NORTHERN TERRITORY OF AUSTRALIA

MINE MANAGEMENT REGULATIONS

As in force at 10 May 1995

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NORTHERN TERRITORY OF AUSTRALIA

As in force at 10 May 1995

MINE MANAGEMENT REGULATIONS

Regulations under the *Mine Management Act*

Part 1 Preliminary

1 Citation

These Regulations may be cited as the *Mine Management Regulations*.

2 Interpretation

(1) In these Regulations, unless the contrary intention appears:

adit means a horizontal or near horizontal entrance to a mine.

airborne contaminant means a substance which is not a normal constituent in air or is present at a level greater than that normally occurring in air.

batter of a face or profile of an open cut means the angle that the face or side of an open cut makes with the horizontal overall.

bench means the horizontal step or floor along which ore, stone or overburden is worked or mined.

berm means a level surface or bench left or specially cut in the side of an open cut for the purpose of trapping falling material.

bin means a structure used to hold loose material.

brace means a platform area around a shaft on the surface at a mine.

bridle means a device which attaches to a winding rope and supports and guides a conveyance within a shaft.

Chief Medical Officer has the same meaning as in the *Public Health Act*.

conveyance means the equipment on a winding engine which conveys persons or material.

decline means a downward sloping entrance or a downward sloping area of less than 15° slope.

dredge includes a barge, pontoon or other structure used to carry on mining operations by means of dredging, pumping, sluicing or other similar method.

drum winding engine means a winding engine in which the winding rope is driven by the winding rope being wound or unwound on a drum.

electrician means a person who holds an electrical worker's licence, endorsed with the trade classification electrical mechanic and a grading A, issued under the *Electrical Workers and Contractors Act*.

emergency procedure means a procedure to deal with a recognised dangerous situation.

face means an area of excavation which has been worked.

first aid facilities includes first aid kits, special first aid equipment, safety showers and eyewashes.

friction winding engine means a winding engine in which the winding rope is driven by friction.

hazard means an agent which has the potential to injure or compromise the health or safety of a person.

hazardous substance means a substance which has the potential to harm the health of a person.

kibble means a large bucket used in shaft operations.

load haul dump means a hydraulically operated, earth moving machine.

knocker line means a line or cable hung in a shaft, rise, winze or pass that is attached to a sounding device or bell at one end and is used to transmit signals.

material safety data sheet means a document set out in accordance with the National Occupational Health and Safety Commission's publication entitled "Guidance Note for the Completion of a Material Safety Data Sheet" published by the Australian Government Publishing Service.

medical examination means an examination carried out by a medical practitioner.

mobile equipment means equipment used to excavate, load or transport material that moves on wheels, tracks or skids, but does not include a mobile machine.

mobile machine means an electrically operated machine capable of being moved about while in use, but does not include an overhead crane or a locomotive used for haulage purposes.

monkey is a non load bearing device which guides a conveyance in a shaft.

movable machine means an electrically operated machine that is, from the nature of its use, required to be moved, from time to time, with its power source disconnected.

open cut mean a surface excavation.

operator means a person who is trained to operate machinery.

ore pass means an underground opening through which broken material is transferred, by gravity, from a higher level to a lower level.

pentice means a cover or roof over a sinking shaft for the protection of employees working below in the shaft.

personal protective equipment means equipment which is designed to protect a person from, or reduce a person's exposure to, a hazard.

plat means a platform area around a shaft.

portable machine means an electrically operated machine capable of being held by hand while in use.

qualified person means a person trained in a specific discipline and possessing qualifications approved by an inspector.

raise or ***rise*** means a development excavated upwards from a level drive or crosscut.

shaft means an opening into a mine having an inclination to the horizontal of 15° or more through which persons or materials are raised or lowered, or which is used as a main intake or outlet for ventilation.

shift means a fixed normal working period.

skip means a container which is used to transfer material from one level to another.

stope means an excavation, other than development workings, made for the purpose of excavating ore.

surge stockpile means a stockpile of ore installed at the input end of a processing or treatment plant to provide uniform feeding of material to the plant.

touch voltage limitation means the voltage at which the exposed frame or container of an apparatus, normally at earth potential, may be raised above earth potential during fault conditions without presenting a hazard.

transportable machine means an electrically operated machine that is, from the nature of its use, required to be moved, from time to time, between periods when it is in operation, without being dismantled.

underground means having an overlying cover of rock.

winding engine means a mechanical appliance by which persons or materials are raised or lowered by a rope or ropes in a vertical or inclined shaft at a mine.

winding engine driver means the person operating or in charge of a winding engine.

winding engine log book means the winding engine log book kept under section 29 of the Act in respect of a winding engine.

winding licence means a winding licence granted under these Regulations.

working face means the area of excavation which is being worked.

(2) In these Regulations, a reference to the abbreviation ***AS*** followed by a group of numerals or letters, or numerals and letters, is a reference to the Australian Standard, indicated by that group, published by the Standards Association of Australia.

(3) In these Regulations, unless the contrary intention appears, a technical term not otherwise defined has the meaning ordinarily described to it in the technical field in relation to which the term is used.

(4) Where a document, standard, rule or specification adopted by these Regulations refers to another document, standard, rule or specification or any part thereof, then such document, standard,

rule or specification or part thereof, shall be deemed to be adopted by these Regulations to the extent necessary to give full force and effect to the first-mentioned document, standard, rule or specification.

(5) Where a document, standard, rule, or specification adopted by these Regulations refers to ***the statutory authority*** or ***the regulatory authority***, the reference shall be construed as a reference to the Chief Government Mining Engineer.

(6) Where a document, standard, rule or specification adopted by these Regulations is inconsistent with these Regulations, the Regulations shall prevail and the document, standard, rule or specification is, to the extent of the inconsistency, invalid.

(7) Where a document, standard, rule or specification adopted by these Regulations is inconsistent with another document, standard, rule or specification also adopted by these Regulations, the document, standard, rule or specification that prevails shall be determined by the Chief Government Mining Engineer.

(8) Where the design of a mine or a part of a mine is required to comply with a document, standard, rule or specification at the time of its design, the document, standard, rule or specification shall continue to apply to the mine or the part of the mine, without amendment, until alteration, repair or relocation, at which time, the Chief Government Mining Engineer may direct that the mine or the part of the mine be modified to comply with the document, standard, rule or specification as applying at that time.

3 Manager to comply with regulations

The manager of a mine shall ensure that all activities at the mine are carried out in accordance with these Regulations and, where an obligation is imposed by a regulation, the manager shall, unless the contrary intention appears, comply with and not contravene the regulation.

Part 2 General

4 Standards applying at mines

(1) The Australian Standards specified in Schedule 1 apply to and in relation to a mine and shall be complied with in conjunction with, or as part of, an obligation imposed by these Regulations.

(2) The Australian Standards specified in Schedule 2 shall be taken into account when complying with an obligation imposed by these Regulations.

5 Environmental reporting

At approved intervals, the manager of a mine shall submit to the Chief Government Mining Engineer, for approval, plans and reports on rehabilitation, water management and monitoring programs at the mine.

6 Construction work

The construction of any plant, structure or building at a mine shall not be commenced unless it is approved.

7 Training to be provided

(1) Induction and ongoing training relating to an employee's employment at a mine shall be provided to an employee employed at a mine.

(2) An employee who works underground at a mine shall be given training and drilling in emergency procedures to ensure that the employee understands and is capable of implementing the procedures.

(3) Details of training provided under this regulation shall be recorded and shall form part of an employee's employment record at a mine.

7A Certification of equipment operators

An operator of industrial equipment at a mine, other than earth moving equipment, shall be certified in accordance with Worksafe document NOHSC:1006 or NOHSC:7019, as is appropriate.

8 Liquor and drugs

(1) Subject to this regulation, an employee shall not:

(a) attend work at a mine if the employee is under the influence of intoxicating liquor or a drug; or

(b) be in possession of intoxicating liquor or a drug at a mine.

(2) Subject to this regulation, the manager of a mine shall not permit an employee to commence work at the mine, or remain at work, if, in the opinion of the manager, the person is affected by intoxicating liquor or a drug.

(3) This regulation does not apply to:

(a) the possession by an employee of a drug prescribed by a medical practitioner for use by the person; or

(b) the possession of intoxicating liquor with the authority of the manager.

9 Accident stand-by vehicle

(1) A vehicle shall be maintained on stand-by at a mine for transporting employees injured at the mine to a place for medical treatment.

(2) An employee authorised to give first aid or medical treatment at a mine shall be notified of the vehicle referred to in subregulation (1) and shall have effective control of the vehicle while the employee is on duty at the mine.

10 Emergency rescue and evacuation procedures

(1) Emergency rescue and evacuation procedures shall be prepared for a mine, commensurate with:

(a) the scale and complexity of the operation;

(b) the nature and extent of potential hazards; and

(c) the degree of risk pertaining,

at the mine.

(2) A copy of procedures prepared under subregulation (1) shall be forwarded to the Chief Government Mining Engineer not later than 14 days after a request for the copy is made by the Chief Government Mining Engineer.

Part 3 Medical examinations and records

11 Employees records to be kept

A record of each employee who works at a mine shall be kept containing:

(a) the date of birth of the employee;

(b) the date when the employee commenced work at the mine;

(c) the date when the employee commenced work underground at the mine, if applicable;

(d) the date on which the employee ceased work at the mine; and

(e) the date and results of all medical examinations undergone by the employee as part of the employee's employment at the mine or on ceasing to work at the mine.

11A Medical examination

(1) An employee who may be exposed to a health risk at a mine may be directed to undergo such medical examinations, at such times, as the Chief Government Mining Engineer may specify.

(2) An employee directed under subregulation (1) shall not refuse to undergo a medical examination as and when specified by the Chief Government Mining Engineer.

12 Inspection of medical certificates

(1) A person who conducts a medical examination of an employee under these Regulations shall provide a copy of the medical certificate relating to the employee to the manager of the mine at which the employee is employed.

(2) Where the manager of a mine has been provided with a medical certificate relating to an employee who is or was employed at the mine, the manager shall, on request, make the certificate available to an inspector or the Chief Medical Officer.

14 Silicosis and tuberculosis

(1) The Chief Government Mining Engineer may, by notice in writing served on the manager of a mine, declare the mine or a part of the mine to be an area of silicosis risk for the purposes of the *Silicosis and Tuberculosis (Mine-Workers and Prospectors) Act*.

(2) A manager notified under subregulation (1) shall enter the notice in the mine record book and cause a copy of the notice to be displayed at the mine.

(3) The Chief Government Mining Engineer shall send a copy of a notice referred to in subregulation (1) to the Chief Medical Officer as soon as practicable after the notice is served on the manager.

Part 4 Occupational health

15 Airborne contaminants

(1) Dust at a mine shall be kept at a minimum and an employee at the mine shall not be exposed to airborne contaminants exceeding those set out in the Worksafe document, NOHSC:1003 and 3008, entitled "Exposure Standards for Atmospheric Contaminants in the Occupational Environment".

(2) The Chief Government Mining Engineer may, for the purposes of this regulation, classify a mine or a part of a mine, and monitoring of airborne dust and contaminants at the mine or part so classified shall be undertaken at intervals determined in accordance with Schedule 2A for the classification.

16 Noise

(1) An employee shall not be exposed at a mine to noise exceeding:

(a) an 8 hour equivalent continuous A-weighted sound pressure level, LAeq,8h, of 85 dB(A); or

(b) a peak sound pressure level, Lpeak, of 140 dB(lin).

(2) Exposure to noise is taken to be that measured at an employee's ear position without taking into account protection that may be afforded by hearing protection equipment.

(3) A hearing protection program shall be provided to an employee at a mine if the employee may be exposed to noise exceeding that specified in subregulation (1).

17 Lighting

An area at a mine where an employee is required to work or pass through shall have a sufficient level of lighting for the employee to perform the work or to permit the employee to pass through the area without the health or safety of the employee being at risk.

18 Exposure to certain risks

Where an employee at a mine is exposed to:

(a) heat or cold;

(b) whole body vibration; or

(c) biological hazards,

such that there is a risk to the health or safety of the employee, measures shall be taken to protect the health and safety of the person.

19 Radiation protection

(1) In this regulation, ***Code*** means the Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores (1987), referred to as the Radiation Protection (Mining and Milling) Code (1987), as amended from time to time, made under section 9(1) of

the *Environment Protection (Nuclear Codes) Act 1978* of the Commonwealth.

(2) The Code applies to and in relation to all mines.

(3) The expression ***appropriate authority*** in the Code means, in respect of the clause of the Code specified in column 1 of Schedule 3, the employee or employees specified opposite in column 2 of the Schedule.

(4) The power of the Chief Government Mining Engineer under clause 9(14) or (26) of the Code shall not be exercised without prior consultation with the Chief Medical Officer.

20 Material safety data sheets and registers

(1) Where a hazardous substance is used at a mine:

(a) the current material safety data sheet of the substance shall be available to all employees at the mine;

(aa) the immediate first aid or emergency data for contact with the hazardous substance shall be prominently displayed, and the first aid or emergency supplies for dealing with contact with the hazardous substance shall be readily accessible, at all places at the mine at which the hazardous substance is used;

(b) a material safety data sheet shall be obtained from the manufacturer, importer or supplier before or on the first supply of a hazardous substance to the mine;

(c) a register of hazardous substances used at the mine shall be kept and maintained and shall be made available to an inspector on request; and

(d) a container in which a hazardous substance is stored shall be labelled to warn of the presence of the substance in the container.

(2) A register kept under subregulation 1(c) shall contain:

(a) the current material safety data sheet for; and

(b) any other information relating to the safe use, handling or storage of,

hazardous substances used at the mine.

(3) A register kept under subregulation (1) shall be made available, on request, to an employee working at the mine.

(4) An employee shall not alter a material safety data sheet of a hazardous substance at a mine.

21 Labels

(1) A container at a mine in which a hazardous substance is stored shall have affixed to it a label containing the following information:

(a) identification of the substance, including the substance name and trade name;

(b) ingredients and formulation details, where applicable;

(c) risks associated with the substance;

(d) directions for safe use, storage and handling, where applicable;

(e) emergency procedures;

(f) details of the manufacturer or supplier of the substance.

(2) Where a hazardous substance at a mine is contained in a system, such as a pipe or piping system, process vessel or reactor vessel, the system shall be identified to warn a person of the presence of the substance in the system.

22 Personal protective equipment

(1) Personal protective equipment shall be provided to an employee at a mine where exposure to a hazard may compromise the health or safety of the employee and where other means of controlling the exposure are not practicable.

(2) Personal protective equipment provided under subregulation (1) shall, when used correctly, provide protection to the employee wearing it so that the health or safety of the employee is not compromised because of the hazard.

23 Use and maintenance of personal protective equipment

Where personal protective equipment is provided at a mine:

(a) training in the correct fitting, use and maintenance of the equipment shall be provided;

(b) information on the limitations of the use of the equipment shall be provided; and

(c) the equipment shall be maintained in good working order.

26 Areas to be signposted

An area at a mine where personal protective equipment is required to be worn shall be clearly identified.

34 Safety belts and ropes

(1) A safety belt shall be provided for use by an employee working underground at a mine.

(2) A safety belt and rope shall be provided for use by an employee working:

(a) at a precipitous place or on a loose rock slope at a mine;

(b) at a chute, pass or bin at a mine; or

(c) at a place at a mine where there is a risk that the employee may fall from a height.

Part 5 Fire

36 Fire fighting apparatus

(1) Fire fighting apparatus shall be provided at a mine and shall be maintained at all times.

(2) An inspector may direct that fire precautions be taken in such areas at a mine as are specified by the inspector.

(3) An inspector may direct that fire prevention measures be undertaken at a mine in consultation with the Regional Bushfires Committee, if any, established under the *Bushfires Act* for the region in which the mine is situated.

37 Fire fighting training

(1) An employee at a mine shall be trained in the procedures to be followed in the event of a fire at the mine.

(2) Training under subregulation (1) shall include:

(a) emergency fire procedures;

(b) the factors necessary for combustion;

(c) the classification of fires;

(d) the causes of fire and fire prevention measures;

(e) identification, use and methods of operation of portable fire equipment;

(f) fire exit drill; and

(g) training in first aid to be provided to fire or smoke inhalation victims.

Part 6 Explosives

38 Explosives log book

(1) A book, to be known as an explosives log book, shall be provided for each explosives magazine at a mine.

(2) An employee appointed under regulation 39 to be in charge of an explosives magazine shall keep in the explosive log book provided for the magazine under subregulation (1) an accurate record of all incoming, outgoing and current stocks of explosives.

39 Employee in charge of explosives magazines

(1) The manager of a mine shall appoint such employees as the manager thinks fit to be in charge of an explosives magazine at the mine and shall enter the appointments in the mine record book.

(2) An employee appointed under subregulation (1) shall, while the employee is on duty at the mine, have and retain in his or her possession or control the key to the explosives magazine for which the employee is in charge.

(3) An employee, other than an employee appointed under subregulation (1), shall not have or retain in his or her possession a key to an explosives magazine at a mine.

40 Explosives magazines

The location of an explosives magazine at a mine shall be approved by an inspector.

41 Bulk explosives facilities

Bulk explosives storage, manufacturing and transporting facilities at a mine shall be approved by an inspector.

42 Misfires

(1) Where explosives in a hole at a mine misfire:

(a) a barricade or other obstruction shall be placed around the hole; and

(b) a sign, warning of the misfire, shall be placed on the barricade or obstruction,

if the hole is left unattended while the explosives remain in the hole.

(2) The manager of a mine shall, as soon as practicable after a misfire of more than 500 kilograms of explosives occurs at the mine:

(a) notify an inspector; and

(b) enter details of the misfire in the mine record book.

44 Blasting in residential or environmentally sensitive areas

Blasting in or near a residential area or such other area as may be specified by an inspector shall be conducted in a manner so that the disturbance to residents in the area or to the ecosystem of an environmentally sensitive area is kept to a minimum.

45 Blast monitoring

(1) Blast monitoring equipment shall be installed at a mine when directed by an inspector.

(2) Results from equipment installed under subregulation (1) shall be submitted to an inspector as required by the inspector.

(3) Air blast overpressure limits at a mine shall not exceed 125 decibels.

46 Drill safety

Drilling shall not commence at a face underground at a mine unless the face and back have been barred and washed down and found to be safe.

47 Unusual blasting methods

(1) An inspector shall be notified of:

(a) a new blasting method to be used; or

(b) an unusual application of explosives or equipment used with explosives,

at a mine.

(2) Unless approved by an inspector, blasting in a shaft sinking operation at a mine shall be initiated only from the surface at the mine.

48 Old or deteriorated explosives

Old or deteriorated explosives at a mine shall be destroyed in accordance with the recommendations of the manufacturer of the explosives.

49 Recording of incidents

An unusual incident or irregular occurrence in relation to:

(a) the testing, use, transport or storage of explosives; or

(b) the equipment or facilities used to manufacture explosives,

at a mine shall be recorded in the mine record book.

Part 7 Electricity

51 Notice of new work

(2) Before constructing an electrical installation or carrying out a major alteration of an electrical installation at a mine, the manager shall notify the Chief Government Mining Engineer and submit such information to the Chief Government Mining Engineer as may be required by the Chief Government Mining Engineer.

(3) The manager of a mine shall notify the Chief Government Mining Engineer before a major electrical installation at the mine is energised or re-energised.

52 Substations and distribution centres

(1) A substation or distribution centre at a mine shall be accessed only by employees authorised by the manager of the mine.

(2) A substation or distribution centre at a mine shall:

(a) be kept dry and free from debris;

(b) not be used for storage;

(c) be provided with fixed lighting;

(d) be provided with fire protection;

(e) if situated underground, be provided with permanent telephones or other means of communication to the surface; and

(f) be provided with durable non hygroscopic notices containing directions as to:

(i) the resuscitation of employees suffering from an electric shock;

(ii) the procedure to be followed in case of a fire; and

(iii) the employees who are permitted to have access to and use the apparatus in the substation or distribution centre.

53 Electrical diagram to be kept

(1) A diagram showing the position, size and purpose of all fixed apparatus and cables at a mine, including signalling and telephonic apparatus, shall be kept at the mine.

(2) The diagram referred to in subregulation (1) shall be:

(a) brought up to date not less than once each 6 months; and

(b) produced by the manager of the mine to an inspector on being requested to do so by the inspector.

54 Power supply to mine

(1) The power supply at a mine shall be protected on the surface against:

(a) short circuit and overload; and

(b) leakage of current to earth.

(3) Earthing electrodes associated with the earthing system at a mine shall be on the surface at the mine.

55 Remote motors

A motor at a mine that is operated remotely or in such a way that it cannot be seen from its switch or control gear shall:

(a) have facilities for locking it in an isolated position; and

(b) be wired so that the motor cannot be started until released from the position where it was isolated.

56 Movable and mobile machine protection

(1) A movable machine or mobile machine and associated trailing cables at a mine operating at a voltage exceeding extra-low voltage shall be protected by:

(a) an approved automatic earth leakage current protection device; and

(b) an approved automatic earth continuity monitoring device, capable of cutting off the power supply in the event of a break in the earth conductor of the cable between the supply or control box and the machine.

(2) Subject to subregulation (3), an automatic earth leakage current protection device referred to in subregulation (1)(a) shall be set to operate at a leakage current not exceeding, on circuits where voltage:

(a) does not exceed low voltage – one ampere; or

(b) exceeds low voltage – 2 amperes.

56A Portable machine protection

A portable machine or apparatus at a mine, and associated cable, operating at a voltage exceeding extra-low voltage shall be protected by an earth leakage current protection device of the instantaneous type set to operate at a value not exceeding 30 milliamperes.

57 Earthing in trailing cables

A trailing cable used on a moveable or mobile machine at a mine shall be provided with an earthing conductor and pilot conductor.

58 Trailing cables to be identified

A trailing cable at a mine shall have a distinguishing number or name clearly indicated:

(a) on a label securely attached to the cable; and

(b) on a label or by other means near a connecting plug of the cable.

59 High voltage mobile and transportable machines

(1) In this regulation, ***machine*** means a high voltage moveable machine or a high voltage mobile machine.

(2) High voltage switch gear and control gear of a machine at a mine shall:

(a) be located away from the machine it serves;

(b) be operated by remote control at the machine;

(c) have a load-breaking and load-making isolator interlocked with its cubicle door; and

(d) have facilities for earthing the outgoing cables from the control cubicle.

(3) Facilities referred to in subregulation (2)(d) shall be:

(a) interlocked with the main isolator; and

(b) capable of being locked in the earthing position.

(4) An inspection cover or handhold cover of a control cubicle in a machine shall be interlocked with the incoming power supply in such a way that the power supply to the control cubicle is automatically isolated if the inspection cover or handhold cover is no longer in position.

(5) Relays provided for the protection of a machine at a mine shall be of a hand-resetting type and the hand-resetting facilities shall be located outside the control cubicle.

(6) A remote control circuit of a machine at a mine shall be designed so that, if it fails, there are alternative means to stop the machine until the fault in the remote control circuit is rectified.

60 Touch voltage limitation on high voltage movable and mobile machines

(1) A mobile machine or movable machine at a mine shall be protected by a touch voltage limitation system.

(2) Earthing resistors associated with a touch voltage limitation system referred to in subregulation (1) shall have a continuous time rating.

(3) A relay associated with a touch voltage limitation system referred to in subregulation (1) shall limit the touch voltage and operating time to that shown by the table and graph lines in AS 3007.2.

61 Work on high voltage apparatus

Where work is required to be carried out on high-voltage apparatus at a mine, the employee who is to perform the work shall, before commencing the work:

(a) sign on an access permit issued by a qualified person who is not the person who is to perform the work;

(b) effectively isolate the apparatus from the power supply;

(c) test the apparatus to ensure that it is not live; and

(d) earth the apparatus.

62 Routine tests

(1) An electrician at a mine shall carry out and record:

(a) as often as directed by the manager:

(i) an examination of apparatus at the mine, including earthing conductors;

(ii) an examination of insulation of power circuits at the mine, including machines, cables and apparatus forming part of or connected to those circuits;

(iii) a test of the electrical continuity and effectiveness of the earthing system; and

(iv) a test of the insulation resistance and continuity of conductors of every trailing cable at the mine; and

(b) not less than:

(i) once every 3 months or at such other periods as directed by an inspector, a test of the effectiveness of earth leakage equipment at the mine; and

(ii) once each week, an examination to detect abrasions and other defects of every trailing cable at the mine.

(2) A record made under subregulation (1) shall be made available to an inspector on request.

Part 8 Machinery

Division 1 Boilers and unfired pressure vessels

63 Boilers and unfired pressure vessels to be inspected

A boiler or unfired pressure vessel at a mine shall be inspected by a qualified person at intervals determined by the Chief Government Mining Engineer.

64 Certificate of inspection

(1) Where a qualified employee who carries out an inspection of a boiler or unfired pressure vessel under regulation 63 is satisfied that the boiler or vessel is in good condition and may be safely used for the purpose for which it is intended, the qualified employee shall issue a certificate to that effect to the manager of the mine.

(2) A certificate issued under subregulation (1) shall be exhibited in a conspicuous place at the mine.

(3) A boiler or unfired pressure vessel shall not be used at a mine unless a certificate issued under subregulation (1) is in force in respect of the boiler or unfired pressure vessel.

Division 2 Cranes and hoists

65 Cranes and hoists to be inspected

A crane or hoist at a mine shall be inspected by a qualified person at intervals determined by the Chief Government Mining Engineer.

66 Certificate of inspection

(1) Where a qualified person who carries out an inspection of a crane or hoist under regulation 65 is satisfied that the crane or hoist is in good condition and may be safely used for the purpose for which it is intended, the qualified person shall issue a certificate to that effect to the manager of the mine.

(2) A certificate issued under subregulation (1) shall be made available for inspection by an inspector on request.

(3) A crane or hoist shall not be used at a mine unless a certificate issued under subregulation (1) is in force in respect of the crane or hoist.

69 Riding in cage

Where a person is lifted in a cage suspended from a crane at a mine, details of the lift shall be recorded in the mine record book as soon as possible after the lift occurs.

70 Overhead warning devices

A crane at a mine shall be fitted with an overhead warning device to be used when:

(a) handling loads over the head of an employee; or

(b) travelling over an area where an employee may cross.

71 Employees lifted by forklift truck

An employee shall not be lifted by a forklift truck at a mine unless the employee is lifted on a platform securely fixed and fitted to the forks of the truck.

Division 3 Lifts

73 Carriage of persons in lifts

Unless approved by an inspector, a lift at a mine shall not be used to carry employees.

74 Lift repairs

(1) Repairs to a lift at a mine shall not be carried out unless:

(a) the repairs are carried out by a qualified employee; and

(b) the employee makes a written record of the repairs carried out.

(2) A record referred to in subregulation (1)(b) shall be kept in the motor room of the lift.

Division 4 Machinery safety

75 Machinery guards

Where the health or safety of an employee at a mine may be at risk because of the operation of a machine or a part of a machine at the mine, the machine or part shall be fitted with a guard or barrier to protect the employee from the risk.

Part 9 Mobile equipment

76 Mobile equipment

(1) A record of a modification or alteration to a safety related component of mobile equipment used at a mine, other than a manufacturer's modification, shall be made in the mine record book and an inspector shall be notified, as soon as practicable, after the modification or alteration is made.

(2) When required by an inspector, mobile equipment at a mine shall be fitted with:

(a) a mechanical emergency engine stop that is capable of being operated at ground level;

(b) an audible warning device;

(c) lights and an audible warning device that operate automatically when the machine is being reversed;

(d) mirrors or other devices for safety in reversing;

(e) fire extinguishers; and

(g) spark arresters and silencers on the exhaust systems.

(3) Where mobile equipment is used underground at a mine, it shall be fitted with:

(a) an integrated fire extinguishing system; and

(b) if operated remotely, a fire extinguishing system actuator fitted to the remote control.

77 Inspection of mobile equipment

Inspection procedures for mobile equipment at a mine shall be established and implemented to ensure that the equipment, when used, is safe and fit for its intended use.

78 Operation of mobile equipment

(1) Mobile equipment at a mine has right of way over other vehicles at the mine.

(2) Where an operator is in attendance at a crusher at a mine, the operator of mobile equipment dumping into the feed hopper of the crusher shall not dump the load from the equipment until the ***safe to tip*** signal is given by the operator of the crusher.

(3) Mobile equipment at a mine shall not be driven at a speed greater than that specified by:

(a) a sign erected at the mine; or

(b) the manager of the mine.

79 Trailers

Where a trailer being towed by a vehicle (including mobile equipment) at a mine has a gross mass greater than the gross mass of the vehicle, the trailer shall be fitted with a braking system:

(a) capable of being operated from the normal driving position of the vehicle; and

(b) which will effect an immediate application of the brakes of the trailer in the event of the trailer becoming detached from the vehicle and secure the trailer in a stationary position.

Part 10 Safety in open cuts

80 Dumping operations

(1) The surface of a dump at a mine shall rise to the dumping face.

(2) Water shall not be permitted to accumulate at the bottom of the dumping face of a dump.

(3) An operator of a dumping vehicle on a dump shall dump the load from the vehicle:

(a) at a windrow on the dump; or

(b) where a windrow is not provided, not closer than one vehicle length from the edge of the dump.

(4) A windrow referred to in subregulation (3)(a) shall be of axle height of the largest dumping vehicle at the mine.

81 Surge stockpiles or bins

An employee shall not walk or climb on a surge stockpile or bin at a mine unless:

(a) the employee has been instructed to do so by the manager;

(b) the feed to and from the stockpile or bin has stopped and the feed mechanism is isolated and a safety tag has been affixed to it;

(c) the manager or an employee authorised by the manager has established that the exit point below the stockpile or bin is not blocked or hung up;

(d) the employee is wearing a safety belt securely fixed to an anchorage located above the employee; and

(e) the employee is assisted by another employee stationed at a safe vantage point away from the stockpile or bin.

82 Equipment on surge stockpiles

(1) Unless approved by an inspector, earthmoving equipment shall not be used on a surge stockpile at a mine.

(2) The operator of earthmoving equipment used on a surge stockpile at a mine shall not leave the equipment while it is on the surge stockpile.

83 Stoping to be clear from open cuts

Where work is being carried out in an open cut at a mine, unless approved by an inspector, no stoping shall be carried out underground within 30 metres, vertically or horizontally, from a wall or floor of the open cut.

84 Faces of open cuts

(1) The bench of an open cut shall:

(a) unless approved by an inspector, not be more than 20 metres high;

(b) not be worked in a manner that results in the face overhanging; and

(c) be kept free of loose material.

(2) The bench of an open cut above the working area shall be provided with catch berms not less than 5 metres in width.

(3) Unless approved by an inspector, the working face of an open cut shall be not more than 10 metres high.

(4) In designing the batter of a face or profile of an open cut consideration shall be given to the existing surrounding conditions at the mine.

(5) A design referred to in subregulation (4) shall be submitted to an inspector for approval.

85 Sand pits

Where sand is excavated at a mine that is within or adjacent to a residential area:

(a) the mine shall be fenced to prevent access being gained by persons who are not authorised by the manager;

(b) the height of a working face from which the sand is being excavated shall not exceed the vertical reach of the excavating equipment working at the face; and

(c) at the end of each shift after sand is excavated, the working face is battered down to prevent a slump of the sand at the face.

86 Standards of haulage road

Unless approved by an inspector, a road used to transport ore, rock or other products or material at a mine shall be:

(a) signposted;

(b) defined by posts, not less than 1.5 metres high and not more than 100 metres apart, to which reflective material is attached;

(c) sealed, sprayed or otherwise treated to allay dust; and

(d) of a width 2.5 times, or where the road is a one way road, 1.5 times, the width of the widest haulage vehicle used at the mine.

Part 11 Safety underground

87 Communications

Means of communications shall be provided between the surface and areas underground at a mine and in other areas as directed by an inspector.

88 Cellular polyurethane foam

Unless approved, polyurethane foam manufactured essentially from polyhydroxy compounds or polyisocyanates shall not be used underground at a mine.

89 Employees working alone

An employee who is working alone underground at a mine and not in frequent communication or hearing of other employees shall be visited at intervals, not longer than 2 hours, by an employee directed by the manager.

90 Escape or exit ways

(1) Where there is a shaft, adit or decline at a mine, a means by which an employee may escape or exit from the shaft, adit or decline shall be provided.

(2) A means of escape or exit provided under subregulation (1) shall be maintained at all times and signposted to indicate the method of escape or exit from the shaft, adit or decline.

(3) Where workings or new sections are being developed underground at a mine, single access to and from the workings or a new section is sufficient where a passageway, independent and separate from the principal access, is planned and put in place at a practicable time to the satisfaction of an inspector.

91 Refuge stations

(1) Refuge or shelter stations shall be installed underground at a mine for use in emergencies.

(2) The capacity of and the support and rescue provisions to be contained in a station referred to in subregulation (1) shall be such as to cope with the normal number of employees working in the area where the station is installed.

(3) A station referred to in subregulation (1) may be combined with or form part of a cribroom.

(4) An inspector may give directions relating to the location, establishment, provisioning and maintenance of a station referred to in subregulation (1).

92 Mine liable to water or gas inundation

Where workings at a mine may be inundated by or subject to an inrush of water or gas, the working face shall be preceded with sufficient bore holes to give adequate warning of the likelihood of contact with water or gas and the manager shall ensure that safety precautions appropriate for the workings are taken.

93 Entry to ore passes

An employee shall not enter the top of an ore pass at a mine unless:

(a) the feed to the ore pass has stopped and the feed mechanism is isolated;

(b) the employee is wearing a safety belt with not more than 2 metres of rope; and

(c) the employee is assisted by another employee.

94 Obstructed ore passes

(1) Where an ore pass at a mine is obstructed or jammed, an employee shall not go into or beneath the pass and the state of the pass shall be reported to the manager.

(2) Material that is obstructing or jamming an ore pass referred to in subregulation (1) shall be freed by a method determined by the manager.

95 Workings approaching each other

Where a drive or working at a mine is within 10 metres of another working, whether or not work is being carried out at that working:

(a) only one end shall be advanced;

(b) the end of the stopped working shall be checked for misfires and have all butts flushed out; and

(c) barricades and signposts shall be erected at the stopped end to prevent entry.

96 Personnel check systems

The manager of a mine shall establish an personnel check system to account for all employees working underground at the mine.

97 Declines

Special provisions for a decline at a mine shall be formulated with respect to, but not restricted to:

(a) speed limits;

(b) right of way; and

(c) other traffic control measures.

98 Vehicle travelling way refuges

When required by an inspector, safety refuges of adequate dimension shall be provided at a mine.

99 Ladderways to be cased off from haulage compartments

An employee shall not ascend or descend a portion of a shaft at a mine by ladderway while the haulage portion of the shaft is in use, unless the haulage portion is cased or securely fenced off from the ladder compartment.

100 Inspections

A shaft at a mine used for travelling shall be inspected:

(a) not less than once each week; and

(b) before being used following a period of 24 hours or more during which it was not used,

to ensure that it is safe to be used for that purpose.

101 Travelling way and shaft inspection

(1) An employee shall not be permitted to travel by a travelling way at a mine:

(a) in or near which work has been carried out, where damage may have occurred to the travelling way; or

(b) which has been repaired,

until it is inspected by the manager.

(2) An employee shall not be permitted to travel in a shaft at a mine, down which material has fallen, until it is inspected by the manager to ensure that no damage has occurred in it.

102 Inspections to be recorded

The results of an inspection carried out under regulation 100 or 101 shall be recorded in the mine record book.

103 Abandoned shafts and drives

Unless otherwise approved by an inspector, where a shaft or drive at a mine ceases to be used or is abandoned for mining purposes, the shaft or drive shall be rendered safe by securely fencing or filling the shaft or drive.

Part 12 Engines underground

104 Type of engines

An internal combustion engine, other than a diesel engine, shall not be installed or used underground at a mine.

105 Stationary engines

Before a stationary or fixed engine is installed underground at a mine, details of the location, installation and operating methods of the engine, and safety precautions to be used in the case of an emergency involving the engine, shall be forwarded in writing to an inspector.

106 Idling of engines

A diesel engine on a stationary vehicle being used underground at a mine shall not be left running, except for short periods when necessary, and only while an employee remains in control of the engine.

107 Type of fuel

Oil which:

(a) has a closed cup flash point of less than 610°C; or

(b) contains more than 0.5% by weight of sulphur,

shall not be used underground at a mine for fuelling a vehicle fitted with a diesel engine.

108 Storage of fuel, &c.

Fuel oil, oil and lubricants used underground at a mine shall be stored in an oil storage room that:

(a) is constructed of non-flammable material; and

(b) has a suitably paved and drained floor and a covered sump capable of holding not less than one and a half times the quantity of fuel oil, oil and lubricants stored in the room.

109 Safety in fuel storage areas

An employee shall not:

(a) service a diesel engine; or

(b) smoke or use a naked light,

in or within 8 metres of an oil storage room referred to in regulation 108.

110 Transport of fuel underground

Details of the methods of transporting fuel underground at a mine shall be forwarded to an inspector.

111 Underground service stations and workshops

A service station or workshop at a mine shall be constructed and ventilated to a standard approved by an inspector.

112 Safety equipment on vehicles

A light vehicle used underground at a mine shall be provided with:

(a) lights;

(b) efficient means for giving an audible warning signal;

(c) adequate protection for the driver and passengers; and

(d) an approved portable fire extinguisher placed within easy reach of the driver.

113 Working on top or out of l.h.d.

(1) A load haul dump shall not be used to transport employees at a mine

(2) Subject to subregulation (3), employees shall not be lifted by a mobile machine or transportable machine to carry out work at a mine without the approval of an inspector.

(3) Employees may be lifted in the bucket of a load haul dump to carry out minor work provided the bucket is free from debris and the employees are wearing a safety belt or harness securely fastened to the bucket.

(4) A qualified person shall remain at the controls of a load haul dump, mobile machine or transportable machine while employees are being lifted to carry out work.

Part 13 Ventilation

114 Adequate ventilation to be maintained

(1) Ventilation shall be constantly produced in every working or occupied part of a mine:

(a) to such an extent that the part of the mine is in a fit state for an employee to work in or to occupy; and

(b) so that the air passes through the part of the mine from inlet to outlet without local circulations.

(2) Where ventilation of a part of a mine is inadequate, work, other than that necessary to remedy the condition, shall not be performed in that part of the mine.

(3) An employee performing work under subregulation (2) shall be provided with adequate protection while performing the work.

115 Air quality

Diesel engined operated equipment shall not be used underground at a mine if the undiluted exhaust gases of the equipment contain more than 1,000 parts per million of:

(a) carbon monoxide; or

(b) combined oxides of nitrogen calculated as nitrogen dioxide.

116 Ventilation plans

When required by an inspector, the direction, course and volume of the air currents, and the position of air doors, stoppings, fans and ventilating devices at a mine shall be marked on the plan of the mine prepared under the Act.

Part 14 Winding

Division 1 General

116A Operators of winding engines

An employee shall not operate or be in charge of a winding engine at a mine unless the employee is:

(a) the holder of a winding licence in respect of the winding engine; or

(b) operating or in charge of the winding engine in accordance with these Regulations.

116B Winding licence

(1) A person may apply to the Chief Government Mining Engineer for a winding licence.

(2) Subject to this regulation, the Chief Government Mining Engineer, on receipt of an application under subregulation (1), may grant or refuse the application.

(3) The Chief Government Mining Engineer shall not grant a winding licence unless the applicant possesses:

(a) the original of a certificate of a medical practitioner, obtained not more than 30 days before the date of the application, stating that, in the opinion of the medical practitioner, the applicant is not suffering from any physical disability or condition which would make the applicant unfit to hold a winding licence; and

(b) the approved qualifications.

(4) A winding licence may be subject to such restrictions, limitations and conditions as the Chief Government Mining Engineer thinks fit and specifies in the licence.

(5) The holder of a winding licence shall not operate, or be in charge of, a winding engine:

(a) in contravention of a restriction, limitation or condition to which the licence is subject; or

(b) if he or she does not possess a medical certificate from a medical practitioner, obtained within the preceding year, stating that, in the opinion of the medical practitioner, the person is not suffering from any physical disability or condition which would make the person unfit to operate, or be in charge of, a winding engine.

116C Cancellation, suspension, &c., of licence

(1) The Chief Government Mining Engineer, on being satisfied that the holder of a winding licence:

(a) is not physically or mentally fit to hold the licence;

(b) has been negligent or guilty of misconduct while operating or in charge of a winding engine; or

(c) has contravened or failed to comply with a restriction, limitation or condition to which the winding licence is subject,

may:

(d) cancel;

(e) suspend; or

(f) vary a restriction, limitation or condition of,

the licence.

(2) For the purposes of subregulation (1)(a), the Chief Government Mining Engineer shall require the holder of a winding licence to undergo an examination by a medical practitioner at least once a year and the original of the certificate showing the results of the examination shall be forwarded to the Chief Government Mining Engineer.

(3) Where, under subregulation (1), the Chief Government Mining Engineer cancels or suspends, or varies a restriction, limitation or condition of, a winding licence, the Chief Government Mining Engineer shall notify the holder of the licence of the cancellation, suspension or variation.

(4) The holder of a winding licence shall, not later than 14 days after being notified under subregulation (3), deliver the licence to the Chief Government Mining Engineer.

(5) Where the Chief Government Mining Engineer has, under subregulation (1), varied a restriction, limitation or condition of a winding licence, the Chief Government Mining Engineer shall, on receiving the licence under subregulation (4), endorse the licence accordingly and return it to the holder.

(6) A person whose winding licence is suspended shall cease to be the holder of the winding licence during the period of suspension.

116D Manager to report negligence of winding engine driver

Where the holder of a winding licence is:

(a) negligent; or

(b) guilty of misconduct,

in the performance of any duties relating to the winding engine at a mine whereby the safety of any employee at the mine is or may be endangered, the manager of the mine shall:

(c) direct the holder of the winding licence to cease operating or, where the holder is in charge of the winding engine, to cease performing any duties in respect of the winding engine; and

(d) as soon as practicable, notify the Chief Government Mining Engineer and enter details in the mine record book.

116E Winding engine log book

(1) The owner, agent or manager of a mine shall keep at the mine a winding engine log book in respect of each winding engine at the mine.

(2) The owner, agent or manager of a mine shall make the winding engine log book available at all reasonable times for examination by:

(a) an inspector;

(b) an employee at the mine; or

(c) a person authorised in writing for that purpose by the Minister.

116F Approval of winding engines

A winding engine shall not be:

(a) installed at a mine;

(b) commissioned at a mine; or

(c) operated at a mine after a change is made to a design or safety feature of the engine,

unless the prior approval of the Chief Government Mining Engineer has been obtained.

117 Trainee winding engine driver

(1) An employee who is not the holder of a winding licence may operate, or be in charge of, a winding engine if:

(a) the employee's name, age and address and a copy of a medical certificate relating to the employee is forwarded to an inspector;

(b) the particulars, and a copy of the medical certificate, referred to in paragraph (a) are entered in the winding engine log book; and

(c) the employee while operating or in charge of the winding engine, is under the direct supervision of an employee who holds a winding licence to operate or be in charge of the winding engine.

(2) A medical certificate referred to in subregulation (1) shall be obtained from a medical practitioner and shall state that, in the opinion of the medical practitioner, the employee is not suffering from any physical disability or condition which would make the employee unfit to operate or be in charge of a winding engine.

118 Entries in winding engine log book

(1) A winding engine driver shall enter in the winding engine log book for the winding engine the result of all tests carried out on the winding engine by the driver.

(2) The manager of a mine shall, not less than once each week, examine entries made under subregulation (1) and sign the winding engine log book.

119 Inspection of winding equipment

(1) The manager of a mine or a person appointed under section 15 of the Act to assist the manager shall, in respect of a winding engine at the mine:

(a) not less than once each week, carry out a visual inspection of all attachments of the winding rope to the conveyance and counterweight, the conveyance and any safety device on the conveyance, the head sheaves, the brakes, all external parts of the winding engine, the shaft guides, all compartments of the shaft in which the winding engine is operated, all automatic controls on the winding engine, the signalling mechanism used in conjunction with the winding engine and the winding rope while it is travelling at a speed not more than one metre per second;

(b) not less than once each month, carry out an inspection of the winding rope to determine any structural deterioration of the rope:

(i) by cleaning the winding rope at places where it is liable to deteriorate and at other places not more than 30 metres apart;

(ii) by visually inspecting the rope and, where the diameter of the rope is reduced, the lay length of the rope; or

(iii) by another approved method;

(c) not less than once each 3 months, carry out a test on an automatic device on the winding engine, designed to prevent overwinding, by raising a conveyance or counterweight of the winding engine beyond a point at which the device would normally come into operation and by attempting to land the conveyance or counter-weight, when ascending and descending at speed greater than that permitted by these Regulations, into a landing established for the purpose of the test;

(d) in the case of a friction winding engine, not less than once each 3 months, inspect the shaft and all equipment and ropes in the space above the sump at the shaft bottom;

(e) not less than once each 6 months, dismantle and clean the detaching hook of the winding engine, measure it for deformation, inspect it for corrosion or other imperfections and test it with approved crack detection equipment; and

(f) not less than once each 12 months:

(i) measure all chains, chain links, shackles and pins used in connection with the winding engine to determine any wear; and

(ii) carry out an inspection for deformation, corrosion or other imperfections and test, with approved crack detection equipment, all attachments connecting the winding rope to the conveyance and counterweights.

(2) After carrying out a test under subregulation (1)(c), the manager or person who carried out the test shall:

(a) examine all suspension hooks and safety devices on the winding engine;

(b) clean and oil those hooks and devices;

(c) record in the winding engine log book the results of the test; and

(d) forward the results to the Chief Government Mining Engineer.

120 Testing of brakes

A winding engine driver shall, before commencing to operate a winding engine at the beginning of a shift, test the brakes of the winding engine against the full rated load of the drive motor of the engine and ensure that the brakes are working and holding.

121 Service brake to be fully applied

A winding engine driver at a mine shall ensure that the service brake on the winding engine is fully applied while employees are entering or leaving a conveyance of the winding engine.

122 Winding engines to be ready for use

When an employee is underground at a mine and the usual means of reaching the surface is by a winding engine operated by a winding engine driver, the manager of the mine shall ensure that:

(a) a winding engine driver who is authorised to operate or be in charge of the winding engine is available to operate the winding engine;

(b) the winding engine is maintained ready for use; and

(c) an employee is available on the surface to receive communications from underground.

123 Monkeys in shafts

(1) A kibble and monkey arrangement or conveyance shall not be used at a mine for haulage in a shaft unless it is approved.

(2) A kibble and monkey arrangement used in a shaft shall be:

(a) constructed so that the distance from the base of the kibble to the lowest structure of the monkey across the mouth of the kibble is not less than 2 metres; and

(b) fitted with an overhead cover for the protection of employees travelling in it.

124 Kibbles

(1) A kibble used in a shaft sinking operation at a mine shall be:

(a) of robust construction;

(b) designed to avoid catching on an obstruction during its movement in the shaft; and

(c) be suspended by a bridle or not less than 3 chains.

(2) The chains referred to in subregulation (1)(c) shall:

(a) be equally spaced around the perimeter of the top of the kibble;

(b) be of identical dimensions and strength;

(c) be of sufficient length to ensure that the smaller angle at the apex of the suspension of any 2 chains is not greater than 60°; and

(d) have a combined factor of safety of not less than 20.

125 Maximum period for operation of winding engine

(1) Except with the approval of an inspector, or during an emergency:

(a) an employee shall not operate or be in charge of a winding engine; or

(b) the manager of a mine shall not permit an employee to operate or be in charge of a winding engine,

for longer than 10 consecutive hours in a 24 hour period.

(2) For the purposes of subregulation (1):

(a) meal times; and

(b) any time when the winding engine is not operating due to a breakdown,

may be disregarded.

126 Carriage of tools, materials, &c.

(1) Subject to subregulation (2), an employee shall not travel in a conveyance which is being used to carry material.

(2) Subregulation (1) does not apply where:

(a) the approval of an inspector has been obtained; or

(b) the material being carried is:

(i) a scientific instrument;

(ii) tools in a container;

(iii) tools or material to be used in repairing a shaft; or

(iv) fire-fighting or rescue equipment.

127 Riding in conveyances

An employee at a mine shall not ride in:

(a) a conveyance if equipment, lengths of timber or rails are slung below, or explosives are being carried in, the conveyance; or

(b) a deck of a multi deck conveyance while material is being carried in the upper deck of the conveyance.

128 Signalling from conveyances

(1) Subject to subregulation (2), where a conveyance is used in a shaft at a mine, an approved means of signalling between a plat or brace in the shaft and the winding engine shall be installed.

(2) Notwithstanding subregulation (1), where a shaft is being sunk, inspected or repaired, a knocker line may be used as a means of signalling between a plat or brace in the shaft and the winding engine.

129 Code of signals

(1) Subject to these Regulations, the signals which may be given at a mine to or by a winding engine driver are those specified in column 1 of Schedule 4.

(2) A winding engine driver at a mine shall, on receiving a signal specified in column 1 of Schedule 4, carry out the action specified opposite in column 3 of the Schedule in accordance with this regulation and a special requirement in relation to the signal specified opposite in column 4 of the Schedule.

(3) Except in an emergency or when approved, a winding engine driver shall, on receiving a signal specified in Schedule 4, when the conveyance of the winding engine is:

(a) stationary:

(i) return the signal; and

(ii) wait 6 seconds before performing the actions required by the signal; or

(b) in motion:

(i) return the signal; and

(ii) perform the action indicated by the signal.

(4) Where an employee gives the signal specified in Schedule 4 by 5 knocks or rings, the employee shall:

(a) before giving the signal ensure that no person is in the conveyance of the winding engine;

(b) repeat the signal after it is returned in accordance with subregulation 3(a)(i); and

(c) not permit an employee to enter the conveyance of the winding engine until the action required by the signal has been carried out.

130 Notice of signals to be displayed

A notice containing the signals referred to in regulation 129 shall be clearly and conspicuously displayed at a mine:

(a) in full view of a winding engine driver;

(b) at a working plat or brace; and

(c) at such other places as directed by an inspector.

131 Signals during development work

Where a shaft is being developed at a mine or repairs are being carried out on a shaft, signals other than those specified for normal winding activity may be used while the shaft is being developed or the repairs are being carried out if the employee in charge of developing the shaft or the repairs:

(a) notifies the winding engine driver of a winding engine operating in the shaft of those signals; and

(b) informs the winding engine driver at the beginning of a shift, before the winding engine driver first commences to operate the winding engine, of the work to be performed on the shaft during the shift.

Division 2 Winding engines

132 Standard of winding engines

(1) A winding engine at a mine shall be fitted with:

(a) a depth and speed indicator, driven from the sheave or drum shaft;

(b) a dial or gauge to show whether power is available at the engine;

(c) an emergency stop switch or control, situated within easy reach of the winding engine driver; and

(d) a device which automatically:

(i) prevents a conveyance from travelling at a speed 10% faster than the approved maximum;

(ii) limits the speed of a conveyance in a part of the shaft as may be specified by an inspector; and

(iii) where employees are transported by the winding engine:

(A) prevents an personnel conveyance being lowered or raised more than 600 millimetres beyond the highest or lowest landing;

(B) prevents an personnel conveyance being accelerated or decelerated at a rate greater than 1.5 metres per second per second;

(C) in the event of a malfunction, decelerates an personnel conveyance at a rate not less than 2 metres per second per second but not greater than 5 metres per second per second; and

(D) limits the rate of speed of an personnel conveyance to not more than 1.5 metres per second when it is within 15 metres of the lowest or highest landing.

(2) A winding engine shall not be used at a mine if a device required to be fitted to it under subregulation (1) is disconnected or not functioning.

133 Control methods in winding engines

Where a winding engine is capable of different modes of operation:

(a) the device for selecting the mode shall be secured against unauthorised operation; and

(b) the control devices used by the winding engine driver in the manually operated mode are of the ***dead man's*** release type.

134 Overwind preventor to be provided

Where a winding engine is operated at a mine, a device shall be installed at the shaft, headframe or tower which will automatically stop a conveyance, counterweight or an attachment to the winding rope before it reaches an overwind position.

135 Overwinds

(1) A winding engine shall be fitted with a device that indicates to the winding engine driver an overwind of the winding engine.

(2) All employees operating doors, or other shaft protection devices, which do not operate automatically, shall be notified by the winding engine driver of an overwind of the winding engine.

136 Backing out from overwind preventor position

A device fitted to a winding engine at a mine, which enables the winding engine to back out from the overwind preventor position, shall only:

(a) be capable of being operated manually; and

(b) allow backing out from a position determined by the device fitted in accordance with regulation 132.

137 Overwound conveyance arrestor to be provided

(1) Where a winding engine at a mine is used to transport employees, there shall be fitted at the shaft, headframe or tower and in the part of the shaft below the lowest landing:

(a) a device which, in the event of an overwind of the winding engine, will bring a conveyance to rest when it is being:

(i) raised, at a rate not exceeding 9.8 metres per second per second; or

(ii) lowered, at a rate not exceeding 24.5 metres per second per second; and

(b) a device which will prevent a conveyance falling down the shaft after being brought to rest by a device referred to in paragraph (a).

(2) Where a drum winding engine is used at a mine, the device required under subregulation (1)(b) is in addition to the detaching hook.

(3) Platforms and ladders shall be provided at a mine to enable employees to evacuate safely from an overwound conveyance.

(4) Where an personnel conveyance is suspended in a shaft by a single rope an arrestor shall be fitted at the bottom of the shaft.

137A Maximum load of winding engine

The maximum safe working load of a winding engine is that specified by the manufacturer less the mass of the winding rope calculated by reference to the depth of the shaft and the mass of the conveyance and attachments on the winding engine.

138 Safe working load of winding engine

(1) A winding engine at a mine shall not be used to raise or lower a load greater than the maximum safe working load of the winding engine.

(2) A sign displaying the maximum safe working load of a winding engine shall be clearly and conspicuously displayed in the winding engine control room and at the surface level or brace of the winding engine.

Division 3 Ropes

139 Rope history

(1) The manager of a mine shall enter in the winding engine log book a history of each winding rope used on a winding engine.

(2) Without limiting the generality of subregulation (1), the history shall include:

(a) the name or location of the shaft in which the rope is used;

(b) the compartment of the shaft in which the rope is used;

(c) the manufacturer’s name and certificate number;

(d) the date the rope is installed;

(e) the date the rope is recapped;

(f) the date when a test required by these Regulations is carried out on the rope;

(g) the result of a test carried out on the rope;

(h) the date when the rope is taken out of service and the reason for that action; and

(j) the date when the rope is examined, cleaned and oiled in pursuance of these Regulations.

140 Chains not to be used in place of winding ropes

(1) This regulation does not apply to or in relation to the suspension of a kibble in a shaft operation.

(2) Subject to subregulation (3), a chain shall not be used in place of the winding rope of a winding engine in a shaft at a mine where employees are being transported by the winding engine.

(3) Two coupling chains, each not more than 2 metres in length, may be used to attach a conveyance to a winding rope of a winding engine in a vertical shaft at a mine, where the chains:

(a) are of identical dimension;

(b) are parallel to each other and to the end of the winding rope; and

(c) have a combined safety factor of not less than 20.

141 Winding ropes to be certified and tested

A winding rope shall not be used at a mine unless the manager has given to an inspector a certificate (or a copy) issued by the manufacturer of the rope or an approved testing authority setting out, in relation to the rope:

(a) the date of manufacture;

(b) the type of construction;

(c) the diameter and circumference;

(d) the length;

(e) the mass per metre;

(f) the class of steel used in its manufacture; and

(g) the breaking strength.

142 Old ropes not to be used

(1) Unless approved by an inspector, only new rope shall be fitted to a winding engine for use as a winding rope at a mine.

(2) An approval under subregulation (1) shall not be given unless:

(a) a complete history of the rope is; and

(b) details of the proposed use of the rope are,

given to the inspector by the manager.

(3) An inspector may require a rope that is fitted to a winding engine to be tested.

143 Spliced ropes not to be used

A rope that has been spliced along the length of the rope shall not be used at a mine as a winding rope.

144 Drum winding ropes – factors of safety

(1) The load applied to a rope on a drum winding engine shall not, at any time in its working life, when used for a purpose specified in column 1 of the Table to this regulation, result in a factor of safety less than the factor specified opposite in column 2 of the Table.

TABLE

Column 1 Purpose	Column 2 Factor of safety
Transporting persons	7.5 less 0.001 LW
Transporting rock or material	5.5 less 0.0003 LW
Guide or rubbing rope	5

(2) For the purposes of the Table to this regulation, ***LW*** is the maximum length of suspended rope expressed in metres.

145 Withdrawal of ropes

A rope shall not be used as a winding rope on a drum winding engine at a mine where:

(a) on a physical inspection, the rope may be unsafe for the use to which it is being put;

(b) the breaking strength of the rope is less than 90% of the rated breaking strength of the rope; or

(c) there are less than 3 anchorage turns of the rope remaining on the drum when the conveyance attached to the rope is at its lowest possible working position in the shaft.

146 Guides in vertical shafts

Where a conveyance is installed in a vertical shaft at a mine approved guides and appliances to steady the load being transported by the conveyance shall be installed in the shaft.

Division 4 Conveyances

147 Conveyance to be provided

A conveyance to transport employees shall be provided in a shaft at a mine.

148 Standard of construction of conveyances

(1) This regulation does not apply to or in relation to a shaft during shaft sinking operations.

(2) A conveyance in a shaft at a mine shall not be used to transport employees unless:

(a) the height, measured from the floor of the conveyance to the top cover of the conveyance or to the underside of the moving parts of the safety appliances on the conveyance, whichever is the lower, is not less than 2 metres;

(b) an overhead cover, with a strength equivalent to or greater than a 4.5 millimetres thick steel plate, which is capable of being lifted from within the conveyance, is securely hung on hinges and resting in a sloping position on the conveyance;

(c) if the conveyance is a multi-deck conveyance, it has a trap door and a ladder fitted in the intermediate decks or lower decks to provide access between decks;

(d) the sides of the compartments of the shaft in which the conveyance is situated are covered with metal plate or expanded metal to contain employees and material within the conveyance;

(e) the conveyance is provided with a gate capable of being securely fastened to contain employees and material within the conveyance;

(f) the conveyance is adequately ventilated;

(g) the load bearing component of the conveyance has a factor of safety of not less than 10; and

(h) the design of the conveyance is approved by an inspector.

149 Testing of conveyances

(1) A conveyance in a shaft at a mine shall be tested before it is first used and after repairs are carried out to it by loading it to twice the mass of the normal load carried or proposed to be carried on it.

(2) Safety appliances fitted on a conveyance in a shaft at a mine shall be tested at least once a month or as required by the Chief Government Mining Engineer.

149A Operation testing

A conveyance in a shaft at a mine shall not be used to transport persons after:

(a) a stoppage to repair a defect in the winding engine, shaft, conveyance or counterweight which may affect the safe operation of the winding engine;

(b) being idle for longer than 4 hours;

(c) a seismic occurrence at the mine;

(d) material has fallen down the shaft; or

(e) immediately before the change of a shift,

unless the conveyance has made one complete unobstructed trip up and down the shaft.

150 Protection in conveyance

Where an employee is working or travelling in or on a conveyance in a shaft at a mine, the conveyance shall be fitted with a shield or other device to protect the employee in the event of material falling down the shaft.

151 Number of employees to be carried in conveyance

(1) The number of employees permitted to travel in a conveyance at a mine shall not exceed the number obtained by multiplying by 5 the area of the floor of the conveyance expressed in square metres.

(2) A sign stating the maximum number of employees permitted to travel in a conveyance shall be displayed in the shaft, at the brace and at each stopping place of the conveyance.

152 Employees not to use certain cages

An employee shall not be transported in a skip in a shaft at a mine unless the employee is standing:

(a) on the bottom of the skip; or

(b) on a platform provided in the skip for the employee to stand on.

153 Factor of safety of components of attachments

(1) A component of an attachment between the winding rope and a conveyance or counterweight of a winding engine at a mine shall have a factor of safety of not less than 10.

(2) An attachment referred to in subregulation (1) shall be so constructed:

(a) to provide movement on 2 axes normal to each other and at right angles to the winding rope; and

(b) that no suspension member, in tension, is threaded.

154 Use of hooks

An open hook or a hook that has not been approved shall not be used to attach an personnel conveyance to the winding rope of a winding engine.

155 Provisions for boarding and leaving conveyance

Such provisions, as may be directed by an inspector, shall be made for the safe boarding and leaving of employees from the conveyance of a winding engine in a shaft at a mine.

156 Interlocking of shaft doors and winding engine controls

(1) Where a winding engine, which is being used to transport employees in a shaft at a mine, is being operated by push-button controls located within the conveyance of the winding engine or at a landing in the shaft, the winding engine shall be fitted with a device which prevents it operating unless all shaft and conveyance doors relating to the winding engine are closed.

(2) Where a winding engine is being used to transport material in a shaft at a mine, the shaft doors relating to the winding engine may be able to be opened if the conveyance of the winding engine is within 10 metres of a landing and the winding engine is subject to inching control.

157 Push-button controls

Where a winding engine at a mine is operated by push-button controls located:

(a) at a landing, the controls shall be accessible to an employee inside the conveyance only when the door of the conveyance is open (unless the automatic winding equipment requires that the winding engine be stopped before the cage door can be opened); or

(b) in the conveyance, a mechanical type push button shall be provided which, when operated, causes the winding engine to stop.

Division 5 Drum winding

158 Testing of ropes

(1) Not less than once each 6 months at a mine:

(a) lengths of rope, not less than 2 metres in length, shall be cropped from each rope at the conveyance and counterweight ends of a drum winding engine; and

(b) the ends of the ropes shall be recapped.

(2) If required by the Chief Government Mining Engineer, at the expiration of one year after a winding rope is fitted to a drum winding engine, a length of the rope which repeatedly passes over a head sheave, sufficient to enable a breaking and elongation test of 2 metres of that rope to be made, shall be cropped from the conveyance and counterweight ends of the rope.

(3) At the expiration of 2 years after a winding rope is fitted to a drum winding engine, the entire length of the rope shall be tested in a approved manner.

(4) Where there is a cross-over on a rope drum, the rope shall be cropped not less than once a year in such a way that the position of the cross-over points of the rope on the drum is changed.

(5) A length of rope cropped from a winding engine in accordance with subregulation (1)(a) or (2) shall be sent to an approved testing station for testing, and the results of the test forwarded to the Chief Government Mining Engineer not later than 21 days after the length of rope is cropped from the winding engine.

(6) If the results of a test carried out under subregulation (5) are not forwarded to the Chief Government Mining Engineer within the time specified in that subregulation, the winding rope shall not continue to be used as a winding rope.

(7) Where the Chief Government Mining Engineer requires the structure of a drum winding rope at a mine to be examined over its entire working length by a non destructive method, for the purpose of determining any deterioration in the rope, the manager shall immediately:

(a) cause such an examination to be made of the rope;

(b) record the condition of the rope, as determined by the examination, in the winding engine log book; and

(c) notify the Chief Government Mining Engineer of the results of the examination.

159 Size of drum and sheave

(1) The diameter of the head sheave of a drum winding engine at a mine shall be, where the winding rope is:

(a) a locked coil rope, not less than 100 times the diameter of the rope; or

(b) any other type of rope, not less than 80 times the diameter of the rope.

(2) The depth of the rope groove in the head sheave of a drum winding engine at a mine shall be not less than twice the diameter of the winding rope.

160 Brakes

(1) A drum winding engine at a mine shall be fitted with not less than:

(a) one brake to each drum, where more than one drum; or

(b) 2 brakes to the drum, where only one drum,

is fitted to the drum winding engine.

(2) A brake fitted to a drum winding engine at a mine shall:

(a) be able to be applied by the winding engine driver without the driver leaving the operating position of the engine;

(b) apply automatically:

(i) when the supply of power to the winding engine fails;

(ii) when the pressure of the fluid or other medium used as a means of applying the brakes falls below an approved level; or

(iii) if it is a push-button controlled winding engine, where a fault occurs in the push-button control circuit;

(c) be able to be applied manually irrespective of the automatic application of the brakes under paragraph (b);

(d) however applied, stop and hold a conveyance under all conditions of loading, direction of travel or at any rate of acceleration from any speed;

(e) act directly on a drum of the winding engine; and

(f) wherever practicable, be fitted with a steel tension member between the individual sole plates of the brake shoes.

(3) A drum winding engine shall not be used at a mine unless:

(a) the braking system is designed so that a failure of a component will not reduce the total braking effort of the system by more than 50% or prevent a conveyance on the winding engine from being brought to rest;

(b) if the winding engine is a push-button controlled winding engine, it is provided with a device which will automatically apply a brake and keep it applied when the brake is worn to an extent that affects its safe operation; and

(c) the factor of safety of:

(i) a threaded member in tension in the braking system is not less than 15; or

(ii) a part in the braking system which is not a threaded member in tension is not less than 10.

161 Testing of braking systems

(1) A braking system of a drum winding engine at a mine shall be tested:

(a) immediately after an adjustment to the system is carried out;

(b) not less than once each 3 months; or

(c) when directed by an inspector.

(2) Where more than one drum is fitted to a drum winding engine at a mine, a test under subregulation (1) shall ensure that when one drum is unclutched, the unclutched drum is capable of supporting a conveyance with a load equal to 1.5 times the approved full load, or 2.5 times the maximum approved passenger load, of the winding engine, whichever is the heaviest, when that conveyance is situated at the lowest level in the shaft.

162 Twin-drum engines

(1) Where a drum winding engine at a mine is fitted with 2 drums and one drum is unclutched, the drum that is unclutched shall be fitted with a device which automatically prevents the drum from revolving while it is unclutched.

(2) Except:

(a) with the approval of an inspector; or

(b) in an emergency;

an employee shall not be raised, supported or lowered in the conveyance of a drum winding engine which is fitted with 2 drums while one of the drums is unclutched.

(3) When a drum winding engine is used in an emergency referred to in subregulation (2), the manager shall:

(a) make an entry of the circumstances of the emergency in the winding engine log book; and

(b) not later than 24 hours after the event, notify an inspector, in writing if required, of the circumstances of the emergency.

(4) A winding engine used in an emergency referred to in subregulation (2) shall be operated at not more than half the approved normal operating speed.

163 Certain drum winding engines not to be used to transport employees

An employee shall not be transported in the conveyance of a drum winding engine at a mine which is fitted with:

(a) one drum; or

(b) 2 drums, one of which is unclutched,

if brakes fitted to the winding engine are the only means of preventing the descent of the conveyance.

164 Precautions while repairs are effected

Where the clutch or a brake of a drum winding engine at a mine is being repaired, the conveyance of the winding engine shall:

(a) be removed from the shaft or headframe; or

(b) supported by means other than by the winding rope.

165 Safety measures

(1) A conveyance of a drum winding engine at a mine shall be connected to the winding rope by a hook that will release the rope in the event of an overwind occurring.

(2) A drum winding engine at a mine shall be fitted with a device that gives notice, by visual or audible signal, to the winding engine driver that the winding rope is slack.

(3) A conveyance of a drum winding engine at a mine shall be fitted with a device that will prevent the conveyance falling down the shaft in the event of a rope or winding system failure.

Division 6 Friction winding

166 Driving sheave design

(1) The diameter of a driving sheave of a friction winding engine at a mine, measured at the bottom of the rope groove, shall not be less than, where the winding rope is:

(a) a locked coil rope, 100 times; or

(b) any other type of rope, 90 times,

the diameter of the rope.

(2) The coefficient of friction between the rope treads on a driving sheave and the winding rope of a friction winding engine at a mine shall be such that slip, under normal out of balance acceleration and deceleration, is minimal.

(3) The grooves in a multi-grooved sheave of a friction winding engine at a mine shall be of substantially the same root diameter.

167 Maximum loads

A load shall not be transported in the conveyance of a friction winding engine at a mine if the mass of the load is such that more than 70% of the braking torque would be required to stop and hold the driving sheave of the winding engine.

168 Brakes

(1) The driving sheave of a friction winding engine at a mine shall be fitted with not less than 2 brakes.

(2) A brake fitted to a friction winding engine shall:

(a) be able to be applied by the winding engine driver without the driver leaving the operating position of the engine;

(b) apply automatically when:

(i) the supply of power to the winding engine fails;

(ii) the pressure of the fluid or other medium used as a means of controlling the brake falls below an approved level; or

(iii) if it is a push-button controlled winding engine, a fault occurs in the push-button control circuit;

(c) be able to be applied manually irrespective of the automatic application of the brake under paragraph (b);

(d) however applied, stop and hold a conveyance under all conditions of loading, direction of travel or at any rate of acceleration from any speed;

(e) be fitted to act directly on the driving sheave;

(f) wherever practicable, be fitted with a steel tension member between individual sole plates of the brake shoes;

(g) when applied, other than by an emergency stop switch or control, be capable of producing a braking torque:

(i) when transporting employees, of not less than 3 times; or

(ii) when transporting materials, of not less than 2 times,

the maximum out of balance static torque which may be applied to the driving sheave by the maximum safe working load; and

(h) when applied by any means, produce a braking torque not greater than 70% of that which causes the winding rope to slip on the driving sheave, calculated using the minimum sliding coefficient of friction between the rope and the sheave.

(3) A friction winding engine shall not be used at a mine unless:

(a) the braking system is designed so that a failure of a component will not reduce the total braking effort of the system by more than 50% or prevent a conveyance on the winding engine from being brought safely to rest;

(b) if the winding engine is a push-button or automatically controlled engine, it is provided with a device which will automatically apply a brake and keep it applied when the brake is worn to an extent that affects its safe operation; and

(c) the factor of safety:

(i) of a threaded member in tension in the braking system is not less than 15; and

(ii) of any other part in the braking system is not less than 10.

169 Equipment for winding engines

(1) A friction winding engine at a mine shall be fitted with:

(a) a device that automatically synchronizes the depth indicator and indicates the position of a conveyance in a shaft;

(b) a device that indicates the amount of slip of a winding rope relative to the driving sheave and which will stop the winding engine if a rate of slip is exceeded; and

(c) a device that indicates in which direction the driving sheave is turning.

(2) An adjustment of a device referred to in subregulation (1)(a) shall be made only while the brakes of the friction winding engine are applied and the engine is not operating.

170 Detaching devices

A detaching hook or detaching device for a cage, skip or counterweight shall not be used at a mine in conjunction with a friction winding engine.

171 Sheave design

(1) The diameter of a winding deflecting sheave of a friction winding engine at a mine shall be not less than 0.9 times the diameter of the corresponding driving sheave in the engine.

(2) The angle of contact of a rope on a deflecting sheave of a friction winding engine at a mine shall be sufficient to prevent the rope from slipping on the sheave.

172 Friction winding ropes – factors of safety

The load applied to a rope on a friction winding engine at a mine shall not, at any time in its working life, when used for a purpose specified in column 1 of the Table to this regulation, result in a factor of safety less than the factor specified opposite in column 2 of the Table.

TABLE

Column 1	Column 2		
Purpose	Minimum factor of safety		
	Single rope	2 or 3 ropes	4 or more ropes
Transporting persons	7.5	6.9	6.3
Transporting rock or material	6.8	6.2	5.6
Balance rope	6	6	6
Guide or rubbing rope	5	5	5

173 Ropes to be tested

A rope on a friction winding engine at a mine shall be tested in an approved manner and at approved intervals of time.

174 Rate of rope stretch

Where a new rope is fitted to a friction winding engine at a mine:

(a) a rope stretch record of the rope shall be entered in the winding engine log book; and

(b) the following measurement details shall be entered in the winding engine log book in relation to the rope:

(i) its length, measured before going into service;

(ii) its length, measured after the first 100 fully laden haulage cycles;

(iii) its length, measured daily for the first 7 days of service;

(iv) its length measured weekly for the next 4 weeks of service following the period referred to in subparagraph (iii);

(v) its length, measured each month for the duration of the rope's working life.

175 Unsafe ropes to be discarded

A rope on a friction winding engine at a mine which:

(a) is corroded;

(b) has indications that it is deteriorating; or

(c) has a length measurement exceeding that measured in regulation 174(b)(i) by more than 0.2%,

shall be discarded immediately.

176 Rope dressing

An employee shall not apply anything to a rope on a friction winding engine at a mine which may cause the rope to slip on the driving sheave.

177 Rope balancing

Where more than one winding rope of a friction winding engine at a mine is attached to the conveyance or counterweight, the ropes shall be of equal tread lengths.

Division 7 Shaft sinking

178 Application

This Division applies to operations carried out when sinking a shaft at a mine.

179 Use of cranes prohibited in certain areas

(1) A crane shall not be used to raise material from an area being excavated:

(a) if the perimeter of the area is traversed by dividers or other structures that may obstruct the operation of the crane;

(b) if the material is raised more than 50 metres; or

(c) in any other case, unless approved.

(2) Unless approved, only cranes which are:

(a) of a slewing type; or

(b) located in a fixed position during hoisting and dumping operations,

shall be used when sinking a shaft.

180 Conditions of use of cranes

(1) The load lifted by a crane shall not exceed 50% of the safe working load of the crane as specified by the manufacturer of the crane.

(2) An approved method of signalling or communicating between an employee directing the movement of loads on a crane, the supervisor responsible for the operation of the crane and the driver of the crane shall be installed.

181 Carriage of employees by cranes

A crane shall not be used to raise or lower employees at a mine:

(a) except with the approval of an inspector;

(b) unless the employee is:

(i) in a kibble or similar conveyance and not more than a third of the employee's body is outside the kibble or conveyance and the employee is wearing a safety belt of an approved type; and

(ii) at all times within the sight of an employee directing the movement of the crane; or

(c) if the employee is raised more than 50 metres.

182 Safety in shafts while crane in use

An employee shall not enter or remain in a shaft which is being sunk while a crane is being used to raise material up the shaft.

183 Access to shafts without sinking stage

(1) Subject to this regulation, where a sinking stage is not being used, ladders extending from the surface to the bottom of the shaft shall be installed.

(2) Subregulation (1) does not apply where 2 or more winding engines, with approved conveyances and independent power sources, are available for use in the shaft.

(3) For the purposes of subregulation (1), ladders shall be of solid construction, except that a chain ladder, not longer than 6 metres, may be used at the lower end of the shaft.

184 Doors

Where a shaft is being sunk, doors or other devices shall be provided at the collar of the shaft to cover the sinking compartment while excavation operations are in progress and to prevent material falling into the shaft during dumping operations.

185 Doors to be clearly visible

A door or device referred to in regulation 184 which, when moved into the haulage way or travel area of a shaft, interferes or may interfere with the free passage of a conveyance of a winding engine in the shaft, the depth indicator of the winding engine shall be marked to indicate the location of the door or device, unless the door or device is clearly visible to the driver of the winding engine.

186 Shaft bottom protection

Where a shaft is sunk below a level that is being worked, the shaft below that level shall be protected by a pentice approved by an inspector.

187 Kibble spillage

A kibble or skip used in a shaft sinking operation shall not be:

(a) filled with loose rock above its brim; or

(b) raised while material is attached to its outside surface.

Part 15 Dams

189 Tailings dams and water storage dams

(1) The construction or modification of a dam at a mine shall not commence without the approval of the Chief Government Mining Engineer.

(2) The manager shall supply to the Chief Government Mining Engineer the design and proposed method of construction of a tailings dam or water storage dam that is proposed to be constructed at a mine.

(3) Notices warning of the dangers associated with a dam at a mine shall be erected, in prominent positions, on all access routes approaching the dam.

(4) Life-saving equipment, of an approved type, shall be provided near a dam at a mine, when directed by an inspector.

Part 16 Dredges

191 Life-saving equipment

The following life-saving equipment shall be kept readily accessible on a dredge at a mine:

(a) a number of life-jackets equal to the maximum number of employees that may be on the dredge at any one time;

(b) a life-buoy to which is attached 50 metres of light line; and

(c) a boat-hook not less than 2 metres in length.

192 Line indicators

Where a headline or sideline is used to secure a dredge at a mine, the line shall:

(a) when submerged or partially submerged, carry marker buoys;

(b) when suspended or clear of the water, be identified with reflective and luminescent markers, such that the line is visible at all times; and

(c) have the fixed ends clearly marked.

193 Warning notices

Notices warning of dredging operations at a mine shall be prominently displayed both upstream and downstream of the area where the dredging operations are taking place.

194 Work boats

A boat used to transport employees to a dredge at a mine shall be of a type and equipped so that employees may be transported to the dredge without risk to their health and safety.

195 Lights

A dredge at a mine shall be fitted with flashing amber lights to clearly indicate the location of the dredge during the night.

Part 17 Miscellaneous

196 Regulatory offences

An offence against regulations 6, 10, 50, 53, 76(1), 118, 145 and 175 is a regulatory offence.

197 Penalties

A person who contravenes or fails to comply with these Regulations is guilty of an offence and is liable on conviction, if no other penalty other than by this regulation is prescribed, to a penalty not exceeding $10,000 for an individual or $50,000 for a body corporate.

198 Degree of impracticability

It is a defence to a charge of or involving a contravention of a failure to comply:

(a) a regulation (other than regulations 6, 10, 50, 53, 76(1), 118, 145 and 175); or

(b) an Australian Standard,

that the observance of, or compliance with, the regulation or standard was not reasonably practicable in the circumstances.

199 Repeal

The *Mine Safety Control (Radiation Protection) Regulations* (1988 No. 42) as continued in force by section 54(11) of the Act are repealed.

Schedule 1

regulation 4(1)

Part 2 – General

AS 1576	Code of practice for metal scaffolding (known as the SAA Metal Scaffolding Code)
AS 1596	LP Gas – Storage and handling
AG 601	Installation Code for gas burning appliances and equipment
AS 1657	Fixed platforms, walkways, stairways and ladders (known as the SAA Code for Fixed Platforms, Walkways, Stairways and Ladders)
AS 1885	Measurement of occupational health and safety performance
AS 2759	Steel wire rope – Application guide
AS 2865	Safe working in a confined space

Part 6 – Explosives

AS 2187	Explosives – Storage, transport and use (known as the SAA explosives code)
AS 2188	Explosives – Relocatable magazines for storage

Part 6A – Occupational Health

AS 1269	Acoustics – Hearing conservation
AS 1319	Safety signs for the occupational environment

Part 7 – Electricity

AS 1747	Reeling, trailing and feeder cables used for mining – Repair and testing
AS 1939	Degrees of protection provided by enclosures for electrical equipment (IP Code)
AS 2430	Classification of hazardous areas
AS 2802	Reeling and trailing electrical cables for mining and general use (other than underground coal mines) – Elastomeric flexible cables for working voltages 1.1/1.1 kV up to and including 33/33 kV

AS 3000	Electrical installations – Buildings, structures and premises (known as the SAA Wiring Rules)
AS 3001	Electrical installations – Movable premises (including caravans) and their site installations
AS 3007	Electrical installations – Surface mines and associated processing plants

Part 8 – Machinery

AS 1200	Boilers and pressure vessels (known as the SAA Boiler Code)
AS 1210	Unfired Pressure Vessels (known as the SAA Unfired Pressure Vessels Code)
AS 1228	Boilers – Water tube
AS 1271	Safety valves, other valves, liquid level gauges, and other fittings for boilers and unfired pressure vessels
AS 1418	Cranes (including hoists and winches) (known as the SAA Crane Code)
AS 1735	Passenger and goods lifts
AS 1755	Conveyors – Design, construction, installation and operation – Safety requirements
AS 1797	Boilers – Fire-tube, shell, and miscellaneous
AS 1873	Explosive – powered hand-held fastening tools, fasteners and explosive charges
AS 2359	Industrial trucks (known as the SAA Industrial Truck Code)
AS 2550	Cranes – Safe use
AS 2593	Boilers – Unattended and limited attendance
AS 3788	Boilers and pressure vessels – In-service inspection
AS 3873	Boilers and pressure vessels – Operation and maintenance
AS 3992	Boilers and pressure vessels – Welding and pressure certification
AS 4024	Safeguarding of machinery

Part 9 – Mobile Equipment

AS 2294	Earth-moving machinery – Protective structures

AS 2664	Earthmoving machinery – Seat belts and seat belt anchorages
AS 2958	Earth-moving machinery – Wheeled machines – Performance requirements and test procedures for braking systems

Part 14 – Winding

AS 3637	Underground mining – Winding suspension equipment
AS 3751	Underground mining – Slope haulage – Couplings, drawbars, and safety chains
AS 3785	Underground mining – Shaft equipment

Schedule 2

regulation 4(2)

Part 2 – General

AS 1318	Use of colour for the marking of physical hazards and the identification of certain equipment in industry (known as the SAA Industrial Safety Colour Code)
AS 1339	Code of practice for manual handling of materials
AS 1345	Identification of the contents of piping, conduits and ducts
AS 1470	Health and safety at work – Principles and practice
AS 1485	Safety and health in work rooms of educational establishments
AS 1885	Measurement of occupational health and safety performance
AS 1940	The storage and handling of flammable and combustible liquids (known as the Flammable and Combustible Liquids Code)
AS 2397	Guide to the safe use of lasers in the construction industry
AS 3012	Electrical installations – Construction and demolition sites
AS 3900	Quality management and quality assurance standards
AS 3911	Guidelines for auditing quality systems

Part 4 – Occupational Health

AS 1216	Classification, hazard identification and information systems for dangerous goods
AS 1269	Acoustics – Hearing conservation
AS 1270	Hearing protectors
AS 1336	Recommended practices for eye protection in the industrial environment
AS 1337	Eye protectors for industrial applications
AS 1338	Filters for eye protectors
AS 1678	Emergency procedure guide – Transport
AS 1680	Interior Lighting

AS 1715	Selection, use and maintenance of respiratory protective devices
AS 1716	Respiratory protective devices
AS 1800	The selection, care and use of industrial safety helmets
AS 1801	Industrial safety helmets
AS 2161	Industrial safety gloves and mittens (excluding electrical and medical gloves)
AS 2210	Safety footwear
AS 2211	Code of practice for laser safety
AS 2243	Safety in laboratories
AS 2375	Guide to the selection, care and use of clothing for protection against heat and fire
AS 2507	The storage and handling of pesticides
AS 2508	Safe storage and handling information cards for hazardous materials
AS 2670	Evaluation of human exposure to whole body vibration
AS 2714	The storage and handling of hazardous chemical material – class 5.2 substances (organic peroxides)
AS 2763	Vibration and shock – Hand transmitted vibration – Guidelines for measurement and assessment of human exposure
AS 2772	Radio frequency radiation
AS 2985	Workplace atmospheres – Method for sampling and gravimetric determination of respirable dust
AS 2986	Workplace atmospheres – Organic vapours – Sampling by solid absorption techniques
AS 3640	Workplace atmospheres – Method for sampling and gravimetric determination of inspirable dust
AS 3663	Acoustics and mechanical vibration – Definitions of fundamental quantities and their expression as levels
AS 3765	Clothing for protection against hazardous chemicals
AS 3780	Storage and handling of hazardous chemical materials
HB 9	Manual of industrial personal protection

Part 5 – Fire

AS 1221	Fire hose reels
AS 1715	Selection, use and maintenance of respiratory protective devices
AS 1716	Respiratory protective devices
AS 1840	Water (soda acid) type portable fire extinguishers
AS 1841	Portable fire extinguishers – Water (gas container) type
AS 1842	Portable fire extinguishers – Water (stored pressure) type
AS 1844	Portable fire extinguishers – Foam (gas container) type
AS 1845	Portable fire extinguishers – Foam (stored pressure) type
AS 1846	Portable fire extinguishers – Powder type
AS 1847	Portable fire extinguishers – Carbon dioxide type
AS 1848	Portable fire extinguishers – Halon type
AS 1849	Identification colours for portable fire extinguishers
AS 1850	Portable fire extinguishers – Classification, rating and fire testing
AS 1851	Maintenance of fire protection equipment
AS 2444	Portable fire extinguishers – Selection and location

Part 6 – Explosives

AS 2189	Explosives – Glossary of terms

Part 7– Electricity

AS 1020	The control of undesirable static electricity
AS 1076	Code of practice for selection, installation and maintenance of electrical apparatus and associated equipment for use in explosive atmospheres (other than mining applications)
AS 1306	High voltage ac switchgear and controlgear – Disconnectors (isolators) and earthing switches
AS 1543	Electrical equipment of industrial machines
AS 1768	Lighting protection

AS 1802	Reeling and trailing electric cables for underground coal mining purposes
AS 2067	Switchgear assemblies and ancillary equipment for alternating voltages above 1kV
AS 2081	Electrical equipment for coal and shale mines – Electrical protection devices
AS 2229	Electrical equipment for explosive atmospheres – Electrical systems of dispensing equipment
AS 2293	Emergency evacuation lighting in buildings
AS 2467	Maintenance of electrical switchgear
AS 2081	Electrical equipment for coal and shale mines – Electrical protection devices
AS 2293	Emergency evacuation lighting in buildings
AS 2467	Maintenance of electrical switchgear
AS 2790	Electricity generating sets – Transportable (up to 25kW)
AS 3005	Electrical installations of tents and similar temporary structures
AS 3008	Electrical installations – Selection of cables
AS 3010	Electrical installations – Supply by generating set
AS 3760	In-service safety inspection and testing of electrical equipment
AS 4439	Low voltage switchgear and controlgear assemblies

Part 8 – Machinery

AS 1135	Rules for the design, fabrication, installation and inspection of non-ferrous pressure piping (known as the SAA Non-ferrous Pressure Piping Code)
AS 1138	Thimbles for use with wire rope or fibre (natural or synthetic) rope
AS 1219	Power presses – Safety requirements
AS 1353	Flat synthetic webbing slings
AS 1380	Fibre-rope slings (of natural or synthetic rope)
AS 1438	Wire-coil flat slings

AS 1473	Code of practice for the guarding and safe use of woodworking machinery
AS 1666	Wire-rope slings
AS 1674	Safety in welding and allied processes
AS 1677	Refrigerating Systems
AS 1788	Abrasive wheels
AS 1796	Certification of welders and welding supervisors (known as the SAA Welder Certification Code)
AS 1892	Portable ladders
AS 1893	Code of practice for the guarding and safe use of metal and paper cutting guillotines
AS 2076	Wire rope grips
AS 2321	Short-link chain for lifting purposes (non-calibrated)
AS 2549	Cranes – Glossary of terms
AS 2550	Cranes – Mobile, tower and derrick – Selection and operation
AS 2740	Wedge-type sockets
AS 2741	Shackles
AS 2927	The storage and handling of liquefied chlorine gas
AS 3775	Chain slings – Grade T
AS 3776	Lifting components for Grade T chain slings
AS 3777	Shank hooks and large-eye hooks – Maximum 25t
AS 4024	Safeguarding of machinery
AS 4100	Steel structures
B 291	Lifting rings and links
B 293	Side boom cranes for pipelaying (crawler-track type)
CB 15	Rules for welding of steel pressure piping (known as the SAA Pipe Welding Code)

CB 18	Rules for the design, fabrication, installation and inspection of pressure piping (known as the SAA Pressure Piping Code)
CZ 14	Guarding and safe use of milling machinery

Part 9 – Mobile Equipment

AS 1742	Manual of uniform traffic control devices
AS 1872	Safety chains for trailers and caravans
AS 2868	Classification of machinery for earthmoving, construction, surface mining, and agricultural purposes
AS 2951	Earth-moving machinery – Nomenclature
AS 2956	Earth-moving machinery – Instrumentation and operator's controls
AS 2957	Earth-moving machinery – Operation and maintenance
1S0 – 5010	Earthmoving Machinery/Rubber Tyred Machinery Steering Capability

Part 14 – Winding

AS 022	Mine guides, jarrah and karri
AS 1394	Round steel wire for ropes
AS 2318	Swivels for hoists
AS 3569	Steel wire ropes

Schedule 2A

regulation 15(2)

Classification	Sampling Frequency of Each Area Classified
Higher risk	3 monthly
Low risk	Annually (between 1 June and 30 September)
Negligible risk	As determined by the Chief Government Mining Engineer
No risk	None required

Schedule 3

regulation 19

Column 1	Column 2
Clause of Code	Appropriate Authority
3	Chief Government Mining Engineer
4	Chief Government Mining Engineer and Chief Medical Officer
6(2) definition of ***Inspector***	Chief Government Mining Engineer
7(3)	Chief Government Mining Engineer and Chief Medical Officer
8(1)(a) and (b), (2)(c), (e), (f), (h) and (i) and (3)	Chief Government Mining Engineer
8(1)(c), (2)(a), (b), (d) and (g) and (4)	Chief Government Mining Engineer and Chief Medical Officer
9(4)(a), (5), (6), (10), (27), (31) and (32)	Chief Government Mining Engineer and Chief Medical Officer
9(14), (20) and (26)	Chief Government Mining Engineer
9(17)	Chief Medical Officer
13(3), (4) and (9)	Chief Government Mining Engineer and Chief Medical Officer
13(5)	Chief Government Mining Engineer
14(2)(a), (b) and (d)	Chief Government Mining Engineer and Chief Medical Officer
17(1), (2), (3)	17(1), (2), (3)

Schedule 4

regulation 129

Column 1	Column 2	Column 3	Column 4
Signal (number of knocks or rings)	Meaning of signal	Action required of winding engine driver	Special requirements
		Part 1 – General	
1	stop or hold	(a) when conveyance in motion – stop conveyance (b) when conveyance stationary do not move conveyance until further signal is given	action taken, then signal to be returned
2	lower	lower conveyance	if winding engine is used for timbering or repairing, lowering shall be done with extreme care
3	hoist	hoist conveyance	(a) if winding engine is used for timbering or repairing, hoisting shall be done with extreme care (b) if given after a firing return signal, hoisting shall be done with extreme care
4	passengers on	move conveyance	to be returned by driver before loading and giving destination signal

5 repeated	change conveyance location	throw in or out of gear	not to be given while conveyance is in motion
6	conveyance not required	move conveyance	
7	firing warning	raise conveyance by giving the drum of the engine at least one full revolution and then lower it as a sign of readiness to hoist, then stand ready at engine	
8	material or tools on	drive slowly	
12	accident signal	to be followed after pause by the signal for the level where the conveyance is required	

Part 2 – Level Signals

1	then	1	No.	1	level	hoist or
	"	2	No.	2	level	lower to
	"	3	No.	3	level	specified
	"	4	No.	4	level	level
	"	5	No.	5	level	
2	then	1	No.	6	level	
		2	No.	7	level	
		3	No.	8	level	
		4	No.	9	level	
		5	No.	10	level	
3	then	1	No.	11	level	
	"	2	No.	12	level	

	"	3	No.	13	level
	"	4	No.	14	level
	"	5	No.	15	level
4	then	1	No.	16	level
	"	2	No.	17	level
	"	3	No.	18	level
	"	4	No.	19	level
	"	5	No.	20	level
5	then	1	No.	21	level
	"	2	No.	22	level
	"	3	No.	23	level
	"	4	No.	24	level
	"	5	No.	25	level
6	then	1	No.	26	level
	"	2	No.	27	level
	"	3	No.	28	level
	"	4	No.	29	level
	"	5	No.	30	level
7	then	1	No.	31	level

ENDNOTES

1 KEY

Key to abbreviations

amd = amended
app = appendix
bl = by-law
ch = Chapter
cl = clause
div = Division
exp = expires/expired
f = forms
Gaz* = *Gazette
hdg = heading
ins = inserted
lt = long title
nc = not commenced
od = order
om = omitted
pt = Part
r = regulation/rule
rem = remainder
renum = renumbered
rep = repealed
s = section
sch = Schedule
sdiv = Subdivision
SL = Subordinate Legislation
sub = substituted

2 LIST OF LEGISLATION

***Mine Management Regulations* (SL No. 73, 1992)**

Notified	24 December 1992
Commenced	24 December 1992

***Amendments of Mine Management Regulations* (SL No. 16, 1995)**

Notified	10 May 1995
Commenced	10 May 1995

3 LIST OF AMENDMENTS

r 2	amd No. 16, 1995, r 2
r 7	amd No. 16, 1995, r 40
r 7A	ins No. 16, 1995, r 3
rr 8 – 11	amd No. 16, 1995, r 40
r 11A	ins No. 16, 1995, r 5
r 12	amd No. 16, 1995, rr 6 and 40
r 13.	rep No. 16, 1995, r 7
r 15	amd No. 16, 1995, rr 8 and 40
rr 16 – 18	amd No. 16, 1995, r 40
r 20	amd No. 16, 1995, rr 9 and 40
r 21	amd No. 16, 1995, r 10
rr 22 – 23	amd No. 16, 1995, r 40
rr 24 – 25	rep No. 16, 1995, r 11
rr 27 – 33	rep No. 16, 1995, r 11
r 34	sub No. 16, 1995, r 12
rr 37 – 39	amd No. 16, 1995, r 40
r 43	rep No. 16, 1995, r 13
r 47	amd No. 16, 1995, r 14
r 50	rep No. 16, 1995, r 15
rr 51 – 52	amd No. 16, 1995, r 40
r 54	amd No. 16, 1995, r 40
r 56	amd No. 16, 1995, r 16
r 56A	ins No. 16, 1995, r 17

r 57	amd No. 16, 1995, r 40
r 59	amd No. 16, 1995, r 40
r 60	amd No. 16, 1995, rr 18 and 40
r 61	amd No. 16, 1995, rr 19 and 40
r 62	amd No. 16, 1995, r 20
r 64	amd No. 16, 1995, r 40
r 66	amd No. 16, 1995, r 40
rr 67 – 68	rep No. 16, 1995, r 21
r 69	sub No. 16, 1995, r 22
rr 70 – 71	amd No. 16, 1995, r 40
r 72	rep No. 16, 1995, r 21
r 73	amd No. 16, 1995, r 40
r 75	amd No. 16, 1995, r 40
r 76	amd No. 16, 1995, r 23
rr 80 – 81	amd No. 16, 1995, r 40
rr 89 – 91	amd No. 16, 1995, r 40
rr 93 – 94	amd No. 16, 1995, r 40
r 96	amd No. 16, 1995, r 40
r 99	amd No. 16, 1995, r 40
r 101	amd No. 16, 1995, r 40
rr 105 – 106	amd No. 16, 1995, r 40
r 109	amd No. 16, 1995, r 40
r 112	amd No. 16, 1995, r 40
r 113	sub No. 16, 1995, r 24
r 114	amd No. 16, 1995, r 40
rr 116A – 116F	ins No. 16, 1995, r 25
r 117	amd No. 16, 1995, r 40
r 119	amd No. 16, 1995, r 40
rr 121 – 123	amd No. 16, 1995, r 40
rr 125 – 127	amd No. 16, 1995, r 40
r 129	amd No. 16, 1995, r 40
rr 131 – 132	amd No. 16, 1995, r 40
r 135	amd No. 16, 1995, r 40
r 137	amd No. 16, 1995, r 40
r 137A	ins No. 16, 1995, r 26
r 138	sub No. 16, 1995, r 27
r 140	amd No. 16, 1995, r 40
r 144	amd No. 16, 1995, rr 28 and 40
r 145	amd No. 16, 1995, r 29
rr 147 – 149	amd No. 16, 1995, r 40
r 149A	ins No. 16, 1995, r 30
rr 150 – 152	amd No. 16, 1995, r 40
rr 155 – 157	amd No. 16, 1995, r 40
r 158	amd No. 16, 1995, rr 31 and 40
rr 162 – 163	amd No. 16, 1995, r 40
r 168	amd No. 16, 1995, r 40
r 172	amd No. 16, 1995, rr 32 and 40
r 176	amd No. 16, 1995, r 40
rr 180 – 182	amd No. 16, 1995, r 40
r 188	rep No. 16, 1995, r 33
r 189	amd No. 16, 1995, r 34
r 190	rep No. 16, 1995, r 35
r 191	amd No. 16, 1995, r 40
r 194	amd No. 16, 1995, r 40
r 197	amd No. 16, 1995, r 36
sch 1	amd No. 16, 1995, r 37
sch 2	amd No. 16, 1995, r 38

sch 2A ins No. 16, 1995, r 39