuracy of the mine survey plan.
- (9) In relation to a survey plan of underground or quarry operations the certification referred to in subregulation (6)(c) must be in the following form —

“This is to certify that this survey has been done by myself (or by persons under my own supervision), subject to adequate inspection and field check, and is the actual result of the observations and measurements, and the survey and plan have been done in accordance with the requirements of these regulations.

Dated:

Authorised Mine Survey Grade....., Certificate No.....”

M133 Survey plan to be available

- (1) The mine operator of a mine must keep the current mine survey plan and all previous versions of the plan available for inspection under the Act.
- (2) The mine operator of a mine must make the current mine survey plan available on request to workers at the mine.

M134 Survey plans to be provided

- (1) The mine operator must provide, free of cost, to an inspector a copy of a survey plan when requested.
- (2) Before a mine is closed or suspended for an extended period, the mine operator, or if a receiver or an administrator has been appointed in respect of a mine operator, that receiver or administrator, must cause to be prepared an accurate plan or plans showing underground and quarry excavations with filling

if any, water logged excavations, waste dumps, and tailings storage facilities to the time of closure or extended suspension and must furnish that plan or those plans to the regulator.

Chapter 9 Statutory functions

Note: Currently there are certificated and non-certificated statutory positions under MSIA and MSIR. All these statutory positions are proposed to be retained. Statutory position of 'supervisor' has been added. The requirement of certain certificates of competency issued by the current Board of examination will be removed except for authorised mine surveyors. Authorised mine surveyors will need to meet the requirement by Land Surveyors Licensing Board (to be finalised). For other statutory positions qualification and experience will be prescribed. The mine operator must assess the qualification and experience of a person before making an appointment. The information will be posted on the Department data base and the Inspectorate will keep an oversight of the statutory appointments. Also refer to NMSF DI Part 7 and 8.

M135 Terms defined

In this part -

Applicable health and safety legislation examination means an examination for a specified statutory position conducted by the regulator in Work Health and Safety Act and Regulations and Work Health and Safety (Mines) Regulations as applicable to mines for which the scope and content have been approved by the Mines and Petroleum Advisory Committee (MAPAC).

Authorised mine surveyor means a surveyor who is holder of authorised mine surveyor certificate of competency issued under the repealed Mines Safety and Inspection Act or under Licensed Surveyors Act 1909 (will need to be amended).

employment for the purpose of this Chapter means the average for a quarter of the number of persons worked per day or for a new mine, average number of persons planned to work per day for a quarter.

Key statutory functions means the following statutory functions

- (a) site senior executive
- (b) exploration manager
- (c) underground manager – non coal mines
- (d) underground manager – coal mines
- (e) quarry manager

quarry employment includes persons employed in the quarry and associated roads and waste dumps.

Recognised health and safety risk management course means a course for a specified statutory position (or positions) the competencies and content of which have been approved by MAPAC; or

Competent in health and safety risk management means having successfully completed the prescribed units in health and safety risk

management approved by the MAPAC for that category of the statutory position.

Statutory functions means any one of the following functions that is required for a mine based on the nature of activities undertaken at the mine:

- (a) Site senior executive
- (b) Explorations manager
- (c) Underground manager – non-coal mines
- (d) Underground manager – coal mines
- (e) Quarry manager
- (f) Underground supervisor – non coal
- (g) Underground supervisor – coal
- (h) Supervisor
- (i) Authorised mine surveyor
- (j) Underground ventilation officer
- (k) Surface ventilation officer
- (l) Radiation safety officer
- (m) Noise officer
- (n) Electrical supervisor
- (o) High voltage operator
- (p) Electrician
- (q) Winding engine driver

M136 Appointment to exercise statutory functions

- (1) Each of the functions set out in Schedule 8 in respect of a class of mine is, for the purposes of this Regulation, a statutory function at a mine within that class.
- (2) Any such function can be exercised at the mine only by an individual who is appointed to exercise the function by the mine operator.
- (3) An individual may be appointed to exercise a statutory function at a mine by the mine operator only if the individual meets the requirements for nomination specified in that Schedule 8.
- (4) An individual appointed to exercise a statutory function who ceases to meet the requirement for nomination cannot exercise the statutory function and is taken to be no longer appointed to exercise that statutory function.
- (5) More than one individual may exercise a statutory function and an individual may exercise more than one statutory function. However, for a key statutory function only one person can be appointed at any given time.

M137 Appointments to be recorded

- (1) All statutory function appointments must be made by the mine operator and recorded in the Mine Records and kept up to date. The mine operator may authorize the Site senior executive to make appointment for any statutory

function other than that of the Site senior executive.

Note: The appointments of statutory positions as part of mine records will be maintained on the Department data base.

- (2) All statutory function appointments must be acknowledged and accepted by the appointed person in the Mine Records.

Note: Refer to regulation M24 all statutory function appointees, their number and availability form part of management structure in the Mine Safety Management System developed based on the principles of risk management.

M137A Notice of appointment of Site Senior Executive or Exploration Manager

- (1) The mine operator must notify in the manner and form prescribed by the regulator appointment of Site Senior Executive or the Exploration Manager, whichever is applicable, within seven days of appointment.
- (2) The mine operator must also notify in the manner and form prescribed by the regulator any change in the notice given under subregulation (1) to the regulator, within seven days of appointment.

M138 Obligations on mine operator

- (1) The mine operator of a mine must ensure that a statutory function is exercised at the mine only by an individual who meets the requirements for appointment specified in Schedule 8 for the mine.
- (2) The mine operator of a mine must ensure that any individual who is appointed to exercise a statutory function at the mine is readily available to exercise, and is capable of exercising, the statutory function.
- (3) The mine operator of a mine must ensure that mining operations do not take place at the mine if:
 - (a) a key statutory function is set out in regulation M135 and Schedule 8 in respect of the mine, and
 - (b) an individual is not currently appointed to exercise that key statutory function at the mine, and
 - (c) there has not been an individual appointed to exercise that statutory function at the mine for more than 7 days.
- (4) The mine operator must appoint sufficient number of alternates to the key statutory functions and sufficient number of other statutory function appointees to ensure their availability as required in sub-regulation (2)

M139 Obligation on appointee

- (1) An individual who intends to hold a statutory position must:
 - (a) not submit to the mine operator or the regulator any qualification and

- experience document that is false or misleading,
 - (b) not accept a statutory position unless the person has the requisite qualification and experience,
- (2) An individual who is appointed to exercise a statutory function at a mine must:
- (a) ensure statutory functions allocated to that persons are complied with;
 - (b) as soon as is reasonably practicable, inform the mine operator of any matter that may interfere with the individual's ability to exercise the statutory function.

CHAPTER 10 MISCELLANEOUS

M140 Deleted

M141 Moved and renumbered as 27A

Division 1 Mine Record

Note: Refer to (i) MSIA s. 89 and many MSIR regulations; and (ii) NMSF DI 41.1 – 41.6.

M142 Mine record

- (1) The mine operator of a mine must keep/maintain up to date a mine record for the mine.
- (2) The mine record must contain:
 - (a) A record of inspection by an inspector and any related correspondence including follow up actions taken by the mine operator and another person conducting business or undertaking;
 - (b) a record of any notice issued in relation to the mine under Part 10 of the Act and related correspondence; and
 - (c) a copy of any provisional improvement notice issued in relation to the mine under Division 7 of Part 5 of the Act and related correspondence; and
 - (d) a record of every incident notified to the regulator under Part 3 of the Act or under regulation M146; and
 - (e) a summary of all records kept under regulations M21 and M22; and
 - (f) each report under regulation M36 by a shift supervisor at the mine;
 - (g) details of statutory appointments made under these regulations.
- (3) Persons must not knowingly destroy, deface or enter false or misleading information into the mine record.
- (4) Mine records can be in a single or several documents; can be in hard copy or electronic form; not to include any health records of an employee.

M143 Mine record must be kept and made available

- (1) The mine operator of a mine must keep a record that forms part of the mine record for 7 years from the date the record was made.
- (2) The mine operator must keep the mine record for the mine at the mine office available for inspection under the Act. For an exploration operation, it is sufficient if the mine record is made available for inspection at an office in WA.
- (3) The mine operator must ensure that the mine record for the mine is available to workers at the mine on request.
- (4) For the purposes of subregulation (3), the mine operator is only required to

make available a summary of a record referred to in regulation M142(2)(c).

- (5) Subregulation (3) does not require or permit the mine operator to provide personal or medical information in relation to a worker without the worker's written consent unless the information is in a form that:
- (a) does not identify the worker; and
 - (b) could not reasonably be expected to lead to the identification of the worker.

M144 Inspectors to record site visit details in the mine record

After inspecting a mine, an inspector must enter in a mine record —

- (a) the parts of the mine inspected by that inspector;
- (b) the nature of the inspection;
- (c) every defect which the inspector observed in the state and condition of the mine; and
- (d) reference to any improvement notice, prohibition notice and non-disturbance notice issued.

M145 Transfer of mine record

If there is a change in the mine operator of the mine, the mine operator must give a copy of the mine record to the new mine operator.

Division 2 Provision of information to Regulator

M146 Duty to notify regulator of certain incidents

- (1) The mine operator of a mine must take all reasonable steps to ensure that the regulator is notified as soon as possible after becoming aware of an incident arising out of the carrying out of mining operations at the mine.
- (2) The notification must:
 - (a) be in writing; and

Example
The notice may be given by facsimile, email or other electronic means.
 - (b) be in a form required by the regulator; and
 - (c) in the case of an incident that results in an illness or injury, contain the details specified in Schedule 6.

In this regulation:

high potential incident means any of the following;

- (a) significant seismic event; or
- (b) extensive subsidence; or
- (c) an air blast; or
- (d) an unplanned event that causes only one escapeway from the mine to be available for use; or
- (e) damage to any plant, building or structure so as to impede its safe operations; or
- (f) damage to, or failure of any part of a powered winding system, equipment used for lowering and raising persons, a shaft or shaft equipment; or
- (g) the unintended activation, movement, loss of control of or failure to stop vehicles or machinery; or
- (h) the event where a plant makes contact with an energized high voltage source; or
- (i) any malfunctioning of explosives including accidental or delayed ignition or detonation;
- (j) ejection of fly rock due to blasting so that it falls outside an exclusion zone (an area from which people are excluded during blasting) or near people; or
- (k) the unplanned immersion of a person in liquid; or
- (l) self-heating of any material in an underground mine; or
- (m) any incident of a person being affected by exposure to toxic substance including gases, fumes, vapours or poison; or
- (n) loss of consciousness of a person; or
- (n) entrapment of a person; or
- (o) suicide and attempted suicide at a resources facility including accommodation; or
- (p) an incident which may not have caused but had the potential to cause

serious harm to a person, plant or structure.

incident means an incident (other than a notifiable incident) that:

- (a) results in illness or injury that requires medical treatment within the meaning of item 12.2 of Schedule 7; or
- (b) is a high potential incident.

Note: This regulation does not apply in relation to notifiable incidents about which notification must be given under Part 3 of the Act.

M147 Notice of occupational/work related disease

- (1) If a mine operator of a mine receives advice from a worker or a person on behalf of a worker that the worker has an occupational/work related disease, the mine operator must, as soon as is practicable, notify the regulator in a form approved for that purpose by the regulator that the worker has the disease.
- (2) In this regulation occupational/work related disease means —
 - (a) a disease of a kind referred to in the *Workers' Compensation and Injury Management Act 1981* Schedule 3; or
 - (b) any other condition that results from exposure in a workplace to agents or substances to the extent that the normal physiological mechanisms are affected and the health of the employee is impaired as a consequence.

Note: Refer to MSIR r. 3.39.

M148 Quarterly reports

- (1) The mine operator of a mine must give the regulator a quarterly work health and safety report in accordance with this regulation.
- (2) The report must:
 - (a) be given at the times or intervals (including annually) and in the manner and form required by the regulator; and
 - (b) contain the information specified in Schedule 7.

Note

This regulation applies in relation to notifiable incidents and incidents within the meaning of regulation 675V.

M149 Duty to notify mine operator of notifiable incidents

A person who conducts a business or undertaking at a mine must ensure that the mine operator is notified as soon as practicable of any incident that has been notified to the regulator under section 38 of the Act.

Note

Section 38 of the Act requires a person who conducts a business or undertaking to ensure that the regulator is notified about notifiable incidents.

Division 3 Review of decisions under these regulations

Similar provision as in model WHS Regulations (2016).

Division 4 Exemptions

Similar provision as in model WHS Regulations (2016).

Division 5 Transitional Provisions
Transitional provisions as given in Schedule 9.

SCHEDULES

Schedule 1 Principal Mining Hazard Management Plans— Additional Matters to be Considered

Regulation M34

A. Ground or strata instability

The following matters must be considered in developing the control measures to manage the risks of ground or strata instability:

- (a) Influence of ground properties, geological structures, in-situ and mining induced ground stresses on local and overall ground instability;
- (b) Effects of time, water, oxidation on ground properties;
- (c) The hydrological and hydrogeological environment, including surface and ground water and their effect on ground instability;
- (d) Site selection for waste, tailings and water storage;
- (e) The size and geometry of openings, pillars, in-situ ground, slopes, other ground structures such as waste dumps, tailings storage and their inter-relationship;
- (f) Design life of geotechnical structures;
- (g) Method, sequence and rate of extraction of ground and where applicable placement of filling material;
- (h) Design, installation including time of installation, monitoring, maintenance, longevity and quality control of rock support and reinforcement;
- (i) Managing and minimising adverse effects of blasting, old workings and dynamic loading;
- (j) Use of appropriate equipment for scaling of ground and installation of ground support and reinforcement;
- (k) Seismicity – assessment of its potential, monitoring, data analysis and precautions taken to eliminate or minimise its adverse effects;
- (l) Design and construction of foundations of structures;
- (m) Procedure for dealing with emergencies due to instability or failure of ground;
- (n) Inspection, monitoring of ground, openings and structures, analysis of inspection and monitoring data and where necessary taking timely corrective actions;
- (o) Competency of designers, planners, supervisors and operators.
- (p) Integration of ground control measures with the mine design, production and closure plan.
- (q) Periodic review of Management Plan suitability and effectiveness.

B. Inrush

The following matters must be considered in developing the control measures to manage the risks of inrush of any substance:

- (a) Identify potential sources of water and other substances that may be the source of material causing unplanned inrush including:

- (i) water/slurry dams and other storage areas,
 - (ii) natural surface water bodies and systems;
 - (iii) water/slurry logged workings on surface and underground including in adjoining mines;
 - (iv) inaccessible underground workings with unknown boundaries;
 - (v) subsurface water bodies and systems;
 - (vi) natural events that may result in excess water;
 - (vii) tailings and waste/rock storage facilities;
 - (viii) loss of containment while backfilling or of backfilled workings/areas;
 - (ix) ore and waste passes and draw points.
- (b) Identify possible paths or failure modes by which an inrush could occur including:
- (i) openings from underground to surface;
 - (ii) boreholes connecting to water bodies;
 - (iii) potential accidental breakthrough;
 - (iv) potential failure of walls, bunds, plugs, dams, barricades, levies, rock barriers etc.;
 - (v) geological structures and weaknesses;
 - (vi) sink holes and caving of workings;
 - (vii) liquefaction.
- (c) At each stage of mining, including design, construction, operation and decommissioning, take adequate precautions, including but not limited to, consideration of:
- (i) storage location of water, or any other material which may inrush under different conditions, with regard to the workings.
 - (ii) design, construction and maintenance of barriers (walls, bunds, plugs, dams, barricades, levies, rock barriers etc.).
 - (iii) inspection of workings, where possible, before breaking through.
 - (iv) identification of extent and condition of old workings using available plans and sections (considering their age and accuracy), remote sensing technology and probe drilling.
 - (v) process for drilling probe holes that allows for control of any water encountered.
 - (vi) extreme weather conditions, including monitoring of and timely response to.
 - (vii) potential inrush sources and marking danger zones around them.
 - (viii) working near or approaching potentially water/slurry/fines logged workings.
 - (ix) drawing ore/waste from passes/draw points.
 - (x) dewatering/drainage of workings, where practicable, before approaching or working near water/slurry logged workings.
 - (xi) backfilling operations and working near backfilled workings.

- (xii) withdrawing personnel from any area where the potential risk of an inrush is imminent.

C. Mine shafts and winding operations

The following matters must be considered in developing the control measures to manage the risks associated with mine shafts and winding operations:

- (a) the stability and integrity of the shaft;
- (b) the potential for fires in underground operations, the shaft or winder areas;
- (c) the potential for any unintended or uncontrolled movement of the conveyances within the shaft;
- (d) the potential for a detached conveyance to fall down the shaft;
- (e) the potential for fall of persons, equipment, materials or support structure into or within, the shaft;
- (f) the potential for failure of, or damage to, health and safety related equipment and controls, including the following:
 - (i) ropes bearing the weight of the shaft conveyance;
 - (ii) controls and limiting devices to prevent overwind, overrun, overspeed and the exceeding of other selected limits;
 - (iii) equipment and controls to detect, prevent or cause the winder to stop in the event of slack rope, drum slip or tail rope malfunctions;
 - (iv) braking systems including emergency brakes and systems for preventing free-fall of a conveyance;
 - (v) warning systems for any emergency in the shaft;
 - (vi) communication systems;
- (g) the potential for injury to persons in a conveyance from material being carried in the conveyance or falling from another conveyance;
- (h) the need to enable persons to escape from a stalled conveyance;
- (i) the competency of the operator of the winder.

D. Roads and other vehicle operating areas

The following matters must be considered in developing the control measures to manage the risks associated with roads and other vehicle operating areas:

- (a) Design parameters of roads including layout, width, gradient and change of rate of gradient, radius of curvature, camber, cross slope, operating surface, subsurface under the road, construction material, load bearing capacity, sighting distance, drainage, lighting, road guides, markers, reflectors, and side treatment of roads with steep slope on the side.
- (b) Design of other mobile equipment operating areas including parking areas, roads in proximity of other buildings and structures, maintenance workshops, roads near overhead power lines, intersections, and interaction with public roads and railway system.
- (c) Maintenance of roads and other mobile equipment operating areas,
- (d) Selection of mobile equipment and other safety features including fit for purpose considering site specific conditions and operating parameters,

- sight of visibility for the operator, reversing sensors, cameras, mirrors, flashing/rotating lights, and anti-collision devices.
- (e) Maintenance of mobile equipment including preventative maintenance, and reporting of defects and corrective actions.
 - (f) Traffic management including dealing with interaction of heavy earth moving equipment and light vehicles, mobile equipment and pedestrian, temporary obstruction, change in operating conditions, blind spots, visibility affected by dust, haze, or lack of illumination, interaction of autonomous plant, other plant and pedestrians, operation of heavy earth moving equipment where persons on foot are present, and communication.
 - (g) Operating procedures including for parking on slopes and in production areas, driving in hazardous areas, warning before reversing or moving, and dumping material from height.
 - (h) Training for and competence of persons including operators, maintenance personnel, familiarisation with mine and roads, instruction in site specific traffic rules, if any, and authorisation to operate specific mobile plant in specified areas.
 - (i) Provision and maintenance of hazard and traffic control signs.
 - (j) Management of factors affecting use of mobile equipment in underground and open pit workings including side and top clearance from workings, clearance from rock support, power lines, pipes, vent-bags and other similar facilities, hazard of working near open holes or excavations with steep fall, control of two way traffic near sharp bends or narrow openings,
 - (k) Managing change in operating conditions.

E. Fire and explosion

The following matters must be considered in developing the control measures to manage the risks of fire and explosion:

- (a) the potential sources of flammable, combustible and explosive substances and materials, both natural and introduced, including gas, dust, fuels, solvents and timber;
- (b) the potential sources of ignition, fire or explosion, including plant, electricity, static electricity, spontaneous combustion, lightning, hot work and other work practices;
- (c) the potential for propagation of fire or explosion to other parts of the mine;
- (d) for underground operations, where applicable, precautions and/or procedure for:
 - (i) use of diesel engine operated equipment including selection, maintenance, auto-fire-suppression system and refuelling;
 - (ii) use of conveyor, compressor and explosives;
 - (iii) hot work and welding;
 - (iv) storage and transportation of diesel, explosives, combustible and flammable substances;

- (v) spontaneous combustion;
- (vi) coal, sulphide and other dust explosion;
- (vii) emission of methane and other explosive gases;
- (viii) monitoring and early warning system for failure of controls and fire;
- (ix) integration of fire and explosion measures with underground ventilation and emergency management plans.

Schedule 2 High-risk activity notification

Regulation M43

Applies to	High risk activity	Waiting period	Information to be provided to regulator
Underground mines	Commence shaft sinking using entry methods	3 months	Information in the prescribed pro-forma approved by the regulator Relevant parts of the Principal Mining Hazard Management Plan (PMHMP)
Underground mines	Install winding system or make major changes to an already installed winding system	3 months	Information in the prescribed pro-forma approved by the regulator Relevant parts of the PMHMP
Underground mines	Commissioning a new shaft or winding system	15 days	Information in the prescribed pro-forma approved by the regulator Relevant parts of the PMHMP
Underground mines	Rising using entry methods	15 days	Method of working Risk assessment and controls
Underground mines	Single entry development beyond 200m from through ventilation	15 days	Method of working and ventilation Risk assessment and controls Emergency evacuation procedure
Underground mines	Construction of an underground explosive magazine	1 month	Location, design and capacity Ventilation Risk assessment and controls
Underground mines	Construction of a dam or plug to store water or slurry	1 month	Design calculations Construction method and maintenance Risk assessment and controls

Underground mines	Construction of a fuel storage or refuelling facility	1 month	Location, design and capacity Ventilation Risk assessment and controls
Underground mines	Approaching known or suspected water bodies or water logged workings including probe drilling – within 50 m	1 month	Assessment of the water body Development plan for excavations Risk assessment and controls Relevant parts of the PHMP
Surface mines	Use of a dredge to mine	3 months	Design and construction details of the dredge Operating details and parameters Loads, stability and buoyancy calculations Review by an independent qualified naval architect Results of buoyancy and stability tests
All mines	Use of explosives: (i) in reactive ground (ii) in hot (>57 degrees C) ground	15 days	Selection of explosive and documents in support of its suitability Risk assessment and controls
All mines	Introducing autonomous or semi-autonomous: (i) mobile equipment (ii) production drilling equipment or, making major change to the above activities	3 months	Design and safety features details Operating environment and limitations Risk assessment and controls
All mines	Installation of high voltage equipment	1 month	Design and construction details of the installation Risk assessment and control measures

Note: if any of these activities take place at the commencement of the mining operation, these notices must form part of the Notice of Commencement.

Schedule 3 Prohibited Uses in Mines

Regulation M44

Column 1 Item	Column 2 Prohibited use
Internal combustion engine (other than a compression ignition engine)	All uses underground
Polyurethane products used for strata injection, void filling and ventilation sealants that undergo the polymeric process underground	All uses underground
Note See the jurisdictional note in the Appendix.	
Compressed natural gas	In an underground mine in an internal or external combustion engine
Hydrogen	In an underground mine in an internal or external combustion engine
Liquid petroleum gas	In an underground mine in an internal or external combustion engine
Petrol and fuel	In an underground mine in an internal or external combustion engine unless suitable for safe use underground Example Diesel fuel
Ignition sources Examples Cigarettes, matches, lighters, naked flame, naked light, firearms	In an underground coal mine At any mine, while carrying, handling or using any explosive or initiating system or within 8 metres of any explosive or initiating system
Column 1 Item	Column 2 Prohibited use

At a work area at a mine, where solvents are used

At a work area at a mine, where flammable vapours are present

At any mine, in a shaft conveyance

At any mine, in a refuge chamber during an emergency

Explosive power tools	In an underground coal mine
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Explosives, detonators and exploders (excluding explosive power tools)	All uses at any mine, unless for the purpose of shotfiring
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Non-fire resistant and non-antistatic (non-FRAS) products	In an underground coal mine in ventilation plant and conveyor belts and accessories
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Schedule 4 Concentration Levels for Atmospheric Contaminants
Regulation M97

Column 1 Contaminant	Column 2 Long term exposure limit	Column 3 Maximum exposure limit
acetaldehyde	20ppm	50ppm
carbon monoxide	30ppm	—
formaldehyde	1ppm	2ppm
hydrogen sulphide	10ppm	15ppm
mineral oil mist	5mg/m3	—
nitric oxide	25ppm	—
nitrogen dioxide	3ppm	5ppm
nitrous oxide	25ppm	—
sulphur dioxide	2ppm	5ppm
vegetable oil mist	10mg/m3	—
welding fumes	5mg/m3	—

Schedule 5 Matters to be Included in Emergency Management Plan for a Mine

Regulation M99

1. Site and hazard detail

- 1.1 The location of the mine, including its street address and the nearest intersection (if any).

Note

Sufficient detail must be provided to enable a person not familiar with the site to find it.

- 1.2 The current mine survey plan required under Chapter 8.
- 1.3 A brief description of the nature of the mine and mining operations.
- 1.4 The maximum number of persons, including workers, likely to be present at the mine on a normal working day.
- 1.5 The emergency planning assumptions for different emergencies, and likely areas affected.
- 1.6 The protective resources available to control an incident that could result in an emergency.
- 1.7 The nature of likely emergencies for the mine.
- 1.8 The emergency response procedures, including procedures for isolating areas of the mine in an emergency.
- 1.9 The infrastructure likely to be affected by an emergency.

2. Command structure and site personnel

- 2.1 The command philosophy and structure to be activated in an emergency, so that it is clear what actions will be taken, who will take these actions and how, when and where they will be taken.
- 2.2 Details of the person who can clarify the content of the emergency management plan if necessary.
- 2.3 The contact details of, and the way to contact, the persons at the mine responsible for liaising with emergency services.
- 2.4 A list of 24 hour emergency contacts.
- 2.5 Arrangements for assisting emergency services.

3. Notifications

- 3.1 In the event of the occurrence of a notifiable incident or an event that could reasonably be expected to lead to a notifiable incident, procedures for notifying:

- (a) any person whose health or safety may be affected, even if:
 - (i) the person is located underground; or
 - (ii) there is no electrical power that can be used for the notification; and
- (b) the emergency services in circumstances where emergency services are required.

3.2 On-site and off-site warning systems.

3.3 Contact details for emergency services and other support services that can assist in providing resources and implementing evacuation plans in an emergency.

3.4 On-site communication systems.

4. Resources and equipment

4.1 On-site emergency resources, including:

- (a) first aid equipment, facilities, services and personnel; and
- (b) emergency equipment and personnel; and
- (c) gas detectors, wind velocity detectors, sand, lime, neutralising agents, absorbents, spill bins and decontamination equipment.

4.2 Off-site emergency resources, including arrangements for obtaining additional external resources (specific to the likely incidents), including mines rescue services, as necessary.

4.3 Arrangements for mines rescue that state the following:

- (a) the minimum mines rescue training to be provided;
- (b) any arrangements for the mine operator and mine operators of mines in the vicinity to assist each other in an emergency;
- (c) how inertisation equipment is to be used;
- (d) the procedures to be followed in carrying out mines rescue.

4.4 For an underground mine, a means of communication between the surface of the mine and any underground area of the mine where persons are located, that is effective even if there is no electrical connection between the surface and the relevant underground area.

4.5 For an underground mine:

- (a) the type, number and location of refuge chambers,
- (b) precautions and refuge, in case of a fire, for single entry development,

5. Procedures

5.1 Procedures for the safe evacuation of, and accounting for, all persons at the mine.

5.2 Procedures and control points for utilities, including gas, water and electricity.

5.3 Procedures in the event of the ventilation system at the mine failing totally or for more than 30 minutes.

5.4 Procedures for maintenance of refuge chambers and other equipment required for emergencies.

6. Training and competence

6.1 Training, health assessment and competency of emergency response personnel (including volunteers) and others in managing emergencies.

6.2 Training of and mock emergency drills for all workers.

Schedule 6 Information to be Included in Notification of Mining Incidents

Regulation M146

1. Person injured

- 1.1 The name, date of birth and gender of any person who has suffered an illness or injury as a result of the incident.
- 1.2 If a person who has suffered an illness or injury as a result of the incident is a worker, the following information:
 - (a) the worker's occupation;
 - (b) the worker's usual start and finish time, and start time on the day of the incident;
 - (c) the number of hours worked immediately before the incident;
 - (d) the name of the person conducting the business or undertaking in which the person works;
 - (e) the nature of the engagement of the worker.
- 1.3 If the worker is self-employed, the name of the business or undertaking.
- 1.4 The industry in which the business or undertaking is primarily conducted.

2. Incident

- 2.1 When the incident occurred, including:
 - (a) the date of the incident;
 - (b) the time of the incident;
 - (c) in the case of an illness, the date on which the illness was first reported by or on behalf of the person suffering the illness.
- 2.2 A description of the incident, including:
 - (a) what each affected person was doing just before the incident; and
 - (b) a description of all substances, including hazardous chemicals, and all plant and processes involved in the incident; and
 - (c) the classification of:
 - (i) the mechanism of the incident; and
 - (ii) the agency of the illness or injury (that is, how the incident caused the illness or injury); and
 - (iii) the nature and bodily location of the illness or injury.
- 2.3 In item 2.2(c), **classification** means the code assigned by the Types of Occurrence Classification System published by the National Health and Safety Committee, as in force from time to time.

3. Consequences of incident

- 3.1 Whether or not the incident has resulted in any of the following:

- (a) a fatality;
 - (b) permanent incapacity;
 - (c) the inability of a worker to work for 1 day or more, not including the incident day, whether the worker is rostered on that day or not;
 - (d) the worker carrying out restricted work;
 - (e) medical treatment.
- 3.2 An indication of whether the incident is likely to result in any of the circumstances referred to in item 3.1.
- 3.3 An indication of whether the incident has the potential to result in any of the circumstances referred to in item 3.1.

Schedule 7 Information to be included in Mine Quarterly Report

Regulation M148

1. Meaning of incident

In this Schedule, *incident* means:

- a notifiable incident; or
- an incident within the meaning of regulation M146.

2. Mine operator

The name of the mine operator of the mine.

3. The mine

The location of the mine.

4. Commodity processed

A description of the primary commodity processed at the mine site during the reporting period.

5. Number of workers

The average number of workers who worked at the mine site during the reporting period.

6. Number of hours worked

The total number of hours (including additional shifts and overtime) worked at the mine during the reporting period.

7. Number of incidents

The total number of incidents occurring during the reporting period.

8. Number of lost time injuries

The total number of incidents that resulted in the inability of a worker to work for 1 day or more (not including the incident day) during the reporting period.

9. Days lost from work

The total number of days (not including the incident day) lost from work by workers during the reporting period as a result of incidents.

10. Number of restricted duty days

The total number of days on which workers carried out restricted duties during the reporting period as a result of incidents.

11. Number of workers placed on restricted duties

The total number of workers placed on restricted duties during the reporting period as a result of incidents.

12. Number of medical treatment injuries

12.1 The total number of injuries and illnesses of workers arising from incidents that

required medical treatment during the reporting period but did not result in the inability of a worker to work for 1 day or more (not including the incident day).

12.2 In item 12.1, medical treatment means the management or care of a patient including:

- (a) the suturing of a wound;
- (b) the treatment of fractures;
- (c) the treatment of bruises by drainage of blood;
- (d) the treatment of second and third degree burns,

but does not include diagnostic procedures, observation, counselling, first aid or therapeutic measures taken solely for preventative purposes.

13. Number of deaths

The total number of deaths that occurred during the reporting period as a result of incidents.

14. Other information

The information set out in Schedule 23 in relation to each incident, if that information has not already been provided to the regulator.

Schedule 8 Statutory functions

Regulations M136 and M138

Part 1 – All mines other than mines where only exploration activities occur

Site senior executive

- (1) This provision applies to all mines other than mines where only exploration activities occur.
- (2) The statutory function of the site senior executive is to:
 - (a) provide control and management of the mine and mining operations at the mine in accordance with the Act and these regulations;
 - (b) manage and deal with any emergency at the mine
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) passed applicable health and safety legislation examination;
 - (b) successfully completed a recognised health and safety risk management course; and
 - (c) a minimum of two year work experience in or about a mine.

Part 2 – Mines where only exploration activities occur

Exploration manager

- (1) This provision applies to mines where only exploration activities occur.
- (2) The statutory function of the exploration manager is to provide control and management of the exploration operations for which the person is appointed in accordance with the Act and these regulations.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) passed applicable health and safety legislation examination,
 - (b) successfully completed a recognised health and safety risk management course,
 - (c) a minimum of two year work experience in or about a mine or exploration of minerals.

Part 3 – All mines

Application of Part

This Part applies to mines where specified activities take place or specified hazards are identified.

Radiation safety officer

- (1) The provision applies to mines where exposure hazard to ionizing radiation has been identified as per Chapter 3, Division 4, subdivision 1 or where regulator has asked to appoint a radiation safety officer.
- (2) The statutory functions of the radiation safety officer are to:
 - (a) advise the site senior executive or exploration manager on matters relating to the implementation of the radiation management plan for the mine;
 - (b) assist the site senior executive or the exploration manager in the preparation and implementation of Radiation Management Plan; and
 - (c) monitor the radiation levels and radiation dosage received by workers at the mine.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) qualifications and experience satisfactory to the regulator, and
 - (b) successfully completed a recognised health and safety risk management course.

Noise officer

- (1) This provision applies to mines where hazard due to exposure to excessive noise to workers has been identified.
- (2) The statutory functions of the noise officer are to:
 - (a) provide guidance to the site senior executive or the exploration manager at a mine in selection of plant, equipment, and process to minimise, so far as is reasonably practicable, the noise exposure to persons,
 - (b) carry out noise surveys at a mine,
 - (c) prepare noise report containing details of noise surveys and plans to reduce noise exposure of persons at a mine, and
 - (d) review the noise dosage received by workers and if necessary advise the site senior executive or the exploration manager of additional precautions necessary to control noise exposure.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) completed a course in preparation of noise management plan recognised by the regulator,
 - (b) successfully completed a recognised health and safety risk management course.

Surface ventilation officer

- (1) This provision applies to mines where hazard due to exposure to airborne contaminants to workers has been identified.
- (2) The statutory functions of the surface ventilation officer are to:

- (a) provide advice to the site senior executive or the exploration manager on steps to be taken to minimize, so far as is reasonably practicable, the exposure of workers and other persons to airborne contaminants;
 - (b) based on risk of exposure to airborne contaminants, plan and carry out airborne contaminants monitoring and report the results.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have successfully completed:
- (a) a course in the sampling and assessment of atmospheric contaminants approved by the regulator; and
 - (b) a recognised health and safety risk management course.

Supervisor

- (1) Applicable to supervisor as defined in regulation M135.
- (2) The statutory functions of the supervisor, in the allocated jurisdiction, are to:
- (a) provide supervision and control of workers and other persons;
 - (b) inspect, as necessary, the work areas where workers work or travel;
 - (c) allocate tasks to workers after making an assessment that, so far as is reasonably practicable, the task can be performed safely;
 - (d) take necessary steps to ensure persons under the supervisor's control are, so far as is reasonably practicable, not exposed to hazards.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
- (a) passed applicable health and safety legislation examination,
 - (b) successfully completed a recognised health and safety risk management course, and
 - (c) minimum of 2 year experience in similar operations or industry the supervisor is appointed to supervise.

Electrical supervisor

- (1) This provision applies where electrical work is or has been carried out by an electrician.
- (2) The statutory functions of the supervisor, in the allocated jurisdiction, are to:
- (a) inspect, as necessary, the work areas where electrical work is performed or has been performed;
 - (b) allocate task to workers after making an assessment that, so far as is reasonably practicable, the task can be performed safely;
 - (c) take necessary steps to ensure persons under the supervisor's control are, so far as is reasonably practicable, not exposed to hazards.
 - (d) record any information required to be recorded under Chapter 3, Division 2 in the

electrical log book.

- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) electrical engineering qualifications acceptable for professional engineer membership of the Institution of Engineers Australia or an electrical worker's licence endorsed "electrician" or "electrical mechanic" issued under the Electricity (Licensing) Regulations 1991,
 - (b) passed applicable health and safety legislation examination,
 - (c) successfully completed a recognised health and safety risk management course, and
 - (d) not less than 2 year experience of electrical work in the mining industry, or in other heavy industry.

High voltage operator

- (1) This provision applies to all mines where high voltage electricity is used.
- (2) The statutory function of the high voltage operator is to issue permit to a person to allow that person to work or operate any plant in close proximity to exposed high voltage conductor or components.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) completed a high voltage operator's training course recognised by the regulator,
 - (b) proven understanding of the type of switchgear the operator is to switch to the satisfaction of the Site senior executive.

Electrician

- (1) This provision applies to all mines.
- (2) The statutory function of an electrician is to, subject to regulation 19 of the Electricity (Licensing) Regulation 1991, is to carry out any electrical work at a mine
- (3) The requirement for appointment to exercise the statutory function is that the individual is authorised to carry out that type of electrical work by a licence or permit under the Electricity (Licensing) Regulations 1991.

Shotfirer

- (1) This provision applies where shotfiring takes place at a mine.
- (2) The statutory function of a shotfirer is to, subject to Dangerous Goods (Explosives) Regulations 2007, fire shots at a mine.
- (3) The requirement for appointment to exercise the statutory function is that the individual must be holder of the shotfiring licence under Dangerous Goods (Explosives) Regulations 2007.

Part 4 – Underground mines

Underground manager – non-coal

- (1) This provision applies to underground non-coal mines.
- (2) The statutory functions of underground manager (non-coal) are to:
 - (a) provide direction and control of the underground mine operations;
 - (b) provide assistance and advice to the site senior executive to manage an emergency in the underground mine operations;
- (3) The requirement for appointment to exercise the statutory function as underground manager (non-coal), where average number of persons working per day in the underground is more than 25, is that the individual must have:
 - (a) 4 year degree in mining engineering from any Australian university or a certified equivalent degree by an agency that has been approved by authorized government agency/MAPAC for the purpose, (Consider changing in line with New Zealand requirements)
 - (b) passed applicable health and safety legislation examination,
 - (c) successfully completed a recognised health and safety risk management course, and
 - (d) a minimum of 5 year experience in or about a mine of which 3 year must be in underground mine/s and must include minimum of 3 months personal experience in each of the following activities:
 - Ground support
 - Production activities in stopes and development
 - Use of explosives
 - Mine ventilation
 - Mine planning
 - Mine transport and services
 - Emergency management
- (4) The requirement for appointment to exercise the statutory function as underground manager (non-coal), where average number of persons working per day in the underground is 25 or fewer than 25, is that the individual must have:
 - (a) passed applicable health and safety legislation examination,
 - (b) successfully completed a recognised health and safety risk management course, and
 - (c) a minimum of 5 year experience in or about a mine of which 3 year must be in underground mine/s and must include minimum of 3 months personal experience in each of the following activities:
 - Ground support
 - Production activities in stopes and development

- Use of explosives
- Mine ventilation
- Mine planning
- Mine transport and services
- Emergency management

Underground manager – coal

- (1) This provision applies to underground coal mines.
- (2) The statutory functions of underground manager (coal) are to:
 - (a) provide direction and control of the underground mine and mining operations;
 - (b) provide assistance and advice to the site senior executive to manage an emergency in the underground mine;
- (3) The requirement for appointment to exercise the statutory function as underground manager (coal), where average number of persons working per day in the underground is more than 25, is that the individual must have:
 - (a) 4 year degree in mining engineering from any Australian university or a certified equivalent degree by an agency that has been approved by authorized government agency/MAPAC for the purpose, (Consider changing in line with New Zealand requirements)
 - (b) passed applicable health and safety legislation examination,
 - (c) successfully completed a recognised health and safety risk management course, and
 - (d) a minimum of 5 year experience in or about a mine of which 3 year must be in underground coal mine/s and must include minimum of 3 months personal experience in each of the following activities:
 - Ground support
 - Production activities at the coal face
 - Mine ventilation
 - Dust and gas monitoring
 - Mine planning
 - Mine transport and services
 - Emergency management
- (4) The requirement for appointment to exercise the statutory function as underground manager (coal), where average number of persons working per day in the underground is 25 or fewer than 25, is that the individual must have:
 - (a) passed applicable health and safety legislation examination,
 - (b) successfully completed a recognised health and safety risk management course, and
 - (c) a minimum of 5 year experience in or about a mine of which 3 year must be in underground coal mine/s and must include minimum of 3 months personal

experience in each of the following activities:

- Ground support
- Winning coal (at the coal face)
- Mine ventilation
- Dust and gas monitoring
- Mine planning
- Mine transport and services
- Emergency management

Underground supervisor – non-coal

- (1) This provision applies to underground non-coal mines.
- (2) The statutory functions of underground supervisor (non-coal) are to:
 - (a) subject to directives given by the underground manager provide supervision to the underground mining operations
 - (b) inspect, as necessary, the work areas where workers work or travel;
 - (c) allocate task to workers after making an assessment that, so far as is reasonably practicable, the task can be performed safely;
 - (d) take necessary steps to ensure persons under the supervisor's control are, so far as is reasonably practicable, not exposed to hazards.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) passed applicable health and safety legislation examination,
 - (b) successfully completed a recognised health and safety risk management course, and
 - (c) has a minimum of 5 year experience in or about a mine of which 3 year must be in underground mine/s and must include minimum of 3 months personal experience in each of the following activities:
 - Ground support
 - Production activities in stopes and development
 - Use of explosives
 - Mine ventilation
 - Mine transport and services
 - Emergency management

Underground supervisor – coal

- (1) This provision applies to underground coal mines.
- (2) The statutory functions of underground supervisor - coal are to:
 - (a) subject to directives given by the underground manager, provide supervision to the underground mining operations;

- (b) inspect, as necessary, the work areas where workers work or travel;
 - (c) allocate task to workers after making an assessment that, so far as is reasonably practicable, the task can be performed safely;
 - (d) take necessary steps to ensure persons under the supervisor's control are, so far as is reasonably practicable, not exposed to hazards.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
- (a) passed applicable health and safety legislation examination,
 - (b) successfully completed a recognised health and safety risk management course, and
 - (c) a minimum of 5 year experience in or about a mine of which 3 year must be in underground coal mine/s and must include minimum of 3 months personal experience in each of the following activities:
 - Ground support
 - Winning coal (at the coal face)
 - Mine ventilation
 - Dust and gas monitoring
 - Mine transport and services
 - Emergency management

Underground ventilation officer

- (1) This provision applies to all underground mines.
- (2) The statutory functions of underground ventilation officer are to:
- (a) plan and implement underground ventilation system so as to-
 - (i) ensure flow of air of desired quantity and quality,
 - (ii) manage heat and humidity, and
 - (iii) maintain airborne contaminants at levels as low as can reasonably be achieved.
 - (b) based on risk assessment, arrange monitoring of atmospheric conditions including contaminants level
 - (c) maintain monitoring records and ventilation plans,
 - (d) advise underground manager and site senior executive of any deficiencies in the ventilation system and suggest any additional precautions to be taken.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
- (a) diploma or degree in which underground mine ventilation was a substantial component of the curriculum; or qualification considered by the regulator to be adequate for the mine.

- (b) successfully completed a recognised health and safety risk management course,
- (c) has worked in underground mine/s for a minimum of 2 years of which at least six months should be assisting an underground ventilation officer.

Authorised mine surveyor (Underground)

- (1) This provision applies to all underground mines.
- (2) The statutory functions of the Authorised mine surveyor is to:
 - (a) conduct surveys and prepare plans or control and supervise conducting of surveys and preparation of plans for underground operations that are required under these regulations,
 - (b) certify plans prepared by or prepared under the control and supervision of that surveyor as to their accuracy and correctness.
- (3) The requirement for appointment to exercise the statutory function is that the individual must hold a current practicing certificate for Authorised Mine Surveyor (Grade 1) issued under the Licensed Surveyors Act 1909. (Will need amendment of that Act. The transitional provisions will allow current certificate holders to continue to operate subject to maintaining CPD as it may be necessary under that legislation.)

Winding engine driver

- (1) This provision applies to underground mines where persons or material is hoisted or lowered in a shaft using winding engine.
- (2) The statutory function of winding engine driver is to operate winding engine of specified class.
- (3) The requirement for appointment to exercise the statutory function is that the individual must have:
 - (a) assisted, under the supervision of a winding engine driver, in driving winding engines for a period of not less than 300 hours,
 - (b) been appointed by the mine operator to drive specified winder after assessment and having been found competent to drive that winder.

Part 5 – Quarry operations

Quarry manager

- (1) This provision applies to all quarry operations where on an average 5 or more than 5 persons work per day in the quarry.
- (2) In a quarry where pursuant to sub-regulation (1) a quarry manager is not required, the functions of the quarry manager becomes the additional functions of the site senior executive.
- (3) The statutory functions of a quarry manager are to:

- (a) provide direction and control of the quarry operations;
 - (b) provide assistance and advice to the site senior executive to manage an emergency in the quarry operations;
- (4) The requirement for appointment to exercise the statutory function for a quarry where average number of persons working per day in the quarry is 25 or more than 25 is that the individual must have:
- (a) either
 - (i) the Degree of Bachelor of Mining Engineering from any Australian University; or
 - (ii) a Diploma in Mining Engineering from any recognized Australian Technical Institute; or
 - (iii) a certified equivalent degree or diploma by an agency that has been approved by MAPAC for the purpose,
 - (b) passed applicable health and safety legislation examination,
 - (c) successfully completed a recognised health and safety risk management course, and
 - (d) has a minimum of 3 year experience in or about a quarry and must include minimum of 3 months personal experience in each of the following activities:
 - Ground support
 - Drilling
 - Use of explosives in mines
 - Mine planning
 - Mine transport and services
 - Emergency management
- (5) The requirement for appointment to exercise the statutory function for a quarry where average number of persons working per day in the quarry is 25 or fewer than 25 is that the individual must have:
- (a) passed applicable health and safety legislation examination,
 - (b) successfully completed a recognised health and safety risk management course,
 - (c) has a minimum of 3 year experience in or about a quarry and must include minimum of 3 months personal experience in each of the following activities:
 - Ground support
 - Drilling
 - Use of explosives in mines
 - Mine planning
 - Mine transport and services
 - Emergency management

Authorised mine surveyor (quarry)

- (1) This provision applies to all quarry operations where quarry plans are to maintained as per regulation M131.
- (2) The statutory functions of the Authorised mine surveyor for quarries is to:
 - (a) conduct surveys and prepare plans or control and supervise conducting of surveys and preparation plans of quarry operations that are required under these regulations,
 - (b) certify plans prepared by or prepared under the control and supervision of that surveyor as to their accuracy and correctness.
- (3) The requirement for appointment to exercise the statutory function is that the individual must hold a current practising certificate for 'Authorised Mine Surveyor (Grade 1 or 2)' issued under the Licensed Surveyors Act 1909. (Will need amendment of that Act. The transitional provisions will allow current certificate holders to continue to operate subject to maintaining CPD as it may be necessary under that legislation.)

Schedule 9 Transitional arrangements

Chapter 10, Division 6

Transitional principles were developed by Mine Safety Directorate to guide the transition from the Mine Safety and Inspection Regulations to the WHS (Mines) regulations. The following table sets out the relevant transitional arrangements.

Topic	Proposed transitional period
Appointments	
1.1 A person appointed as a "principal employer" under the MSIA repealed Act is to be accepted as the "mine operator" under the proposed WHS (Mines) Regulations	1.1 6 months
1.2 A person appointed or who could be appointed as a "registered manager" under the MSIA repealed Act is to be accepted as the "site senior executive of a mine" under the proposed WHS (Mines) Regulations	1.2 2 years
1.3 A person appointed or who could be appointed as an "exploration manager" under the MSIA repealed Act is to be accepted as the "exploration manager" under the proposed WHS (Mines) Regulations	1.3 2 years
1.4 A person appointed or who could be appointed to a position of an underground manager, quarry manager, underground supervisor, mine surveyor, winding engine driver, under the MSIA repealed Act is to be accepted as the person holding the equivalent position under the proposed WHS (Mines) Regulations	1.4 2 years
1.5 A person appointed to the position of ventilation officer, noise officer, radiation safety officer, electrical supervisor, and high voltage operator appointed under the MSIA continues to be appointed under the proposed WHS (Mines) Regulations.	1.5 2 years
1.6 The current statutory certificate holders listed below will need to undergo training in risk management. Their other qualifications and experience will be acceptable under the new legislation. <ul style="list-style-type: none"> • Underground manager • Quarry manager • Underground supervisor • Noise officer • Radiation safety officer 	1.6 2 years
1.7 The following statutory position holders will need to pass a law exam and be trained in risk management: <ul style="list-style-type: none"> • Electrical supervisor • Other supervisors 	1.7 2 years
1.8 The person appointed to the position of ventilation officer underground will require 2 years' experience, completed risk management course.	1.8 2 years
NOTE: There are new experience requirements for ventilation officers.	

Topic		Proposed transitional period	
Mines Safety Management System (MSMS)			
2.1	A mine operator must prepare and implement a mine safety management system within a period from the implementation of the WHS (Mines) Regulations.	1.1	1 year for preparation plus 1 year to implement
2.2	A contractor must prepare and implement a safety management system or operate under MSMS of the mine operator within a period from the implementation of the WHS (Mines) Regulations.	1.2	1 year for preparation plus 1 year to implement
Notice of commencement			
Not required if a notice was given and SME approval obtained as per MSIA.		N/A	
Notice of suspension and closure			
Not required if a notice was given for suspension or abandonment as per MSIA.		N/A	
Notice of exploration operation			
Not required if a notice for exploration was given as per MSIA.		N/A	

Attachment 1

Comparison between Mines Safety and Inspection Regulations (1995) and proposed Work Health and Safety (Mines) Regulations

The attached table contains important differences between the Mines Safety and Inspection Regulations (1995) and the proposed concepts for the Work Health and Safety (Mines) Regulations.

NOTE:

In the table below, abbreviations refer to the following:

- **MSIA** refers to Mine Safety and Inspection Act 1994
- **e.g. s.16** refers to a section in the Mine Safety and Inspection Act 1994
- **MSIR** refers to Mine Safety and Inspection Regulations 1995
- **e.g. r.3.12** refers to a regulation in Mine Safety and Inspection Regulations 1995

Comparison Table

Topic	MSIA/MSIR	Current Proposal
1 Application of the WHS (Mines) Regulations	MSIA applies to mines that is based on the definition of mining operation in section 4	Definition is based on the concept of a mine site where primary functions of exploration, extraction and processing of minerals, including handling or transporting minerals takes place. The activities associated with the primary functions, when carried out at or near the mine site, are also considered as mining operations. See Regulation M8.
2 Chief Inspector of Mines (CIM)	s.16 provides for appointment of State Mining Engineer (SME)	The WHS Bill will make provision for the appointment of the Chief Inspector of Mines
3 Mine operator	s.4, s.32 provides for notification and duties of principal employer (PE)	'Mine operator' definition is proposed to cover the meaning of 'principal employer' in the MSIA. See Regulation M11.
4 Notice of commencement and significant change	s.42, r.3.12 and r.3.13 require these notifications. Before commencing a mining operation, the PE must procure SME's approval	Notice of commencement and significant change in the prescribed form will be required. The CIM may request additional information. The approval to commence will not be a requirement in alignment with other jurisdictions.
5 Notice of suspension and recommencement	s.42, r.3.14 and r.3.15 require these notifications	These notifications in the prescribed form will be retained. See regulation M14 to M16.
6 Notice of closure	s.42, r.3.16 require the notice of abandonment with measures taken to secure and make safe the abandoned site to the satisfaction of the district inspector (DI)	The closure notification in the prescribed form to the CIM will be retained. The regulator/CIM may ask the mine operator for additional measures to be taken before the site can be declared as 'closed'. See regulation M17.
7 Notice of exploration	s.47, r.3.3-3.4 require the notice of exploration	This notification in the prescribed form will be retained
8 Managing risk	s.9 covers risk management in general as part of duty of care. There are no general risk management regulations but there are some hazard-specific risks management regulations (e.g. r.6.18, r.7.27)	Part 3.1 of model WHS regulations covers general risk management. In addition Regulation M19 to M22 have been added to manage risk at mines.

Topic	MSIA/MSIR	Current Proposal
9 Mine Safety Management System (MSMS)	Although there is a requirement to prepare a project management plan (PMP) for the approval by SME, there is no requirement to prepare and implement a MSMS	Regulations M23-M27 will require establishment, maintenance and implementation of a Mine Safety Management System.
10 MSMS and contractors	There is no requirement to prepare and implement a MSMS but there are hazard specific prescriptive regulations	Regulations M28-M32 will require a Mines Safety Management System when work is performed by contractors at a mine.
11 Principal Mining Hazard Management Plan (PMHMP)	There is no specific clause in MSIA or MSIR but there are hazard specific prescriptive regulations	<p>The PMHMP is proposed to be an important part of MSMS. The proposed PMH definition is similar to the definition in the NMSF (DI 2.26) with some changes – see Regulation M10.</p> <p>As a guide the matters that must be considered in developing PMHMPs for listed principal hazards is in Schedule 1. This will assist the industry, particularly small operators, in developing consistent PMHMPs.</p>
12 Principal Control Plan (PCP)	There is no specific clause in MSIA or MSIR defining principal control plans. However prescriptive regulations cover emergency preparation (r. 4.23-4.37), use of electricity in mines (Par 5, r.5.1-5.32), use of explosives (Part 8, r.8.1-8.60), underground ventilation (Part 9), Health surveillance (r. 3.21-3.42), use of machinery (Part 6)	<p>Based on feedback from the stakeholders and to avoid possible duplication, PCPs will not be included in the proposed WHS regulations. However, Emergency Management Plan, Radiation Management Plan and Health Management Plan will be adopted as part of the MSMS. Explosive management aspects will be covered by Dangerous Goods Safety legislation and it will be referred to in the regulations.</p> <p>The Mechanical and Electrical Engineering Control Plans proposed by the NMSF will not be adopted. These will be covered by general risk management in the MSMS.</p>
13 Notification of high risk activities	<p>As per MSIR:</p> <ul style="list-style-type: none"> • Shaft sinking – Part 12 requires an approval • Installing winders – Part 11 requires an approval • Commissioning winders – Part 11 requires an approval • Rising using entry method – r.10.21 requires an approval • Construction of an underground explosives magazine –an approval under DG (safety) legislation required • Construction of an underground dam – r.10.19 requires a notice 	<p>As per Regulation M43, the Regulator must be given a prior notice of specified high risk activities. Schedule 2 provides the list of these activities, required notice period and details to be provided in the notice. These activities are:</p> <ul style="list-style-type: none"> • Shaft sinking • Installing winders • Commissioning winders • Rising using entry method • Construction of an underground explosives magazine • Construction of an underground dam

Topic	MSIA/MSIR	Current Proposal
	<ul style="list-style-type: none"> • Construction of a fuel storage or refuelling facility – r.10.58 and r.10.60 specify precautions to be taken • Approaching dangerous water body (no notice required, precautions listed in r. 10.18) • Use of a dredge to mine – r.14.3 requires approval of a dredge r.14.4 requires approval of use of a dredge • Use of explosives: <ul style="list-style-type: none"> (i) in reactive ground – r.8.55 requires a notice (ii) in hot (>57 deg Celsius) ground – r.8.54 requires a notice • Use of autonomous or semi-autonomous earth moving and surface drilling machinery – no notice required • Installation of high voltage equipment – r.5.18 specifies precautions to be taken 	<ul style="list-style-type: none"> • Construction of a fuel storage or refuelling facility • Approaching a known or suspected water body • Use of a dredge to mine • Use of explosives: <ul style="list-style-type: none"> (i) in reactive ground (ii) in hot (>57 degree Celsius) ground • Introducing autonomous or semi-autonomous mobile equipment, or production drilling equipment • Installation of high voltage equipment
14 Communication between outgoing and incoming shifts	No specific regulation exists	Regulation M36 provides details of shift communication to be included.
15 Specific regulation on each of the hazards associated with: <ul style="list-style-type: none"> • mobile plant • inrush • geotechnical instability • quarry operations 	As per MSIR, precautions are covered under multiple regulations: <ul style="list-style-type: none"> • mobile plant –r.6.4, r.13.2, r.13.3 and r.13.7 • inrush and inundation – r.4.11 and r.10.18 • geotechnical instability – r.10.13, r.10.28 and r.13.8, • quarry operations – rr.13.1-13.15 	While principal hazards are covered in PMHMPs, some of these may not be applicable to particular mines, these hazards must be dealt with by applying general risk management principles given in model WHS regulations Part 3.1. These regulations highlight these requirements and provide the summary of the hazards/factors that must be considered by the mine operator in dealing with these specific areas. Regulations M37 (movement of mobile plant), M38 (inrush hazard), M39 (managing stability of geotechnical structures), and M40 (managing risk in quarry operations) cover these aspects.
16 Explosives	rr.8.1-8.60 provides precautions to be taken for storage, handling, use and disposal of explosives. In addition, DG (Safety) legislation is also applicable to explosives.	The proposed WHS regulations will require: <ul style="list-style-type: none"> • Application of DG legislation

Topic	MSIA/MSIR	Current Proposal
		<ul style="list-style-type: none"> Managing hazards associated with explosives in accordance with Part 3.1. A list of matters that are to be considered by the mine operator is provided in Regulation M41. <p>In WA, DG legislation requires a Blast Plan and Explosives Management Plan (EMP). Therefore, the recommended Explosives PCP in the NMSF Dis has not been adopted.</p>
17 Prohibited uses	r.10.48 allows only diesel engines to be used underground	Regulation M44 provides a list of prohibited items in underground mines.
18 Minimum age	r.10.4 prohibits persons under 18 years of age to work underground	Regulation M45 provides the minimum age for quarry and underground mine operation.
19 Electricity	rr.5.1-5.32 provides precautions to be taken for use of electricity in mines. These provisions are in addition to the Electricity (Licensing) Regulations 1991 that apply to electricity in WA.	<p>In addition to the model WHS regulations, Part 4.7 the following mining specific regulations from the MSIR will be retained:</p> <ul style="list-style-type: none"> Earthing systems – Regulation M50 Trailing cables and reeling cables – Regulation M51 Earth continuity protection and monitoring – Regulation M52 Records to be kept – Regulation M49 <p>In addition, as per Regulation M48 a general provision requiring management of hazards associated with electricity in accordance with model WHS regulations, Part 3.1 is required. The regulation lists the critical matters that must be considered in risk management.</p>
20 Air quality and monitoring	<p>Part 9 (r.9.1-9.37) covers air quality and ventilation for both surface and underground operations.</p> <p>General air quality control provisions are covered in: rr.9.8, 9.9, 9.11-9.13, 9.15, 9.17-9.19, 9.30</p> <p>r.9.15 provides for managing temperature and humidity in underground mines.</p> <p>r.9.11 specifies exposure standards.</p>	<p>Regulation M53-M57, cover air quality and monitoring at mines.</p> <p>The model WHS regulations r.49 - Ensuring exposure standards for substances and mixtures not exceeded, and r.50 - Monitoring airborne contaminant levels, are also applicable to all operations.</p>

Topic	MSIA/MSIR	Current Proposal
21 Radiation	Part 16 (r.16.1-16.38) covers radiation safety provisions applicable to Uranium and Thorium mines or where exposure exceeds the prescribed limit.	<p>Where radiation exposure crosses the prescribed threshold (as set in the regulation) the following additional provisions (retained from MSIR) will apply:</p> <ul style="list-style-type: none"> • Baseline monitoring – Regulation M60 • Radiation management plan – Regulation M61 and M62 • Notifications – Regulation M63 • Supervised and controlled areas – Regulation M64 • Conditions for young persons – Regulation M65 • Designated employees – Regulation M66 • Dose limits – Regulation M67 • Assessment of doses – Regulation M68 • Reporting to regulator – Regulation M69 • Approval for removal of radioactive material – Regulation M70 • Approval to use imported radioactive materials – Regulation M71 • Discharges – Regulation M72 <p>As per Regulation M61 and M62, Radiation management plan will need approval from the Regulator/CIM.</p>
22 Fitness for work	r.4.7 deals with intoxicating liquor and drugs	Regulation M75 and M76 will cover fitness for work
23 Managing risk – underground	Part 10 (rr.10.1-10.46) deals with hazards associated with underground mining	<p>Regulation M78 – Connecting workings, and M79 – Dust explosion, and M80 – Managing fire risk, cover these hazards in underground mines.</p> <p>In addition, Regulation M77 covers management of underground hazards in accordance with model WHS Regulations, Part 3.1.</p>
24 Shafts and winders	Part 11 (rr.11.1-11.89) and Part 12 (rr.12.1-12.19) deal with hazards associated with winders and shaft sinking	<p>The following regulations will cover hazards associated with shafts and winders:</p> <ul style="list-style-type: none"> • Winding systems – Regulation M81 • Ropes – Regulation M82 • Operations of shaft conveyance – Regulation M83 <p>Principal hazards associated with winders and shaft sinking will be managed by implementing a PMHMP.</p> <p>3 provisions will replace current 108 regulations.</p>

Topic	MSIA/MSIR	Current Proposal
		Also approval for installation of a winder and sinking of a shaft will be replaced by a notification.
25 Air quality and ventilation	r.9.5, r.9.14, r.9.16, r.9.20-9.28, and rr.9.34-9.37 deal with ventilation in underground mines.	<p>The following will cover hazards associated with air quality and ventilation:</p> <ul style="list-style-type: none"> • Air quality – airborne contaminant – Regulation M86 • Air quality – minimum standards for ventilated air – Regulation M87 • Air monitoring – air quality – Regulation M88 • Requirements if air quality requirements and air safety exposure standards not complied with – Regulation M89 • Records for air monitoring – Regulation M90 • Ventilation system – further requirements – Regulation M91 • Monitoring and testing of ventilation system – Regulation M92 • Duty to prepare ventilation control plan – Regulation M93 • Ventilation plan – Regulation M94 <p>For underground coal mines:</p> <ul style="list-style-type: none"> • Coal dust explosion – Regulation M95 • Spontaneous combustion – Regulation M96 • Air quality – minimum standards for ventilated air – Regulation M97 • Additional requirements relating to methane – Regulation M98
26 Underground use of diesel equipment	Part 10, Division 4 (rr.10.47-10.60) deal with use of diesel units in underground mines	<p>The following will cover hazards associated with use of diesel units in underground mines:</p> <ul style="list-style-type: none"> • Diesel equipment requirements – Regulation M84 • Additional air requirements – Regulation M85
27 All mines – emergency management	rr.4.23-4.32 deal with emergency management	<p>The following regulations will cover emergency management at mines:</p> <ul style="list-style-type: none"> • Duty to prepare emergency management plan – Regulation M99 • Consultation in preparation of emergency management plan – Regulation M100 • Implementation of emergency management plan – Regulation M101 • Copies to be kept and provided – Regulation M102 • Resources for emergency management plan – Regulation M103

Topic	MSIA/MSIR	Current Proposal
		<ul style="list-style-type: none"> • Testing of emergency management plan – Regulation M104 • Review – Regulation M105 • Training of workers – Regulation M106
28 Underground mines – emergency management	rr.4.33-4.37 deal with emergency management in underground mines. In addition, r.10.10 and r.10.11 apply.	<p>The following regulations will cover emergency management at underground mines:</p> <ul style="list-style-type: none"> • Emergency exits – Regulation M107 • Safe escape and refuge – Regulation M108 • Signage for refuges – Regulation M109 • Self-rescuers – Regulation M110 • Personal protective equipment in emergencies – Regulation M111 • Competent persons at surface – Regulation M112
29 Information, training etc.	rr.3.6, 4.13, 4.28 and r.7.7 deal with information, training and instruction	<p>The following regulations will cover information, training and instruction for all mines:</p> <ul style="list-style-type: none"> • Duty to inform workers about safety management system – Regulation M113 • Duty to provide information, training and instruction – Regulation M114 • Duty to provide induction to workers – Regulation M115 • Information for visitors – Regulation M116 • Review of information, training and instruction – Regulation M117 • Record of training – Regulation M118
30 Biological and health monitoring	r.3.23-3.40 deal with health surveillance	<p>The following provisions, based on MSIR, will be retained:</p> <ul style="list-style-type: none"> • Biological monitoring of workers – Regulation M119 <p>The following regulations will cover biological and health monitoring of workers:</p> <ul style="list-style-type: none"> • Health monitoring of worker – Regulation M120 • Duty to provide health information – Regulation M121 • Duty to ensure health monitoring is carried out or supervised by registered medical practitioner with experience – Regulation M122 • Duty to pay costs of health monitoring – Regulation M123

Topic	MSIA/MSIR	Current Proposal
		<ul style="list-style-type: none"> • Duty to provide registered medical practitioner with information – Regulation M124 • Health monitoring report – Regulation M125 • Person conducting business or undertaking to obtain biological and health monitoring report – Regulation M126 • Person conducting business or undertaking to give biological and health monitoring report to mine operator of mine – Regulation M127 • Duty to give biological and health monitoring report to worker – Regulation M128 • Duty to give biological health monitoring report to regulator – Regulation M129 • Health monitoring reports kept as records – Regulation M130 <p>NOTE: health monitoring provisions for hazardous chemicals (model WHS r.368-377), lead (model WHS r.405-418), and asbestos (model WHS r.435-444) also apply.</p>
31 Mine survey plans	Part 3, Division 6 (r.3.43- 3.54) deal with surveyors and plans	<p>The following provisions cover surveyors and mine plans:</p> <ul style="list-style-type: none"> • Survey plan of mine must be prepared and maintained – Regulation M131 • Survey plans requirements – Regulation M132 • Survey plan to be available – Regulation M133 • Survey plan to be provided – Regulation M134
32 Statutory functions	MSIA & MSIR require statutory positions. These are both certified and non-certified positions. MSIA Part 4, Division 2, and MSIR Part 2, Division 3 establish Board of Examiners for issuing certificates.	<p>It is proposed to retain Statutory positions with prescribed qualifications and experience – Regulation M135 and M136. However, it was considered that certification is unnecessary.</p> <p>Under the proposed scheme, the mine operators are expected to make assessment of candidates as per the prescribed qualification and experience in the regulations before appointments are made. The qualification and experience to hold these Statutory positions have been reinforced based on feedback from stakeholder.</p>
33 Appointments	Most Statutory positions must be notified to the District Inspector and must be acknowledged	Statutory Function appointments to be recorded by the mine operator in the mine records – Regulation M137. These records being maintained in SRS by the mine operator will also be available to the Regulator/CIM for

Topic	MSIA/MSIR	Current Proposal
		oversight. The Site Senior Executive (SSE) must be notified to the Regulator in the prescribed form. Other positions, if authorised by the mine operator, can be made by the SSE.
34 Compliance with Statutory Functions	The Registered Manager (RM), Underground Manager (UGM), and Quarry Manager (QM) are required to provide direct supervision and control on a daily basis. For commute schedules, provision for Alternate positions exists.	The details of management and supervisory structure are to be determined by the mine operator and it forms part of the MSMS. The mine operator to ensure the following (Regulation M138): <ul style="list-style-type: none"> • Statutory Functions are performed only by persons who meet the prescribed criteria; • an individual is currently appointed; • there has not been an individual appointed to exercise that statutory function for more than 7 days; • the person is readily available; and • is capable of exercising the statutory function. The appointed person to ensure allocated Statutory Functions are complied with – Regulation M139.
35 Mine Record	MSIA Section 89 requires maintenance of Record Book where prescribed details must be recorded	It is proposed to replace Mine Record Book with mine record, contents are given in Regulation M1472. The following regulations have been retained: Mine record must be kept and made available – Regulation M143 Inspectors to record site visit details – Regulation M144 Transfer of mine record – Regulation M145
36 Provision of information to Regulator	ss.76-79 require notification of accidents and occurrences. In addition r.3.39 (Notice of occupational diseases), r.3.41 (Requirements if notice in writing), and r.3.42 (Monthly status report) require additional information to be provided.	The following provisions are proposed: <ul style="list-style-type: none"> • Duty to notify regulator of certain incidents – Regulation M146 • Notice of occupational diseases – Regulation M147 • Quarterly reports – Regulation M148 • Duty to notify mine operator of notifiable incidents – Regulation M149
37 Exemptions	r.1.4 and r.1.5 make provisions for an exemption to be granted by the State Mining Engineer from any regulation	It is proposed that provisions similar to WHS Regulations will be provided.

Topic	MSIA/MSIR	Current Proposal
38 Transitional Arrangements		See Appendix 9. The proposed transitional periods are based on agreements reached with stakeholders.