NORTHERN TERRITORY OF AUSTRALIA

MINES SAFETY CONTROL REGULATIONS

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NORTHERN TERRITORY OF AUSTRALIA

Regulations 1981, No. 13 *

Regulations under the Mines Safety Control Act

I, ERIC EUGENE JOHNSTON, the Administrator of the Northern Territory of Australia, acting with the advice of the Executive Council, hereby make the following Regulations under the Mines Safety Control Act.

Dated this 22nd day of June, 1981.

E.E. JOHNSTON
Administrator

MINES SAFETY CONTROL REGULATIONS

PART I - PRELIMINARY

1. CITATION

These Regulations may be cited as the Mines Safety Control Regulations.

2. DEFINITIONS

In these Regulations, unless the contrary intention appears -

"advance tunnel" means an underground excavation of a smaller section area preceding that of an existing tunnel;

"approved" means approved by an Inspector;

"Australian Standard" means a standard approved for publication on behalf of the Council of the Standards Association of Australia, being the association of that name incorporated by Royal Charter;

"back" means the overhead surface of an excavation in a mine;

"barring down platform" means a platform or decking on which a person can stand to remove loose material from a back with the aid of a bar;

* Notified in the Northern Territory Government Gazette on 26 June, 1981.

"batter of an open cut" means the angle that the face or side of an open cut makes with the horizontal overall;

"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 container used to hold loose material;

"bore hole" means a hole bored into rock by a machine;

"brace" means a platform area around a shaft at the surface of a mine;

"British Standard" means a standard approved for publication on behalf of the Council of British Standards Institution, being the institution of that name incorporated by Royal Charter;

"built-up area" means an area where street lights are installed;

"cap lamp" means a light fitted to a safety helmet;

"change-house" means a place provided under regulation 74;

"charge", when used as -

(a) a verb, means to load an explosive into a place in preparation for exploding it; or

(b) a noun, means an explosive in place ready to be exploded;

"check inspector", in relation to a mine, means a person authorized under section 18(1) of the Act to inspect that mine;

"close off", in relation to a part of a mine, means -

(a) to securely shut off that part of the mine; and

(b) to barricade that part of the mine so as to prevent access being obtained to that part from another part of the mine;

"constructor", in relation to the construction operations of a trench, means -

(a) where the construction is carried out by a contractor; the contractor or manager of the mine; or

(b) where the construction is carried out by another person or body corporate, the person or body, regardless of whether that person or body or any of his or its employees is the foreman of such a construction;

"conveyor" means a fixed machine used to transport material on a moving belt;

"cribroom" means a room or place provided under Division 4 of Part IV of these Regulations;

"directed" means directed by an Inspector;

"dredge" includes a dredge, barge, pontoon or other structure used in carrying on mining operations by means of dredging, pumping, sluicing or a similar method;

"drive" means an excavation or small cross-section, along a strike of an ore-body, or cross-cut, which traverses such a strike;

"emergency trenching operations" means trenching works undertaken to restore a water supply, gas reticulation, sewerage reticulation or similar service after such a service has been disrupted or damaged;

"end" means a volume of rock removed in one blast from an underground excavation;

"face" means an area of excavation which has been worked at some time;

"kibble" means a large bucket used in shaft sinking and winzing;

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

"Machinery Record Book", in relation to a mine, means the book required to be kept for the mine by regulation 397;

"misfire" means an explosive charge, the primer of which has been initiated for detonation but which has failed to explode, and includes an explosive deemed under these Regulations to be a misfire;

"open cut" means a surface excavation;

"open pit" means a surface excavation;

"pass" means an underground opening through which broken material is transferred from a higher level to a lower level by gravity;

"pipeline" means pipes coupled together end to end and used to transfer liquid or gas;

"plat" means a platform area around an underground shaft;

"pumping shaft" means a shaft in which pipelines are installed to transfer liquids or solids from a lower level to a higher level;

"rescue plan" means a plan prepared in pursuance of regulation 30;

"return airway" means a passage by which air is transferred to the atmosphere after leaving the workplace;

"rise" means a tunnel in a mine having an inclination of not less than 15 degrees above the horizontal but does not include a shaft;

"safety lamp" means a lamp which is safe to use underground in a mine;

"sand-pit" means a quarry from which sand is excavated;

"self-rescuer" means a portable device designed to provide a limited supply of purified air;

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

"sheave" means a wheel designed with a circumferential channel to retain a rope;

"shift" means a fixed normal working period;

"shrinkage stope" means a stope from which the broken rock at the bottom of the rockpile is withdrawn through a gate-controlled chute;

"skip" means a container fixed in a frame which travels in a shaft and which is used for transferring rock from one level to another level;

"slope" means an angle between the horizontal and the vertical;

"stopped end" means an end of a drive which has been barricaded;

"winze" means an elongated excavation having an inclination below the horizontal of not less than 15 degrees, but does not include a shaft;

"working" means the overall area where persons are mining or have mined;

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

3. AUSTRALIAN, &c., STANDARDS

(1) For the purposes of these Regulations -

(a) a reference to an Australian Standard or a Part of an Australian Standard published on a date specified in these Regulations shall be read as a reference to the Australian Standard or the part of the Australian Standard, as the case requires, approved for publication on that date; and

(b) where an Australian Standard refers to another instrument that instrument shall be deemed to be incorporated with, and form part of, the Australian Standard.

(2) For the purposes of these Regulations -

(a) a reference to a British Standard published on a date specified in these Regulations shall be read as a reference to such British Standard published by the British Standards Institution on that date; and

(b) where a British Standard refers to another instrument that instrument shall be deemed to be incorporated with, and form part of, the British Standard.

4. APPROVALS, &c.

(1) An approval, direction or requirement under these Regulations may relate -

(a) to a specified mine;

(b) to a mine which is included in a specified class of mines; or

(c) to all mines.

(2) An approval, direction or requirement under these Regulations which relates only to a specified mine may, unless the contrary intention appears -

(a) be given orally; and

(b) be revoked or amended orally,

and shall become effective upon being given or notified to the manager of the mine.

(3) An approval, direction or requirement under these Regulations which relates to a specified class of mines or to all mines may be given by notice in the Gazette and is effective on -

(a) the date on which the notice is so published; or

(b) if a later date is specified in the notice - that later date.

5. APPROVED EQUIPMENT, &c.

For the purposes of these Regulations, a piece of equipment or machinery is approved if it is of a type which has been approved.

6. DIRECTIONS, &c.

(1) A person directed or required to perform or refrain from performing an action under these Regulations shall forthwith comply with the direction or requirement.

(2) A person directed or required to perform or refrain from performing an action by the manager of a mine in pursuance of a direction or requirement under these Regulations shall forthwith comply with the direction or requirement.

Penalty: $1,500.

7. POWERS OF INSPECTOR, &c.

The powers conferred on an Inspector by these Regulations to direct or require that a specified thing be done does not affect the generality of the powers conferred on an Inspector by the Act.

8. SPECIAL INSPECTORS

A reference in a provision of these Regulations to an Inspector is a reference to an Inspector empowered under the Act to exercise the power and perform the duties and functions referred to in that provision.

9. COMPETENT PERSONS

A manager of a mine shall not appoint a person to be a competent person for the purposes of a provision of these Regulations unless he is satisfied that that person is suitably qualified, by training and experience, to undertake the duties required of him after he has been so appointed.

Penalty: $500.

10. DUTY TO COMPLY

(1) A manager of a mine shall ensure that these Regulations are complied with and not contravened in relation to the mine managed by him.

Penalty: $1,500.

(2) Unless the contrary intention appears, sub-regulation (1) does not apply to or in relation to a regulation which imposes a duty on -

(a) a person who is not employed in a mine; or

(b) persons generally, a specified person or person who is a member of a specified class of persons,

but paragraph (b) does not relieve a manager of a mine from the duty, if any, of himself complying with such a regulation.

PART II - DANGERS IN MINES

Division 1 - Dangerous Situations

11. DANGER IN A MINE

If it becomes apparent to a person that a mine is dangerous or that danger is imminent, that person shall immediately -

(a) warn all other persons in the part of the mine which is endangered;

(b) take such steps as are necessary to have those other persons withdrawn from the mine; and

(c) if he is not the manager, the person shall, as soon as the other persons in the mine have been warned of the danger inform the manager of the mine of the nature of the danger in the mine.

Penalty: $500.

12. PERSONS NOT TO ENTER DANGEROUS MINE

(1) Subject to regulation 16, a person shall not enter a part of a mine from which persons have, in accordance with regulation 11, been withdrawn until the manager of a mine has declared that part of the mine to be safe.

(2) When all persons have been withdrawn from a part of a mine under regulation 11(b), the manager shall secure that part of the mine against unauthorized entry.

Penalty: $1,500.

13. REPORT OF DANGER IN A MINE

The manager of a mine in which there has been or is danger of -

(a) the workings being subject to an inburst of water or gas;

(b) an accidental explosion;

(c) an uncontrolled fall of ground, creep, movement or slump;

(d) a fire; or there is an issue of noxious gas from the strata into the mine workings; or

(e) another event which involves the safety of 10 or more persons,

shall, not later than 24 hours after becoming aware of the danger -

(f) notify a check inspector; and

(g) report to an Inspector;

the fact and nature of the danger and all action taken to relieve, or in consequence of, the danger.

Penalty: $1,000.

14. INSPECTOR'S POWERS IN CASE OF SERIOUS DANGER

An Inspector may give to the manager of a mine or other person in or about the mine such directions as he thinks fit to relieve or deal with a danger referred to in regulation 13.

15. COMPETENT PERSON TO INSPECT MINE

After a warning under regulation 11(c) has been given, the manager of a mine shall appoint a competent person to inspect the mine when he considers it is safe to do so.

16. DUTIES OF COMPETENT PERSON

(1) A person appointed under regulation 15 to inspect a mine shall, together with a check inspector, inspect the mine, both taking such steps as are reasonably necessary to ensure their own safety.

(2) On completion of an inspection under sub-regulation (1) -

(a) the person appointed under regulation 15; and

(b) the check inspector who inspected the mine,

shall make and sign a report of the inspection and give the report to the manager of the mine.

(3) A copy of both reports prepared under sub-regulation (2) shall be made available by the manager of the mine for perusal by and at the request of a person employed in the mine.

17. MINE NOT TO BE DECLARED SAFE WITHOUT REASON

The manager of a mine shall not, in pursuance of regulation 12(1), declare a part of the mine to be safe unless -

(a) he has reason to be satisfied that it is safe; and

(b) he makes an entry of the declaration and the reasons for the declaration in the Record Book for the mine.

18. WARNING OF DANGER

A person who witnesses a circumstance, matter or thing which is likely to cause danger in a mine, shall immediately notify the likely cause of danger -

(a) where the person is employed in the mine - to his immediate supervisor; or

(b) where the person is not employed in the mine - to the nearest person who is so employed.

Penalty: $1,500.

19. UNSAFE GEAR NOT TO BE USED

A person employed in a mine shall, before commencing and whilst at work in the mine, satisfy himself as to the safety of skips, chains, tackle, windlasses, ropes and other appliances he may be required to use and, if any of those appliances is defective or insecure, he shall not use it or shall stop using it, as the case may be, until it has been made safe.

Penalty: $500.

20. INFORMATION ON CHANGE OF SHIFT

A foreman, shift supervisor or person in charge of a portion of a mine shall, on changing shift, inform the person who relieves him of the state of the workings, plant and equipment in the part of the mine for which he was responsible.

Penalty: $1,500.

21. MINE LIABLE TO INUNDATION BY WATER OR PRESENCE OF GAS

(1) Where an Inspector informs the manager of a mine that, in his opinion, or the manager of the mine is of the opinion that, the mine or a part of the mine is liable to be inundated or subject to an inburst of water or gas, that manager of the mine shall -

(a) if the mine or part of the mine is liable to be inundated with water, or gas, cause to be constructed such additional rises, chambers, drives and other workings in the mine or part of the mine as are necessary -

(i) for the safety of persons in the lower workings;

(ii) to provide escape for those persons; and

(iii) for ventilation;

(b) cause to be posted and keep posted notices calling attention to the means of escape provided in pursuance of paragraph (a)(ii) at the foot of every such means of escape;

(c) ensure that he is, at all times, aware of the locations of faces being advanced; and

(d) when the face of a working being advanced has reached a sufficient distance from a place likely to contain water or gas -

(i) cause suitably directed bore holes to be drilled from the working sufficient in number and length to give ample warning of the presence of the water or gas;

(ii) take such additional precautions as appear to him to be necessary to ensure the safety of persons in the mine; and

(iii) notify an Inspector, in writing, of the steps taken and proposed to be taken.

(2) The obligations under sub-regulation (1) of a manager of a mine continue until -

(a) the bore holes drilled reveal that there is no danger; or

(b) an Inspector is satisfied that adequate precautions have been taken.

22. WORKING NEAR FLAMMABLE, &c., AREA

(1) When a working approaches an area which contains or is likely to contain a flammable, toxic or noxious gas, the manager of the mine shall, in writing, notify an Inspector.

(2) An Inspector may, where a notification under sub-regulation (1) has been given, direct the manager of the mine to -

(a) prohibit the use of lamps, lights, matches or other means of ignition, other than a locked safety lamp or approved flameproof electrical cap lamp, underground while the danger exists;

(b) appoint a competent person to inspect -

(i) immediately before the commencement of each shift; and

(ii) during the course of each shift,

every part of the mine and its associated workings in which men work or travel; or

(c) make available the number of approved self-rescuers as is specified in the direction and give or cause to be given adequate instructions in their use.

(3) A person shall not fail refuse or neglect to comply with a prohibition imposed by a manager of a mine in consequence of a direction of an Inspector under regulation 22(2)(a).

Penalty: $1,500.

Division 2 - Fire Control

23. FIRE PRECAUTIONS TO BE TAKEN

(1) Appropriate precautions shall be taken in a mine to prevent the outbreak of fire and promptly suppress any such outbreak.

(2) A mine shall be provided with the means by which the location of a fire within the mine can be communicated quickly to persons likely to be endangered by the fire.

(3) Without limiting the generality of sub-regulation (1) -

(a) machinery shall not be placed in any underground chamber which is not fireproof;

(b) waste material used in cleaning machinery underground shall be kept in a securely covered metal container;

(c) chips, shavings, waste, wood, paper or rubbish shall not be permitted to lie about and accumulate but shall be removed from the mine and buried; and

(d) flammable material shall not be thrown into passes or other areas.

Penalty: $500.

24. NAKED LIGHTS

A person shall not use a naked light close to timber in a mine unless -

(a) he has the approval of the manager of the mine to do so; and

(b) he ensures that its use does not cause the timber to catch alight.

Penalty: $1,500.

25. PERSONS USING OXY-ACETYLENE WELDING, &c., EQUIPMENT

(1) The manager of a mine shall give such instructions to a person using oxy-acetylene welding or arc-welding equipment -

(a) underground in the mine; or

(b) on the surface of the mine but adjacent to a shaft opening,

as he considers necessary to prevent sparks or flames from that equipment causing an outbreak of fire.

(2) A person shall not contravene or fail to comply with an instruction given to him under sub-regulation (1).

Penalty: $1,500.

(3) Where welding or cutting work is proposed to be carried out in or near a timber shaft, the area in which the work is proposed to be carried out shall be sprayed down with water immediately before the commencement of the work, and immediately after the completion of the work, that area shall be sprayed down with water again.

26. NO-SMOKING AREAS

A person shall not smoke while -

(a) travelling in a cage, skip, kibble or other conveyance in a shaft or winze; or

(b) within 8 metres of -

(i) a timber shaft or winze;

(ii) a flammable liquid store;

(iii) a magazine;

(iv) a battery locomotive which is being charged; or

(v) a place which the manager of the mine or an Inspector declares to be an area where smoking is prohibited.

Penalty: $1, 500.

27. BLASTING AGAINST TIMBER

A person shall not fire a charge -

(a) inside a mine; or

(b) in contact with timber underground in a mine,

without the approval of the manager of the mine.

Penalty: $1,500.

28. FIRE EXTINGUISHERS

(1) Fire extinguishers shall be located at electrical centres, switchrooms, plats, cribrooms, flammable liquid storage areas or, mobile welding equipment and such other locations in a mine as an Inspector may specify.

(2) A fire extinguisher referred to in sub-regulation (1) shall comply with the requirement of Australian Standard 1850-1976 and shall at all times be kept in working order, be clearly marked and ready for immediate use.

29. OUTBREAK OF FIRE

In the event of an outbreak of fire underground in a mine, the manager -

(a) shall warn all persons underground in the mine of the outbreak of the fire; and

(b) shall take such action as is practicable in the circumstances to bring those persons to the surface as quickly as possible.

30. RESCUE PLANS

(1) The manager of a mine shall keep on the mine such plans as show the complete workings of the mine indicating those -

(a) all excavations known to have been in existence prior to date of the plans;

(b) areas which are flooded;

(c) areas which are filled;

(d) areas which are inaccessible; and

(e) locations of all diamond drill holes of significance and drill holes larger than 60 mm diameter.

(2) Plans referred to in sub-regulation 1 shall be -

(a) in both vertical and horizontal planes;

(b) updated each month; and

(c) the basis of the rescue plan

(3) The manager of the mine shall prepare a plan and operational procedures for the rescue of persons who are underground in case there is a fire underground in the mine.

(4) The manager of a mine to whom a rescue plan and operational procedures relate shall -

(a) not less than once in every 12 months, review and update the rescue plan;

(b) upon completion or review of the plan, submit the plan to an Inspector; and

(c) ensure that all supervisory staff employed underground in the mine are familiar with the plan.

(5) Notices -

(a) setting out the essential features of the rescue plan proposed under sub-regulation (1);

(b) showing the location of the escape routes; and

(c) showing the location of fire-fighting and rescue equipment,

shall be posted at every brace and plat in the mine.

(6) The manager of the mine shall ensure that escape routes shown in the plan referred to in sub-regulation (1) are prominently marked in the underground workings.

31. SELF-RESCUERS

Self-rescuers kept in a mine shall be maintained at all times in a safe and effective condition and in accordance with the directions of the manufacturer and the Chief Government Mining Engineer.

32. RESCUE EQUIPMENT

Three hydraulic jacks of not less than 2 tonne capacity, or similar lifting devices for the purposes of lifting large stones or timber in a fall of ground, shall be kept -

(a) at each mine; or

(b) available for use in each mine within 30 minutes after a request for their use.

33. DANGEROUS GOODS, CORROSIVE AND TOXIC SUBSTANCES

(1) The manager of a mine shall notify an Inspector of any dangerous goods or chemicals that are stored on a mine.

(2) Dangerous goods and corrosive and toxic substances left at a mine shall be stored in an approved manner.

(3) A person other than a person authorized by the manager of the mine, shall not have access to corrosive and toxic substances that are stored at a mine.

34. FIRST AID KITS

(1) A reasonable number of stretchers, blankets, splints, bandages and first aid kits shall be provided and available for immediate use at a mine in the case of an accident.

(2) Where less than 20 persons are employed and present in a mine during a period of 24 hours, not less than one of those persons shall have undergone an approved first aid training course.

(3) Where 20 or more persons are employed and present in a mine during any period of 24 hours, not less than one of such persons shall hold a current approved first aid certificate.

PART III - MINEWORKERS

Division 1 - Health

35. DEFINITION

In this Division, "declared equipment" means equipment to be declared under regulation 38 for the purposes of this Division.

36. PERSONS WORKING UNDERGROUND TO BE MEDICALLY EXAMINED

(1) A person shall not be engaged to work underground in a mine unless he has been examined within the previous 12 months by a medical practitioner and that person has been certified medically fit to work underground.

(2) The certificate referred to in sub-regulation (1) shall be produced within 7 days of request to an inspector or a Chief Medical Officer appointed under section 6(2) of the Public Health Act.

37. FREQUENCY OF MEDICAL EXAMINATIONS FOR UNDERGROUND WORKERS

The manager of a mine shall not permit a person to continue to work underground in the mine unless that person has been medically examined within the previous 12 months.

38. DECLARED EQUIPMENT

The Chief Government Mining Engineer may, by notice in writing given to the manager of a mine, declare equipment which is in the mine and specified in the notice to be declared equipment for the purposes of this Division.

39. OPERATORS OF DECLARED EQUIPMENT

A person shall not operate declared equipment in a mine unless a medical practitioner has, within the previous 12 months before the person commences to operate the equipment, certified that that person is free from epilepsy and any other illness or disability which may cause the person to lose control of the equipment.

40. FREQUENCY OF MEDICAL EXAMINATIONS FOR OPERATORS OF DECLARED EQUIPMENT

A manager of a mine shall not permit a person to continue to operate declared equipment in the mine unless that person has been medically examined within the previous 12 months.

41. PERSONAL RECORDS TO BE KEPT

(1) A personal record in relation to each employee who works underground in a mine or operates declared equipment shall be kept at the office of the mine.

(2) The record referred to in sub-regulation (1) shall contain, in relation to an employee the date -

(a) of birth of the employee;

(b) on which the employee commenced work at the mine;

(c) on which the employee commenced work underground in the mine;

(d) on which the employee was medically examined and the result of that examination; and

(e) on which the employee ceased to work at the mine.

(3) Within one month after the date on which an employee ceases to be employed at a mine the record kept under sub-regulation (1) shall be forwarded to the Chief Medical Officer appointed under the Public Health Act.

Penalty: $1,000.

42. HEALTH HAZARDS

(1) The Chief Government Mining Engineer may, by notice in writing served on the manager of a mine -

(a) declare a situation in which persons are or are about to work at the mine to be a health hazard; and

(b) direct that each person who works in that situation be medically examined at such intervals as are specified in the direction.

(2) A manager of a mine on whom a notice under sub-regulation (1) has been served shall ensure that the persons to whom the notice relates are medically examined in accordance with the directions in that notice.

(3) A medical practitioner who carries out a medical examination in pursuance of a direction under sub-regulation (1) shall furnish to the manager a written report on the fitness of the person so examined to work or continue to work at the mine.

Penalty: $1,000.

Division 2 - Protective Equipment for Mineworkers

43. SAFETY HELMETS

(1) Subject to sub-regulation (2), the manager of a mine shall supply a safety helmet which complies to Australian Standard 1800 - 1975 and Australian Standard 1801 - 1975 or is approved, to a person who is or may have reason to be -

(a) underground in the mine;

(b) in an open cut;

(c) in a construction area;

(d) on a drilling rig; or

(e) in a place in the mine specified by an Inspector.

(2) The Chief Government Mining Engineer may exempt the manager of a mine from an obligation imposed by sub-regulation (1).

44. SAFETY HELMETS TO BE WORN

A person supplied under regulation 43(1) with a safety helmet shall not fail, refuse or neglect to wear it while in or at a place referred to in sub-regulation 43(1).

Penalty: $500.

45. SNOODS

The manager of a mine shall supply a close-fitting snood to a person who works at a mine and who, in the opinion of the manager, has hair that is likely to be caught in moving machinery.

Penalty: $500.

46. SNOODS TO BE WORN

A person supplied under regulation 45 with a snood shall wear the snood while working on or near moving machinery.

Penalty: $500.

47. PROTECTIVE HEARING EQUIPMENT

The manager of a mine shall supply protective hearing equipment to a person at the mine who is or who is likely to be exposed to noise with a pressure level exceeding -

(a) the level fixed by the Chief Government Mining Engineer in relation to the mine; or

(b) if no level is fixed under paragraph (a), a maximum of 85 decibels measured in accordance with standard reference curve A referred to in Australian Standard 1259, Part I - 1976.

48. PROTECTIVE HEARING EQUIPMENT TO BE WORN

A person supplied under regulation 47 with protective hearing equipment shall not fail, refuse or neglect to properly fit and wear the equipment while exposed to noise in a mine with a sound pressure level exceeding the level specified in or under that regulation.

Penalty: $500.

49. HEARING TESTING

The manager of a mine shall arrange for annual testing of the hearing of a person employed at the mine who is regularly subjected to noise at a pressure level which exceeds the level specified in or under regulation 47.

50. RESPIRATORS

(1) The manager of a mine shall, if required -

(a) for the health or safety of a person in the mine; or

(b) by an Inspector,

supply an approved respirator or approved breathing apparatus to a person at the mine.

(2) A respirator or breathing apparatus supplied under sub-regulation (1) shall be -

(a) appropriate for the health or safety conditions in relation to which its use is required;

(b) properly fitted and tested before being worn.

51. RESPIRATORS TO BE WORN

A person supplied under regulation 50(1) with a respirator or breathing apparatus shall not fail, refuse or neglect to properly fit and wear it while performing the activities or work for which it was supplied.

Penalty: $500.

52. INSPECTION OF RESPIRATORS AND BREATHING APPARATUS

A non disposable respirator or breathing apparatus supplied under regulation 50(1) shall -

(a) be inspected not less than 4 times in each year by a competent person to see that it is in good working order and clean; and

(b) not be used unless it is in good working order and clean.

53. REFLECTIVE JACKETS

A person who works near trackless rubber-tyred mobile equipment in a mine shall be -

(a) supplied with a reflective jacket; or

(b) provided with other approved means of giving warning to drivers of that equipment of the proximity of the person.

54. REFLECTIVE JACKETS TO BE WORN

A person to whom a reflective jacket or other approved means of giving warning is supplied or provided, as the case may be, under regulation 53 shall not fail, refuse or neglect to wear it or use it while near trackless rubber tyred mobile equipment.

Penalty: $500.

55. SAFETY GEAR

A person employed at a mine shall wear footwear, protective clothing and other safety equipment as directed by the manager of the mine.

Penalty: $500.

56. CLOSE-FITTING GARMENTS TO BE WORN

A person who oils, greases or attends to the moving parts of machinery at a mine shall, while so doing, wear close-fitting and close-fastened garments that cannot readily be caught up by or become entangled in that machinery.

Penalty: $500.

57. SAFETY BOOTS

A person who -

(a) enters underground workings, quarries or pits; or

(b) works in a workshop on a construction site or materials handling site or drilling rig,

shall wear steel-toed safety boots.

Penalty: $500.

58. SAFETY BELTS, ROPES, &c.

The manager of a mine shall provide safety belts, ropes and safety ropes, all of which shall be of an approved type, for use by persons employed at -

(a) a precipitous place in the mine or on loose rock slopes;

(b) chutes, passes and bins; and

(c) places in a mine or quarry where there is danger of those persons falling from a height.

59. BELTS, &c., TO BE WORN

A person shall not fail to use the safety belts, ropes or safety ropes provided under regulation 58 when working in the places referred to in that regulation.

Penalty: $500.

60. UNLIT PARTS OF MINE

A person shall not enter an unlit part of a mine unless he carries a light adequate to ensure his safety.

Penalty: $500.

61. SAFETY LAMPS

(1) The manager of a mine shall appoint a competent person to inspect lockable safety lamps used in the mine.

(2) A person appointed under sub-regulation (1), and no other person, shall have possession of the means necessary to open the lockable safety lamps used in a mine.

62. USE OF SAFETY LAMPS UNDERGROUND

(1) A person shall not use a lockable safety lamp underground in a mine unless -

(a) the lamp is -

(i) an approved flame-proof electric cap lamp;

(ii) in safe working order; and

(iii) securely locked; and

(b) the lamp has been inspected by a person appointed under regulation 61(1), before it is taken underground.

(2) A person appointed under regulation 61(1) shall not allow the taking of a safety lamp underground in a mine unless he is satisfied that that lamp is in safe working order and securely locked.

Penalty: $1,000.

63. PORTABLE LAMPS

A person shall not use a portable lamp underground in a mine unless the lamp is of an approved design.

Penalty: $500.

Division 3 - General

64. LIQUOR, &c.

A person shall not -

(a) enter or remain at a mine whilst under the influence of intoxicating liquor, a drug or psychotropic substance;

(b) take intoxicating liquor onto or into a mine; or

(c) have intoxicating liquor in his possession whilst at a mine,

without the authority of the manager of a mine.

Penalty: $500.

65. REMOVAL OF INTOXICATED PERSONS

(1) The manager of a mine, or a person authorized by him, who has reasonable grounds for believing that a person employed at the mine -

(a) is under the influence of intoxicating liquor, a drug or a psychotropic substance; and

(b) is incapable of performing his duties, if any, at the mine or a part of the mine in which he is present without endangering his own safety or the safety of others,

shall immediately order the person to leave the mine.

(2) A person who is ordered to leave a mine under sub-regulation (1) shall comply with that order immediately.

Penalty: $1,500.

(3) Where a person is ordered to leave a mine or part of a mine under sub-regulation (1) and he fails to comply with the order immediately, he may be removed from the mine with the use of such reasonable force as is necessary to remove him.

66. VISITS TO REMOTE PARTS OF MINE

Where a person is employed underground in a mine and is working alone at a place where he is not in frequent communication with or within the hearing of other persons, the manager of the mine shall direct another person employed in the mine to visit that person at intervals of not more than 2 hours.

67. PERSON NOT TO BE ALONE IN DANGEROUS PART OF MINE

A person shall not work alone in a dangerous part of a mine unless he is a person required or permitted by the Act or these Regulations to inspect that part of the mine.

Penalty: $500.

68. LIGHTING OF PLACES ON MINES

(1) A place on a mine in or through which persons are working or passing during the period commencing 30 minutes before sunset on a day and ending 30 minutes after sunrise on the following day, shall be illuminated.

(2) An underground working plat and upper entrance to a winze or rise at a mine shall be illuminated while -

(a) it is uncovered or unfenced; or

(b) persons are working in or passing through it.

(3) Illumination required by sub-regulations (1) and (2) -

(a) shall be provided by fixed lamps; and

(b) shall be of the following intensity:

(i) if it is at ground level in an underground walkway - 10 candela;

(ii) if it is at ground level at an intersection or another point requiring emphasis in lighting - 20 candela; or

(iii) if it is on the surface of the mine where work is being performed in workshops - 160 candela.

PART IV - SANITATION AND AMENITIES

Division 1 - Cleanliness, &c.

69. MINE TO BE VERMIN FREE AND CLEAN

A mine shall be kept free from vermin and reasonably clean.

70. FOULING OF WORKINGS

A person shall not -

(a) pollute workings; or

(b) wilfully misuse or foul latrines or other sanitary conveniences, at a mine.

Penalty: $500.

71. STAGNANT WATER

(1) Stagnant water shall not be allowed to remain on, and shall be drained away from, the floors of levels at a mine.

(2) Where accumulations of stagnant water in winzes are being drained off, adequate precautions shall be taken to prevent dangerous pollution of the air in a mine by noxious gases which may be given off from that water.

(3) An Inspector may direct the manager of a mine to remove accumulations of stagnant water from the surface area of the mine.

72. DRINKABLE WATER

There shall be provided at a mine -

(a) on each working level - drinkable water sufficient for the needs of persons working there; and

(b) when persons are working in places on a level remote from the place where that water is provided - suitable containers for holding the water.

73. POWERS OF INSPECTOR

(1) An Inspector may require a manager of a mine to take such steps as are necessary to ensure the cleanliness of the mine.

(2) Without limiting the generality of sub-regulation (1), requirements under that sub-regulation include requirements to and in relation to -

(a) the frequency of removal and cleaning of sanitary conveniences; and

(b) the construction of the floor of a permanent latrine.

Division 2 - Change-houses

74. CHANGE-HOUSES TO BE PROVIDED

There shall be provided at a mine -

(a) the number of change-houses as directed by a notice in writing; or

(b) if no direction under paragraph (a) is given - one change-house.

75. STANDARD OF CHANGE-HOUSES

(1) A change-house at a mine shall be constructed in accordance with -

(a) standards in relation to -

(i) its design;

(ii) its location;

(iii) its minimum size;

(iv) the number of wash-basins to be provided in it;

(v) the number of shower-baths to be provided in it;

(vi) the provision of hot and cold water; and

(vii) the minimum size and the standard of construction of shower-baths,

as are directed in writing; or

(b) if no standards are directed under paragraph (a), the following standards:

(i) the change-house shall be located as near as practicable to the mine entrance;

(ii) the floor area of the change-house, other than the floor area used for passageways, heating pipes and drying racks, shall be not less than the area (expressed in square metres) obtained by multiplying the number of persons likely to use the change-house in any one shift by 0.6;

(iii) the number of wash-basins and toilets provided in the change-house shall be not less than the highest whole number obtained by dividing the number of persons likely to use the change-house in any one shift by 30;

(iv) if there is an adequate supply of fresh water available, the number of shower-baths provided in the change-house shall not be less than the highest whole number obtained by dividing the number of persons likely to use the change-house in any one shift by 10;

(v) there shall be an adequate supply of fresh hot and cold water connected to the wash-basins and shower-baths referred to in sub-paragraphs (iii) and (iv) for persons to wash themselves;

(vi) each shower-bath in the change-house shall be -

(A) not less than 1.2 metres from another shower-bath;

(B) screened from observation; and

(C) provided with adequate drainage to remove waste water;

(vii) the floors shall be made of concrete;

(viii) the walls shall be lined with tiles or other material impervious to the penetration of moisture; and

(ix) the change-house shall contain adequate seating at least 23 centimetres wide and at least 38 centimetres high.

(2) A change-house at a mine shall be -

(a) well ventilated and lit and shall be provided with sufficient appliances for drying wet clothes;

(b) divided into 2 separate sections, one of which shall be designated for clean clothes (other than working clothes) and the other for dirty or working clothes;

(c) so constructed as to be free from draughts; and

(d) provided with sufficient screening on the entry doors to moderate the wind when those doors are open.

76. CLEANING OF CHANGE-HOUSES

(1) Subject to sub-regulation (2), a change-house at a mine shall be cleaned -

(a) as frequently as is directed by the manager of the mine; or

(b) if no direction under paragraph (a) has been given - not less than once a week.

(2) The floors of a change-house at a mine shall be washed not less than once a day.

77. USE OF CHANGE-HOUSES

(1) Every person working with lead, uranium or other ores as are specified by the Chief Government Mining Engineer by notice in the Gazette shall change his ordinary clothes for working clothes in a change-house before going to his working place and shall change clothes again on finishing work before leaving the mine.

(2) A person who uses a change-house -

(a) shall not place his working clothes in the part of the change-house set aside for clean clothes; and

(b) shall, not less than once each week, remove his dirty clothes, safety helmet, belt and boots from the change-house.

Penalty: $500.

78. WEATHER PROTECTION TO BE PROVIDED

Protection from the weather shall be provided for persons travelling from a mine entrance or brace to a change-house.

Division 3 - Latrines

79. LATRINES TO BE PROVIDED

There shall be provided at a mine the approved number of -

(a) latrines; and

(b) urinals,

for the use of persons upon the surface of the mine.

80. SANITARY CONVENIENCES TO BE PROVIDED UNDERGROUND

(1) Where it is not practicable for persons working underground in a mine to come to the surface of the mine by reason of -

(a) the unavailability of transport; or

(b) the distance from the working place to the surface of the mine,

a sufficient number of sanitary conveniences shall be provided on each underground level of the mine.

(2) The sanitary conveniences required to be provided by sub-regulation (1) shall be -

(a) of an approved design; and

(b) placed, if possible, in a return airway.

81. DEODORANT AND DISINFECTANT TO BE PROVIDED

(1) This regulation applies where pans are used as sanitary conveniences.

(2) Adequate supplies of -

(a) an approved deodorant;

(b) an approved disinfectant; and

(c) scoops suitable for the application of that deodorant or disinfectant,

shall be kept alongside approved sanitary conveniences underground in a mine.

(3) A sanitary convenience shall be cleaned thoroughly and disinfected after being emptied.

Division 4 - Cribrooms

82. SURFACE CRIBROOMS

A cribroom shall be located within a convenient distance from a place on the surface of a mine, quarry or open cut where a person may be required to work.

83. UNDERGROUND CRIBROOMS

An Inspector may direct the manager of a mine to provide a cribroom on an underground level in the mine.

84. LOCATION OF UNDERGROUND CRIBROOMS

A cribroom required to be provided under regulation 83 shall -

(a) be in the driest and most comfortable position on the level; and

(b) be in an area which has a safe back.

85. STANDARD OF CRIBROOMS

(1) A cribroom shall -

(a) have a washable floor;

(b) have lined or painted walls; and

(c) contain -

(i) sufficient seating with backrests for the number of persons likely to use the room at any one time;

(ii) a table; and

(iii) a metal rubbish bin with a well-fitted lid.

86. WASHING WATER TO BE PROVIDED

There shall be provided close to a cribroom at a mine and in an approved site, a wash basin or basins and water suitable for ablutions.

87. REFRIGERATOR AND MEANS OF HEATING WATER TO BE PROVIDED

An Inspector may require the manager of a mine to provide a refrigerator and a means of heating water in a cribroom.

88. RUBBISH BINS TO BE USED

A person using a cribroom shall not put rubbish, including waste food or paper, anywhere in a cribroom other than in the rubbish bin.

Penalty: $500.

89. CLEANING OF RUBBISH BINS

A rubbish bin in a cribroom in a mine shall be -

(a) emptied regularly and the contents sent up to the surface of the mine; and

(b) cleaned thoroughly not less than twice in a week.

Division 5 - General

90. DEBRIS, &c., NOT TO BE SENT DOWN MINE

A person shall not send down a mine debris, refuse or other material that is likely to be injurious to health, whether the mine is abandoned or not, except with the approval in writing of the Chief Government Mining Engineer.

Penalty: $1,500.

91. BRACE PROTECTION

A brace in a mine shall be adequately covered to protect persons from inclement weather.

PART V - VENTILATION

Division 1 - Application

92. APPLICATION

This Part does not apply to, or in relation to, parts of a mine which have been closed off.

Division 2 - Ventilation Officers

93. APPOINTMENT OF VENTILATION OFFICERS

(1) An Inspector may, by notice in writing served on the manager, direct that manager of a mine to appoint a person to be ventilation officer for the mine.

(2) The manager of the mine shall notify an Inspector who gave a direction under sub-regulation (1) of the name of a person appointed as ventilation officer for the mine.

94. DUTIES OF VENTILATION OFFICER

A ventilation officer for a mine shall, from time to time, examine and report on -

(a) the quality, distribution and use of water used for laying dust;

(b) the condition of appliances located at a working place for using water;

(c) the concentration of dust in the air in the mine;

(d) temperature and humidity readings in working places in the mine;

(e) the condition of the mine in respect of ventilation, having particular regard to the amount of air supplied to miners -

(i) during the interval after blasting and before entry; and

(ii) during the working shift,

in all development ends in which there is not an air current;

(f) the location and levels of noxious gases; and

(g) radiation levels and worker exposure to radiation where the work is not carried out by a Radiation Officer under the Uranium Mining (Environmental Control) Act.

95. RECORD OF EXAMINATION

A ventilation officer who carries out an examination in a mine shall, at the end of the examination, record in the Record Book or in a record book specially kept for that purpose, the conditions as found by him.

Division 3 - Ventilation in Mines

96. CLEAN AIR TO BE PROVIDED

Subject to this Part, a working, and each part of a working, in a mine shall be kept ventilated to the extent that -

(a) it is a fit place to pass through or in which to work; and

(b) the air in that working or part of that working -

(i) contains not less than 19% by volume of oxygen; and

(ii) contains no more aldehydes (as formaldehyde), carbon dioxide, carbon monoxide, nitrogen dioxide, or dust (nuisance or containing hazardous substances) than is specified by the Chief Government Mining Engineer by notice in the Gazette or, if no such notice has been published, in the Code of Practice on Radiation Protection in the Mining and Milling of Radioactive ores or the Journal of Atmospheric Contaminants November 1980 published by the Australian Health and Medical Research Council.

97. TEMPERATURE

The temperature of air in a working place underground in a mine shall not exceed the temperature specified by the Chief Government Mining Engineer.

98. TESTING FOR CLEAN AIR

(1) A competent person appointed by the manager of a mine shall, at approved regular intervals, make tests in the working face and airways of the mine to establish whether regulation 96 has been complied with.

(2) The results of the tests carried out in a mine pursuant to sub-regulation (1) shall be entered in the Record Book for the mine.

(3) The methods and apparatus used to carry out the tests required by this regulation shall be such methods and apparatus as are approved.

99. WORKING IN UNVENTILATED AREAS PROHIBITED

(1) Where the ventilation of a place in a mine is inadequate, no work, except work necessary for the purpose of remedying the inadequate ventilation, shall be undertaken in that place.

(2) Adequate protection satisfactory to an Inspector shall be provided for persons carrying out work required to restore adequate ventilation in a mine.

100. CLOSING OFF OF MINES

Where a part of a mine is closed off from the ventilation system, it shall be -

(a) securely barricaded so as to prevent access being obtained to that part of the mine from an other part of the mine; and

(b) appropriately signposted.

101. MATTERS TO BE ENTERED IN RECORD BOOK

(1) The manager of a mine shall record in the Record Book, in respect of a part of the mine which is closed off -

(a) the means used to close it off;

(b) its location; and

(c) the date on which it was closed off.

(2) Where a part of a mine which is closed off is reopened, the manager of the mine shall record the fact in the Record Book.

102. RECIRCULATION OF AIR

Subject to regulation 110, the main air currents in a mine shall be regulated so that the same air does not return through the same place.

103. BACK VENTILATION

Infill or shrinkage stopes, rearings or passes in a mine shall be constructed so as to leave open airways between the filling and unbroken ground.

104. PROPER VENTILATION AIR CURRENTS TO BE PROVIDED

(1) Air doors, stoppings, cross-overs and brattices shall be provided in a mine to correctly regulate ventilation air currents.

(2) Air doors, stoppings, cross-overs and brattices provided in a mine shall be maintained in good order and condition.

(3) Air doors in a mine shall be constructed so that they close automatically and remain closed.

(4) An air door that is not in use in a mine shall be lifted off its hinges.

105. ONE OR MORE INDEPENDENT AIRWAYS TO BE PROVIDED

There shall be one or more airways independent of the main shaft or other principal entrance to a mine extending from the lowest level through to the surface of the mine and of sufficient area to allow passage of the amount of air required to ventilate the parts of the mine served by the airway.

106. EXTRA AIRWAYS

The Chief Government Mining Engineer may direct the manager of a mine to provide rises, chambers, drives or workings additional to those prescribed by these Regulations.

107. AIRWAYS TO BE OPEN

Airways in a mine referred to in regulations 105 and 106 shall be open unless the mine will not be adequately ventilated due to such airways being open.

108. POWERS OF INSPECTOR

An Inspector may direct the manager of a mine -

(a) to keep open excavations by which 2 mines are connected for the ventilation of the mine or to provide a means for the escape of miners;

(b) if, in the opinion of the Inspector, the ventilation of the mine will be improved, to close excavations by which 2 mines are connected;

(c) if the Inspector is of the opinion that the state of ventilation in a part of the mine is inadequate and there is no immediate prospect of improvement in the ventilation by connecting workings, he may direct the manager of the mine to provide and use ventilating machines or auxiliary ventilating machines;

(d) to mark on a set of plans and sections kept at the mine -

(i) the direction, course and volume of air currents; and

(ii) the position of all air doors, stoppings, fans and ventilating devices,

in the mine;

(e) to provide the Inspector with a copy of plans and sections marked in accordance with paragraph (d); and

(f) to take such measures in relation to the temperature in the mine as are specified in the direction.

109. POWER OF CHIEF GOVERNMENT MINING ENGINEER

The Chief Government Mining Engineer may direct owners or managers of adjacent mines to connect mines by such excavations as are specified in the direction as the Chief Government Mining Engineer considers necessary for the purpose of the ventilation of a mine or to provide a means for the escape of miners.

110. DIRECT VENTILATION

An Inspector may direct that workings in a mine be ventilated by a separate split of air from the main intake and, after the air has passed through those workings, that it shall be led as directly as possible to the return airway.

111. NOTIFICATION OF RISES

(1) Before commencing a rise that is to extend more than 10 metres above the floor of a level in a mine, except where a rise borer is used, the manager of the mine shall supply to an Inspector written details of -

(a) the location and design of the rise; and

(b) any special ventilation conditions.

(2) An Inspector may give the manager of a mine directions in relation to the ventilation of rises referred to in sub-regulation (1).

112. DUST CONTROL

Where a person is working in a part of a mine where such an amount of dust is produced in the course of mining operations that the air in respect of that part does not comply with regulation 96, sprays, jets of water or other effective means of laying or removing dust shall be used.

113. DUST NUISANCES

An Inspector may, if he is of the opinion -

(a) that dust or noxious fumes from -

(i) tailings dumps;

(ii) other heaps of waste rock; or

(iii) mill residues,

in a mine is or may be a nuisance to a person employed on or in the vicinity of such dumps, heaps or residues as the case may be; or

(b) that the air in an area of a mine does not comply with regulation 96,

direct the manager of the mine -

(c) to provide and cause to be constantly used such spraying appliances as will effectively lay that dust; or

(d) to cover the area so as to prevent that dust or those fumes from escaping.

114. WATER NOT TO BE POLLUTED

Water used at a mine for the purpose of laying dust shall be kept free from pollution by noxious matter.

115. CYANIDE IN TAILINGS

Tailings shall not be used for filling worked-out ground if they contain more cyanide than is equivalent to 0.01% of potassium cyanide.

116. FUME EXTRACTION

(1) All vessels at a mine which are -

(a) used for the chemical treatment of a substance; and

(b) likely to give off noxious gases,

and the sites of the chemical treatment of a substance at a mine, where such treatment is likely to give off such gases, shall be fitted with ventilation hoods or other appliances -

(c) to prevent fumes from entering the air breathed by the workmen engaged on the process; and

(d) to discharge fumes into the atmosphere in such a manner as to cause no inconvenience to workers at the mine.

(2) Without limiting the generality of sub-regulation (1), a reference in that sub-regulation to the chemical treatment of a substance includes a reference to an acid treatment of the slimes from the cyanide process.

117. FUMES FROM PLANT

Approved devices shall be provided in a mine for the removal of fumes and toxic gases likely to escape from a furnace or other plant at the mine.

118. AIR TO BE FROM PUREST SOURCE AVAILABLE

The supply of air for a ventilating machine or air compressor that forces air into the workings of a mine shall be drawn from the purest source available.

119. DEVELOPMENT VENTILATION

Where work is carried out in the development end of a winze in a mine -

(a) that end shall not be advanced more than the approved distance from a through air current; and

(b) no working shall be taken off that end at a distance greater than the approved distance from the nearest through air current unless -

(i) ventilating equipment delivering air to the place through pipes with sufficient volume and velocity to remove and dilute the dust; and

(ii) equipment to exhaust that air, if necessary,

is provided at the face of the end.

120. WINZE AND RISE VENTILATION

(1) Explosives shall not be fired in a winze, rise or working from a winze or rise, as the case may be, unless -

(a) the ventilation in the winze, rise or working is approved; or

(b) the ventilation in the winze, rise or working is by compressed air discharged from a hose or pipe secured -

(i) not more than 6 metres from the working face; or

(ii) so as to discharge air into the working face; and

the master valve controlling the supply of air to the winze, rise or intermediate workings is situated in the approved position or at the brace or top of the winze.

(2) No valve, other than -

(a) the master valve referred to in sub-regulation (1); or

(b) an approved valve,

shall be installed in a winze.

121. BLASTING TIMES

(1) Subject to this regulation, blasting operations shall be carried out only -

(a) at approved times; and

(b) subject to approved conditions.

(2) Where an Inspector has not approved times for blasting at a mine, blasting shall be carried out at times set aside for the taking of meal breaks or at the change of shifts just prior to or after hoisting the employees.

(3) Where there is danger of dust or gas ignition from blasting in a mine such blasting shall be carried out only between shifts when no one is present in the workings.

(4) The times approved under sub-regulation (1) for blasting at a mine, and conditions, if any, to which blasting is subject, shall be entered in the Record Book for the mine.

122. BLASTING AREA TO BE CLEARED

A person shall not enter a working place within 10 minutes after blasting has taken place and until the fumes and toxic gases arising from the explosion have been dispersed effectively.

123. SAFETY OF BLASTING AREAS

A person entering a working place immediately after blasting has taken place shall, before undertaking work -

(a) establish that the area is safe for entry;

(b) wet down the area of blasting; and

(c) examine the area of the blast to check for misfires.

Penalty: $500.

124. BLOWING OUT OF RECEIVERS

Receivers and pipes connecting them with compressors shall be blown out not less than once a day.

125. WATER IN AIR SYSTEM

(1) Water shall not be permitted to blow through a working place at a mine from an air main, a compressor or a branch main used at the mine.

(2) An air main, compressor and branch main at a mine shall be furnished with sufficient approved traps to remove accumulations of water.

(3) Traps referred to in sub-regulation (2) shall be blown out not less than once in a shift.

PART VI - ENGINES UNDERGROUND

Division 1 - Fuel and Fuelling of Engines

126. TYPE OF FUEL

Oil which -

(a) has a closed cup flash point of less than 61°C;

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

(c) contains an additive which has not been approved in writing by the Chief Government Mining Engineer,

shall not be used underground in a mine for fuelling diesel-engined vehicles.

127. STORAGE OF FUEL, &c.

Fuel oil, oil and lubricants used underground in a mine shall be stored in an approved oil storage room -

(a) that is at a safe distance from travelling ways;

(b) that is constructed of non-flammable material; and

(c) that has a suitably paved and drained floor and a covered sump capable of holding not less than one and one-half times the quantity of fuel and lubricants stored.

128. QUANTITY OF FUEL STORED

The quantity of fuel oil, oil and lubricants stored underground in a mine shall be approved by the Chief Government Mining Engineer.

129. SAFETY IN FUEL STORAGE AREAS

A person shall not -

(a) service a compression ignition engine; or

(b) smoke or use a naked light,

in an oil storage room at a mine.

Penalty: $1,500.

130. TRANSPORT OF FUEL UNDERGROUND

(1) Fuel shall be conveyed underground in a mine -

(a) in approved receptacles that do not leak; or

(b) in a pipework system approved by the Chief Government Mining Engineer.

(2) Receptacles and pipes referred to in sub-regulation (1) shall be regularly tested and examined for leaks.

131. UNDERGROUND SERVICE STATIONS AND WORKSHOPS

(1) A compression ignition engined vehicle that cannot be conveniently fuelled and serviced on the surface of a mine shall not be fuelled and serviced underground in a mine except at an approved underground service station.

(2) A service station or workshop underground in a mine shall be -

(a) constructed -

(i) with a concrete floor; and

(ii) of non-flammable material; and

(b) ventilated as approved.

132. OIL SPILLAGES

A spillage of oil in an underground service station or workshop in a mine shall be taken up immediately by dry sand, deposited in a fireproof receptacle, and removed from the mine.

133. FUELLING IN UNDERGROUND SERVICE STATIONS

Fuelling of engines underground in a mine shall be by -

(a) pump and hose; or

(b) an approved method.

134. FIRE PREVENTION

(1) Approved fire extinguishers shall be provided -

(a) on all compression ignition engined vehicles; and

(b) near all oil storage rooms, service stations and workshops,

underground in a mine.

(2) Buckets of dry sand shall be provided at oil storage rooms, service stations and workshops underground in a mine.

135. SERVICE STATIONS, &c., TO BE NO-SMOKING AREAS

A person shall not use a naked light or smoke in or within 8 metres of an underground service station or workshop.

Penalty: $1,500.

Division 2 - Equipment

136. EXHAUST CLEANERS

(1) Each compression ignition unit exhaust in a mine shall be equipped -

(a) with a water scrubber; or

(b) with an approved diluting and diffusing apparatus.

(2) Where a scrubber required by sub-regulation (1) is used on a compression ignition unit -

(a) the water shall be changed not less than twice in each working shift; and

(b) the scrubber tank shall be cleaned not less than once a day.

137. EXHAUST DISCHARGE

The exhaust fumes from the operation of a compression ignition engine underground in a mine shall be discharged at a point remote from the engine operator or driver.

Division 3 - Operation of Engines Underground

138. APPROVAL OF ENGINES

(1) An internal combustion engine, other than a compression ignition engine, shall not be installed or used underground in a mine without the written approval of the Chief Government Mining Engineer.

(2) The power of the Chief Government Mining Engineer under sub-regulation (1) to approve the installation or use of an internal combustion engine includes the power to direct that specified tests of the engine be carried out before the approval is given.

139. RECORD OF ENGINES

(1) There shall be kept in respect of a mine a book called the Machine Record Book.

(2) A compression ignition engine used underground in a mine shall have an official number that shall be recorded in the Machine Record Book.

140. UNSAFE ENGINES NOT TO BE USED

A compression ignition engine that has a defect that may affect its safe operation or the safety of persons working underground in a mine shall not be used.

141. SAFETY CHECKS

(1) A compression ignition engined vehicle used underground in a mine shall be examined -

(a) not less than once a day by a competent person other than the driver or operator of the vehicle; and

(b) not less than once a week -

(i) by a competent driver or operator; and

(ii) by a competent compression ignition engineer or mechanic.

(2) The results of the weekly inspections referred to in sub-regulation (1) and the actions taken to remedy defects, if any, shall be recorded in the Machine Record Book.

(3) A compression ignition engine which is not in a vehicle shall be examined not less than once a week by a competent compression ignition engineer or mechanic.

142. ENGINE-DRIVERS

A person -

(a) under the age of 18 years; or

(b) who is not the holder of an appropriate licence or certificate to operate an internal combustion engine, if such a licence or certificate is required,

shall not be employed to drive a compression ignition engine underground in a mine.

143. IDLING OF ENGINES

A person shall not leave a compression ignition engine running in a stationary vehicle used underground in a mine, except for short periods when necessary, and while the engine is so running, he shall remain in control of it.

Penalty: $500.

Division 4 - General

144. AIRFLOW INDICATORS

An Inspector may direct the manager of a mine to install suitable devices in a place where compression ignition engines are used underground in a mine to show whether a sufficient quantity of air is circulating in that place.

145. AIR QUALITY

Compression ignition operated equipment shall not be used underground in a mine if the undiluted exhaust gases of that equipment contain -

(a) more than 1,000 parts per million of carbon monoxide; or

(b) more than 1,000 parts per million of combined oxides of nitrogen calculated as nitrogen dioxide.

146. TESTING OF AIR QUALITY

(1) A competent person shall sample and analyse air -

(a) as frequently as directed; or

(b) if no direction under paragraph (a) has been given - not less than once in a month,

in a place where a compression ignition engine is used underground in a mine.

(2) The results of analyses required to be conducted by sub-regulation (1) shall be entered in the Machine Record Book for a mine.

147. COPY OF THIS PART TO BE AVAILABLE

A copy of this Part shall be posted in a service station, workshop and oil storage room at a mine.

PART VII - SELF-PROPELLED VEHICLES UNDERGROUND

148. DEFINITION

In this Part, "vehicle" includes a locomotive.

149. EXAMINATION OF ROADS

(1) The manager of a mine shall, by instrument in writing, appoint a competent person to be in charge of an underground road used in the mine.

(2) Not less than once a day, the competent person appointed under sub-regulation (1) shall inspect -

(a) the whole of a road in the mine for clearance and freedom from obstruction; and

(b) the road and track for ventilation, and the state of the back and walls, and for general safety.

150. SAFETY EQUIPMENT ON VEHICLES

(1) A vehicle used underground in a mine shall be provided with -

(a) an efficient brake;

(b) if it is an electrically-powered locomotive - an approved rheostat system;

(c) unless it is a battery-powered locomotive - a speed indicator so placed as to be readily seen by the driver;

(d) efficient lights;

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

(f) adequate protection for the driver;

(g) a portable fire extinguisher of an approved type so placed as to be within easy reach of the driver; and

(h) if it is equipped with a battery - a battery isolating switch in the driver's cabin.

(2) A vehicle which is -

(a) not a remote-controlled vehicle; and

(b) used underground in a mine,

shall be so designed that it cannot be operated unless the driver is sitting in the vehicle.

151. VEHICLE INSPECTIONS

(1) A vehicle used underground in a mine shall be inspected -

(a) not less than once a working day by a competent person; and

(b) not less than once a week by a competent engineer or mechanic,

appointed by the manager of the mine to ensure that it is in all respects in a proper and safe working condition.

(2) The results of an inspection required to be made by sub-regulation (1) and actions taken to remedy defects found by a person making the inspection shall be recorded by him in the Machine Record Book for the mine.

152. DEFECTIVE VEHICLES

A person shall not drive a vehicle underground in a mine if it has a defect likely to affect its safe operation.

Penalty: $500.

153. REMOTE-CONTROLLED VEHICLES

A remote-controlled vehicle shall not be used underground in a mine without the approval of the Chief Government Mining Engineer.

154. DRIVERS

(1) Subject to regulation 155, a person shall not drive a vehicle underground in a mine unless -

(a) he has been examined by the manager of the mine or some competent person appointed in writing by the manager for that purpose; and

(b) he has been authorized in writing by the manager of the mine to drive that vehicle.

Penalty: $500.

(2) A duplicate of an authority given under sub-regulation (1)(b) shall be forwarded to an Inspector within 7 days after it has been given.

155. REVOCATION OF AUTHORITY TO DRIVE

(1) An Inspector or the manager of the mine may revoke an authority given under sub-regulation 154(1)(b), and may do so orally, if he is of the opinion that the holder of the authority is not a fit and proper person to have charge of a vehicle underground in the mine.

(2) The authority given under sub-regulation 154(1)(b) shall be surrendered to the Inspector for cancellation within 7 days of being revoked.

156. DUTIES OF DRIVERS

A driver of a vehicle underground in a mine shall -

(a) inspect the condition of a roadway he is required to use and shall not travel on a roadway which is unsafe; and

(b) report to his supervisor any defect in or damage to the vehicle or a roadway he is required to use.

Penalty: $500.

157. USE OF LOCOMOTIVES

(1) Equipment shall not, without approval, be transported underground in a mine on top of a locomotive.

(2) A person who is not the driver of a locomotive used underground shall not, without approval, ride on the locomotive.

Penalty: $500.

158. BRAKING ASSISTANCE FOR LOCOMOTIVES

An Inspector may direct that a locomotive used underground in a mine be provided with a container to hold sand and a device to spray that sand on the rails to assist in braking.

159. RAKE OF TRUCKS

Where a locomotive is pushing a rake of trucks underground in a mine -

(a) approved illumination shall be provided and used on the leading truck; and

(b) chains as well as buffer couplings shall be used to link the trucks.

160. LOCOMOTIVES MOVING LOADED TRUCKS

Where loaded trucks are being moved by a locomotive, the locomotive shall be placed -

(a) as directed; or

(b) if no direction has been given - on the down slope end of the trucks.

PART VIII - LADDERWAYS AND TRAVELLING WAYS

161. CONSTRUCTION OF TRAVELLING WAYS

A travelling way in a mine shall be so constructed that -

(a) a vehicle, other than a vehicle which travels on rails, using the way is able to deviate to either side leaving a distance of not less than 600 millimetres between one side of the vehicle and the wall of the way nearest that side; and

(b) a vehicle which travels on rails while using the way has a distance of not less than 600 millimetres between one side of the vehicle and the wall of the way nearest that side,

and that a sufficient number of clearly marked refuge spaces adequate for three persons have been provided in the way.

162. SHAFT LINING

Where the natural strata in a mine are not safe, a ladderway, travelling way, working or pumping shaft shall be made secure by timbering, lining or in some other approved manner.

163. PERSONS NOT TO USE LADDERWAYS IN SHAFTS WHILE HAULAGE PORTION IN USE

A person shall not ascend or descend a portion of a shaft by ladderway while the haulage portion is in use, unless that haulage portion is cased or securely fenced off from the ladderway compartment with a solid partition.

Penalty: $500.

164. FOOTWAYS TO BE PROVIDED

In addition to a mechanical means of entry to and exit from a mine, there shall be provided not less than one clearly marked and separately located footway connecting the surface of the mine to the workings.

165. CONNECTION BETWEEN PLACES IN MINES

(1) Suitable ladderways or footways shall be provided to connect -

(a) floors of sets in stopes at a mine; and

(b) other places at the mine between which connection is necessary or convenient.

(2) Suitable ladderways or footways, or other approved means of travel, shall be provided in a shaft, winze or rise being sunk or risen for persons decending or ascending the shaft, winze or rise.

166. STANDARD OF LADDERWAYS

(1) A ladderway permanently used by persons at a mine shall -

(a) be securely fixed but not in an overhanging position;

(b) be inclined at the most convenient angle that the space in which the ladder is fixed allows;

(c) have substantial platforms at intervals of not more than 9 metres;

(d) unless it extends above the top of an opening or platform, have suitable fixtures for the handgrip placed above it for the use of persons using that ladderway;

(e) be so placed that as between each rung and the wall against which it is placed there is not less than 130 millimetres of foothold; and

(f) be so constructed so that the distance between the centres of the rungs is not more than 300 millimetres.

(2) The Chief Government Mining Engineer may exempt a manager from sub-regulation (1).

167. NEW LEVELS TO BE CONNECTED TO SURFACE

As soon as practicable after the opening of a new level of a mine, the surface of the mine and that level shall be connected by passage-ways independent of and separate from the main shaft or other principal entrance to the mine.

168. ADDITIONAL ACCESS

An Inspector may direct that means of access other than and in addition to that required by regulations 165 and 167 be provided into a workplace.

169. INSPECTIONS

A shaft used for travelling and a main travelling way shall be inspected by 2 competent persons -

(a) not less than once a week; and

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

170. TRAVELLING WAY AND SHAFT INSPECTION

(1) A person 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 has been inspected for safety by a competent person appointed by the manager of the mine.

(2) A person shall not be permitted to travel by a shaft down which material has been allowed to fall so that damage may have occurred to the shaft, until it has been inspected in pursuance of sub-regulation (1).

171. RECORDS OF INSPECTIONS

Results of inspections carried out under regulation 169 or 170 shall be recorded in the Record Book for the mine.

PART IX - ON-SITE PROTECTION

172. WINZES TO BE CLEAR OF TRAVELLING WAYS

A winze in a mine shall be sunk clear of travelling ways, unless otherwise approved.

173. EQUIPMENT NOT TO BE INTERFERED WITH

A person shall not wilfully damage or, without proper authority, use, remove, render useless or interfere with an appliance or thing provided at a mine.

Penalty: $1,000.

174. SERVICES

(1) Air, water and other fluid services, other than electrical services, at a mine shall be supported by properly secured fastenings.

(2) Pipelines at a mine shall be connected by approved couplings.

(3) A sufficient number of control valves shall be installed in service lines that are under pressure to safely isolate sections of that service at a mine.

(4) A flexible service line, pipe or tube shall not be connected to a fixed line, pipe or tube -

(a) unless a valve is fitted which can isolate it from the fixed line, pipe or tube;

(b) which is used to carry liquid or gas at pressure unless it is secured by some means to ensure security of each connection by which it is fixed to the fixed line or another flexible line; or

(c) to convey compressed air to operate a winch used in conveying men.

175. HYDRAULIC EQUIPMENT

(1) Hydraulic hoses and fittings of pumps used in connection with such hydraulic hoses shall comply with the relevant requirements of Australian Standards B266 - 1972.

(2) Hoses used at a mine -

(a) shall not be subjected to pressures or operating temperatures higher than their manufacturers recommendation; and

(b) shall not, nor shall the fittings used in connection with such hoses, be subjected to tension or excessive vibration.

(3) Hydraulic equipment used at a mine, including hoses, shall be inspected not less than once a week by a competent person appointed by the manager of a mine and all damaged or otherwise faulty parts shall be promptly replaced.

176. REPAIRS TO SERVICES UNDER PRESSURE

(1) A person shall not carry out repairs to a service which is under pressure.

(2) A person shall not carry out repairs on a pipeline which could be dangerous if the supply inside is turned on unless he has put a notice on the valve controlling the supply to that line indicating that it is being repaired.

(3) After the repairs referred to in sub-regulation (2) are completed, the person carrying out those repairs shall remove the notice placed on the valve in pursuance of that sub-regulation.

(4) A person who is not the person referred to in sub-regulation (2) shall not remove the notice referred to in that sub-regulation or turn on the valve to which the notice is attached.

Penalty: $1,000.

177. GATES, &c., TO BE PROVIDED AT SHAFT ENTRANCES

(1) Gates or other similar approved appliances shall be provided at shaft entrances at a mine.

(2) The entrances between the bottom of a working or pumping shaft and the head sheaves and elevated platforms where bars or automatic or safety doors are erected or self-acting catches are used shall be adequately and securely fenced, railed or covered, as the case may be.

(3) If a gate, fence, rail or cover required by sub-regulation (1) or (2) is removed temporarily from an entrance to permit normal mining operations to be carried on, a strong horizontal bar shall be securely affixed across the entrance at a height of not less than 900 millimetres and not more than 1,200 millimetres from the floor of the brace, chamber or drive.

(4) The manager of a mine shall not be held to have committed an offence against sub-regulation (1) or (2) by reason only of the temporary removal of a fence or cover to repair it if the measures required by sub-regulation (3) are taken.

178. SHAFT COVERS

A shaft or opening which is abandoned or not used at a mine shall be covered at the surface with -

(a) a reinforced concrete slab or with a grid of steel with gaps not less than 200 millimetres wide; or

(b) other approved means which will be permanently secure and will prevent persons from falling down the shaft or opening.

179. SITE PROTECTION

(1) Where there is danger of persons falling in, whether on the surface of or underground in a mine, and whether being worked or not -

(a) a drive, winze, rise, stope or excavation; and

(b) a dam, slime dam, sump or water-filled excavation,

shall be protected in a manner which is designed to prevent persons from falling in.

(2) A person who is working in or about a place -

(a) to which sub-regulation (1) (a) applies and which is being used for entry or exit, shall wear an approved safety harness; or

(b) to which sub-regulation (1)(b) applies, shall not work alone and shall have life belt and rope located near at hand.

180. DANGEROUS MACHINERY AND SITES TO BE FENCED

(1) A flywheel, exposed or dangerous part of machinery at a mine and each tramway constructed on an elevated platform used at a mine, other than a tramway operated by ropes, shall be kept securely and safely fenced.

(2) Ash-pits and ash-heaps at a mine shall be kept securely and safely fenced.

181. VATS TO BE FENCED

(1) A vat of corrosive, toxic or dangerous chemicals used in connection with a process at a mine shall be securely fenced.

(2) The manager of a mine shall be deemed to have complied with sub-regulation (1) if he complies with a direction of an Inspector in relation to the precautions to be taken in relation to the vats referred to in that sub-regulation.

182. CONVEYORS

A conveyor used at a mine shall comply with the relevant requirements of Australian Standard 1755 - 1975 relating to conveyors.

183. SIGNALS IN WINZES MORE THAN 6 METRES DEEP

(1) This regulation applies to and in relation to winzes more than 6 metres deep.

(2) There shall be installed in a winze in which a hoisting appliance is used -

(a) an approved contrivance; or

(b) if no approved contrivance is present - a knocker line,

to communicate signals to the driver of the appliance.

(3) Signals shall not be orally communicated in a winze without approval.

184. OBSTRUCTED OR JAMMED PASSES, &c.

(1) A person in a mine who becomes aware that an underground pass, chute or opening that has an angle of more than 45 degrees to the horizontal has become obstructed or jammed shall inform the person in charge of mining work underground in the mine and that person shall, subject to sub-regulation (2), take all practicable steps to free the obstruction or jam.

(2) A person shall not go into or beneath an obstruction or jam referred to in sub-regulation (1) until all other practicable means of freeing it have been used unless -

(a) there is a means of immediate escape within 2 metres of that person; and

(b) that person has received the written consent of the manager of a mine to do so.

Penalty: $500.

185. ENTRY TO PASSES

A person shall not enter into the top of a pass or chute at a mine from which rock has been drawn -

(a) until -

(i) it has been emptied and freshly filled; or

(ii) it has been declared safe by a competent person; and

(b) unless he wears a short line safety harness with not more than 2 metres of slack on the line.

Penalty: $500.

186. ENTRY TO SHRINKAGE STOPES

Where stopes in a mine are being worked on the shrinkage system, ore shall not be drawn off until persons working in, or likely to enter, the stope have been notified that the ore is to be drawn off.

187. BACK HEIGHTS

(1) Subject to this regulation, stoping, otherwise than by timber stopes, shall not be carried on underground in a mine by a method by which the excavation is filled with waste, rock, sand, earth or broken ores as support, unless the filling shall at all times be kept up to within a mean distance of 3.5 metres from the back or roof measured at 90 degrees from the mean level of the surface of the filling.

(2) The height of the back above the filling in a stope may exceed 3.5 metres if approved but should not exceed -

(a) if a mobile, extensible barring down platform is used - 5 metres; or

(b) in any other case - 8 metres.

(3) An approval given under sub-regulation (2) shall be noted in the Record Book by the Inspector who gave it.

188. TUNNELS IN CLOSE PROXIMITY

When a tunnel or an associated working underground in a mine approaches within 10 metres of another tunnel, an associated working or the surface of the mine, irrespective of whether actual work is being carried out in those tunnels or on the surface, as the case may be -

(a) one end only shall be advanced;

(b) the end of the other tunnel or working shall be mucked out, checked for misfires and all butts flushed out with water;

(c) the stopped end shall be barricaded off at a safe distance; and

(d) a sign with the words "DANGER - BLASTING WITHIN 10 METRES" shall be posted on the barricade.

189. TRANSFER PASSES

Where an opening connecting 2 different levels underground in a mine is used as a pass or chute for the transfer of rock by gravity, unless otherwise directed -

(a) effective means to control the outrush of rock from the transfer shall be provided;

(b) entry at the discharge shall be restricted to persons suitably protected for removing rock;

(c) means for suppressing or removing by remote means the dust produced by the discharged rock shall be provided; and

(d) the area shall be barricaded when not in use, and clearly marked by a sign with the words "NO ENTRY".

190. RISE DISCHARGE

(1) A rock discharge area at the base of a rise underground in a mine shall be barricaded to prevent unauthorized entry and clearly marked by a sign with the words "DANGER - RISE IN PROGRESS".

(2) The discharge of cuttings or other materials shall be prevented from spilling out of the rock discharge area.

PART X - WINDING

Division 1 - Licences

191. WINDING LICENCE

(1) For the purposes of section 45(1) of the Act, it is a condition of a winding licence that such licence will only be used at a mine in accordance with the following table:

Capacity of winding engine	Purpose of which licence may be used
unlimited capacity	hoisting men and material
more than 25 kilowatts	hoisting material
less than 25 kilowatts	hoisting men or material or both

(2) Notwithstanding sub-regulation (1) a licence or permit is not required to hoist material on a winch of less than 5 killowatts capacity.

Division 2 - Record Book

192. WINDER RECORD BOOK TO BE KEPT

(1) A book, to be known as the Winder Record Book, shall be kept for a mine.

(2) An entry in the Winder Record Book for a mine shall be signed by the manager of the mine.

193. ENTRIES IN WINDER RECORD BOOK

The manager of the mine shall enter in the Winder Record Book for the mine a history of each winding rope used at the mine, including -

(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 date on which the rope was installed;

(d) the date of a cropping of the rope;

(e) the date of a recapping of the rope;

(f) the date of a testing of the rope;

(g) the results of each test carried out on the rope;

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

(j) the date on which the rope was examined, cleaned and oiled in pursuance of these Regulations.

194. NOTIFICATION OF OCCURRENCES

(1) A manager of a mine shall report to an Inspector within 24 hours of the following occurrences in relation to a crane, hoist, lifting or winding system:

(a) the replacement or repair of major components;

(b) an overwinding;

(c) a rope breakage;

(d) a slack rope;

(e) a failure or breakage of a brake, steering or limiting device; or

(f) other than normal stoppages however caused.

(2) Details of an occurrence in sub-regulation (1) and the time when it occurred shall be entered in the Winder Record Book.

Division 3 - Ropes

195 CHAINS NOT TO BE USED IN PLACE OF WINDING ROPES

(1) This regulation does not apply to or in relation to the suspension of kibbles in shaft sinking operations in accordance with regulation 286.

(2) Subject to sub-regulation (3), chains shall not be used in place of winding ropes in a shaft in a mine while persons are being raised or lowered.

(3) Two coupling chains of not more than 2 metres in length may be used to attach a shaft conveyance to a winding rope in a vertical shaft in a mine where -

(a) such chains are of identical dimensions;

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

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

196. USE OF HOOKS

(1) An open hook or a hook which has not been approved shall not be used in hoisting operations in a mine which involve the hoisting of a person.

(2) A King or Humble detaching hook used with a winding engine in a mine shall be of a thickened plate type.

(3) A hook of a kind referred to in sub-regulation (2) shall not be attached directly to the conveyance except by chains of not less than 0.75 metres in length.

197. WINDING ROPES TO BE CERTIFIED AND TESTED

(1) A winding rope shall not be used in a mine unless the manager of a mine has given to an Inspector -

(a) a certificate issued by the manufacturer of the rope setting out -

(i) the date of manufacture, the diameter and circumference of the rope in millimetres, the length and mass per metre in kilograms of the rope and the class of steel used in its construction; and

(ii) the breaking strain of the rope; or

(b) a true copy of a certificate referred to in paragraph (a).

(2) If, for any reason, an Inspector is not satisfied with a certificate or copy of a certificate supplied to him under sub-regulation (1), he may direct the manager of the mine who supplied the certificate or copy to arrange for a test of the breaking strain of a sample of the rope.

(3) A test arranged under sub-regulation (2) shall be carried out at a testing station approved by the Chief Government Mining Engineer.

(4) A rope which is the subject of a direction under sub-regulation (2) shall not be used in a mine as a winding rope until a report of the test made by the approved testing station is delivered to the Inspector who gave the direction.

Penalty: $1,500.

198. OLD ROPES NOT TO BE USED

(1) A rope which is not a new rope shall not be put on for use as a winding rope at a mine without approval.

Penalty: $1,500.

(2) An Inspector shall not approve the use of a rope at a mine for the purposes of sub-regulation (1) unless -

(a) a complete history of that rope; and

(b) details of its proposed use,

have been supplied to him by the manager of the mine.

(3) Without limiting the generality of sub-regulation (2), an Inspector, before approving the use of a rope under this regulation, may require that tests be carried out on the rope in accordance with the standards specified in Australian Standard 1426 - 1973 and Australian Standard 1394 - 1973 relating to round steel wire for ropes.

199. SPLICED ROPES NOT TO BE USED

A spliced rope shall not be used as a winding rope in a shaft underground in a mine without the approval of the Chief Government Mining Engineer.

200. FACTORS OF SAFETY FOR ROPES

(1) A drum winding rope used at a mine for a purpose specified in one of the following paragraphs shall have a factor of safety of not less than the factor of safety specified in or calculated in accordance with that paragraph:

(a) for transporting persons, persons and materials or where the safety of persons is involved - 7.5 less 0.001 LW;

(b) for transporting rock or materials where the safety of persons is not involved - 6.5 less 0.003 LW;

(c) for transporting rock in a shaft used exclusively for that purpose - 4.5;

(d) for transporting a machine or part of a machine at a speed of less than 2 metres per second - 5;

(e) as a guide rope or rubbing rope - 5; and

(f) for raising and lowering a sinking stage in shaft sinking operations - 6,

where "LW" is the depth of the wind expressed in metres.

(2) A friction winding rope shall not be used in a mine for a purpose specified in Column 1 of the following table unless it has a factor of safety of not less than the factor of safety specified in relation to that purpose in Column 2 of that table:

TABLE

Column 1	Column 2
Purpose	Factor of Safety
Transporting person or persons and materials or where the safety of persons is involved	(a) as a single rope - 7.5 (b) as one of 2 or 3 ropes - 6.9 (c) as one of 4 or more ropes - 6.3
Transporting rock or materials where the safety of persons is not involved	(a) as a single rope - 6.8 (b) as one of 2 or 3 ropes - 6.2 (c) as one of 4 or more ropes - 5.6
Transporting rock in a shaft used exclusively for that purpose	(a) as a single rope - 6.3 (b) as one of 2 or 3 ropes - 5.7 (c) as one of 4 or more ropes - 5.1
Transporting a machine or part of a machine at a speed of less than 2 metres per second	5
Balance ropes	6
Guide or rubbing ropes	5

(b) if at the time and place appointed for the hearing of any

201. WITHDRAWAL OF ROPES

A winding rope shall be withdrawn from use at a mine -

(a) when physical inspection or an inspection under these Regulations shows that the rope appears to be unsafe for the use to which it is being put; or

(b) when the breaking strain of that rope by tensile test is less than 90% of the breaking strain of that rope when new,

whichever is the sooner.

202. GUIDE ROPES AND RUBBING ROPES TO BE APPROVED

A rope shall not be used at a mine as a guide rope or rubbing rope unless -

(a) the size, length and type of the rope and the location and method of its use are approved in writing by the Chief Government Mining Engineer; and

(b) the method of construction of the rope -

(i) has been approved in writing by the Chief Government Mining Engineer; or

(ii) if no approval under sub-paragraph (i) has been given - is of the locked coil, half-locked coil or round rod type.

203. GUIDES

Approved guides to within 20 metres of the bottom of a shaft and efficient means and appliances for steadying loads being raised by machinery shall be provided in a vertical shaft more than 50 metres deep in a mine in which persons or materials are raised by machinery, other than machinery operated by hand labour.

Division 4 - Winding Engines

204. APPROVAL OF WINDING MACHINERY, &c.

Machinery, plant, equipment or apparatus which has not been approved by the Chief Government Mining Engineer shall not be constructed, erected or used at a mine for hoisting in a shaft or hauling up an incline.

205. CHIEF GOVERNMENT MINING ENGINEER TO BE NOTIFIED

The manager of a mine shall notify the Chief Government Mining Engineer of the location, layout, duty and safety factors of machinery, plant, equipment and apparatus used at a mine for hoisting in a shaft or hauling up an incline before such apparatus is installed and before a change in the design or safety features of such apparatus is made.

206. MAXIMUM LOAD OF WINDING ENGINES

A winding engine shall not be used in a mine to raise a load in excess of the maximum unbalanced load for that engine calculated by reference to the depth of the shaft or winze in which it is to be used.

207. WHIMS, WHIPS AND WINDLASSES

(1) A whim, whip and windlass at a mine shall be provided with a stopper, pawl or other reliable holder.

(2) A whim, whip or windlass at a mine shall not be used to raise or lower persons.

208. MANAGER OF MINE TO INSPECT WINDING ROPES AND ENGINES

(1) A manager of a mine may appoint a competent person to exercise the powers and perform the duties and functions of a manager under this regulation.

(2) An appointment of a competent person under sub-regulation (1) -

(a) does not affect the liability of the manager of the mine for a breach of this regulation or in respect of any negligence in the exercise of the power or the performance of the duty or function; and

(b) does not prevent the exercise of a power or the performance of a duty or function by the manager of the mine.

(3) A manager of a mine shall carefully examine -

(a) not less than once a day, winding ropes and their attachments to the conveyances and counterweights, brakes, depth indicators, cages and their safety devices, head sheaves and external parts of the winder installation while they are travelling at a speed not exceeding one metre per second;

(b) not less than once a week, the shaft guides and winding compartments, automatic winding controls and signalling arrangements of winding engines at the mine and test the brakes;

(c) not less than once a week, the balance ropes of winding engines at the mine while they are travelling at a speed not exceeding one metre per second;

(d) not less than once a month, the structure of winding ropes for the purpose of discovering the amount of deterioration of a rope, by -

(i) thoroughly cleaning the rope at the places that are particularly liable to deterioration and at other places not more than 30 metres apart; and

(ii) noting the condition of the rope externally and, as far as possible, internally, the diameter of the rope and lay length of the rope at a point of reduced diameter;

(e) not less than once every 3 months, an automatic contrivance to prevent overwinding, by raising on a winding engine used a conveyance or counterweight beyond a point at which the contrivance comes into operation, and by attempting to land the conveyance or counterweight when descending at excessive speed into a false landing;

(f) not less than once every 6 months, a detaching hook, by dismantling, cleaning, gauging for deformation, checking for corrosion and other imperfections and testing with approved crack detection equipment; and

(g) not less than once a year, the parts of the winding engine and auxiliary equipment and items of attachment -

(i) in the case of chains, chain links, shackles and pins - by measurement for wear; and

(ii) in the case of other attachments - by checking for deformation, corrosion or other imperfections, and by testing with approved crack detection equipment.

Penalty: $1,500.

(4) A person who has carried out an inspection in accordance with sub-regulation (3)(f) shall, at the conclusion of the inspection -

(a) examine detaching and suspending hooks and safety devices on the winding engine;

(b) clean and oil those hooks and devices; and

(c) record in the Winder Record Book for a mine his compliance with paragraphs (a) and (b).

Penalty: $1,000.

(5) A person who has carried out an inspection in accordance with sub-regulation (3)(g) shall record in the Winder Record Book for the mine that fact and the results of the inspection.

Penalty: $1,000.

209. WINDING ENGINES TO BE READY FOR USE

(1) Subject to sub-regulation (2), whenever a person is underground in a mine from which the usual means of exit is by a driver-operated winding engine -

(a) a person authorized under the Act to drive the engine shall be readily available to do so;

(b) the winding engine shall be ready for use; and

(c) a person shall be continuously available on the surface of the mine to receive communications from underground.

(2) Where the usual means of exit from a mine is by an automatic winding engine sub-regulations (b) and (c) only apply.

(3) The Chief Government Mining Engineer may, by notice in writing, exempt the manager of a mine from the provisions of sub-regulation (1)(b).

210. STANDARD OF WINDING ENGINES

(1) Subject to these Regulations, a winding engine used in a mine shall be provided with -

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

(b) a speed indicator driven from the sheave or drum shaft;

(c) a dial or gauge to show whether or not power is available at the engine;

(d) a working stop switch or control, placed within easy reach of the winding engine-driver; and

(e) an effective automatic contrivance in full and fixed engagement with the winder to prevent overwinding and overspeeding and so constructed as to -

(i) prevent the shaft conveyance from travelling at a speed 15% greater than the approved maximum designed speed for that conveyance;

(ii) control the speed of the shaft conveyance in a part of the shaft to predetermined limits; and

(iii) prevent the shaft conveyance from exceeding a speed of 1.5 metres per second when being landed at the lowest entrance to or at the bottom of the shaft.

(2) Subject to this regulation, no person shall use a winding engine at a mine while -

(a) a depth indicator; or

(b) a speed indicator,

provided on that engine is disconnected.

Penalty: $1,000.

211. CONTROL METHODS IN WINDING ENGINES

Where a winding engine at a mine may be controlled by more than one method, the device for selecting the control method shall be available only to persons authorized by the manager of the mine to use it.

212. OVERWINDING PROTECTION

(1) Apparatus shall be provided in the headframe or tower of a shaft, and in each part of the shaft below the lowest landing for the time being in use to ensure that, in the event of overwinding, a cage, skip or counterweight is decelerated at a rate of retardation of not more than 10 metres per second per second and brought to rest without danger.

(2) Safety devices which will prevent a cage, skip or counterweight which has been brought to rest from falling down a shaft shall be provided in the headframe or tower of a shaft in a mine.

(3) Where drum winding is used, in addition to detaching hooks, the apparatus required by sub-regulation (2) is to be used.

(4) Platforms and ladders designed and manufactured in accordance with Australian Standard 1657 - 1974 shall be provided at a mine to evacuate personnel from overwound conveyances.

213. PERSONS NOT TO BE CONVEYED WHERE OVERWINDING PROVISION MISSING

A shaft in which safety devices required by regulation 212(2) are not provided shall not be used to transport persons.

214. BACKING OUT FROM OVERWIND POSITION

A device on a winding engine to permit backing out from an overwind position shall -

(a) only respond to manual control; and

(b) only permit backing out from the overwind position.

215. ULTIMATE OVERWIND DEVICES

A device shall be provided in the shaft, headframe or tower at a mine that will remove the power from a winding engine used in the shaft, headframe or tower, as the case may be, and, by automatic application of the brakes, bring that winding engine to rest before the conveyance, counterweight or rope attachment on the engine reaches a permanent obstruction to its passage.

216. TESTING OF BRAKES

A winding engine-driver at a mine shall, at the commencement of his shift, test the brakes of his winding engine against the full rated load of the drive motor of the engine and shall take such steps as are necessary to ensure they are working and holding satisfactorily before using the engine.

Penalty: $1,000.

217. SERVICE BRAKE TO BE FULLY APPLIED

A person operating a winding engine at a mine shall ensure that the service brake on the engine is fully applied while persons are entering or leaving the cage.

Penalty: $1,000.

218. INTERLOCKING OF SHAFT DOORS AND WINDER CONTROLS REQUIRED

(1) When a winder is being used for carriage of persons and its operation is under push button control, it shall be incapable of motion unless all shaft and cage doors in connection with that winder are properly closed.

(2) Provision may be made to open shaft doors when a winder is being used for the carriage of materials provided that the conveyance is within 10 metres of a landing and the winder subject to inching control only.

219. FIRE-FIGHTING APPARATUS

(1) Suitable and efficient fire-fighting apparatus shall be provided in winding engine-rooms at a mine.

(2) Effective precautions shall be taken to prevent flammable liquid used in connection with a winding engine or apparatus situated in the headframe or tower of a shaft or any engine or apparatus installed in or adjacent to a shaft from entering a shaft.

(3) Suitable and sufficient apparatus shall be provided at a mine to automatically extinguish a fire that may break out in a headframe or shaft in which a winding engine is situated.

Division 5 - Conveyances

220. CAGE OR CONVEYANCE TO BE PROVIDED

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

(2) A cage or other conveyance to raise and lower persons in a shaft in a mine shall be provided where the shaft is more than 60 metres in depth.

221. TESTING OF CAGES, &c., IN CERTAIN CIRCUMSTANCES

A shaft conveyance at a mine shall not be used for raising or lowering persons after -

(a) a stoppage for repairs which may affect the safe running of a winding engine;

(b) repairs to a winding engine, shaft, shaft conveyance or counterweight;

(c) being idle for more than 4 hours;

(d) the occurrence of a seismic event in the mine;

(e) material has fallen down the shaft, and

(f) prior to a shift change,

unless the conveyance has made not less than one complete unobstructed trip up and down the working portion of the shaft.

Penalty: $1,000.

222. SPEED OF CAGES

(1) Subject to sub-regulation (2), a person operating a winding engine in a mine shall not accelerate or decelerate at a rate greater than 1.5 metres per second per second a cage or skip in which a person is travelling.

Penalty: $500.

(2) A person operating a winding engine may, in an emergency, decelerate a cage or skip referred to in sub-regulation (1) at a rate not less than 2 metres per second per second but not greater than 4.5 metres per second per second.

223. LANDING SPEED

When persons are being lowered or raised in a shaft by means of machinery, the rate of speed for the descent or ascent within 15 metres of the bottom or surface, as the case may be, shall not exceed 1.5 metres per second.

224. PROTECTION IN CAGES

A person working or travelling in or on a conveyance in a shaft in a mine shall be suitably protected from material falling down the shaft.

225. NUMBER OF PERSONS TO BE CARRIED IN CAGES

(1) The number of persons riding in a cage or conveyance in a mine shall not exceed an approved number.

Penalty: $100.

(2) The number approved in pursuance of sub-regulation (1) shall not exceed the number obtained by multiplying the area of the floor of a cage, expressed in square metres, by 5.

(3) A sign stating the maximum number of persons permitted to use a cage or other conveyance shall be posted at the brace of a cage or conveyance, as the case may be, and at each stopping place of the cage or conveyance.

226. PERSONS NOT TO USE CERTAIN CAGES

A person shall not be raised or lowered in a shaft in a mine in an ore skip unless he is standing -

(a) on the bottom of that skip; or

(b) on a platform provided in that skip for that purpose.

227. FACTOR OF SAFETY OF COMPONENTS OF ATTACHMENTS

(1) A component of attachments between the winding ropes and a cage, skip or counterweight in a mine shall have a factor of safety of not less than 10.

(2) Attachments referred to in sub-regulation (1) shall be so constructed -

(a) as to provide movement on 2 axes normal to each other and at right angles to the ropes referred to in that sub-regulation; and

(b) that -

(i) no main component is welded; and

(ii) no suspension member in tension is threaded.

228. STANDARD OF CERTAIN ITEMS OF ATTACHMENT

(1) This regulation applies subject to regulation 227.

(2) An item attaching a rope to the body of a shaft conveyance or counterweight including a capel, detaching hook, shackle, link, chain, pin or swivel shall not be used at a mine unless -

(a) it is made of 1.5% manganese steel within the meaning of Australian Standard M3 - 1951;

(b) it is certified by the manufacturer as having been -

(i) hardened and tempered in accordance with the requirements of Australian Standard M3 - 1951; and

(ii) proof loaded to 2.5 times the safe working load without permanent deformation;

(c) it is stamped, on the part least subject to working stress, in accordance with the requirements of Australian Standard 2133 - 1978 and Australian Standard CM2 - 1956 to show -

(i) the safe working load;

(ii) the identification of the manufacturer's certificate; and

(iii) the date of installation of the item;

(d) if it is a shackle or chain -

(i) it has been designed, constructed and tested in accordance with Australian Standard CM2 - 1956; and

(ii) its metal composition and the heat treatment to which it was subjected in manufacture are the composition and treatment specified in accordance with Australian Standard M3 - 1951; and

(e) if it is a detaching hook -

(i) it has been designed and constructed in accordance with Australian Standard 2133 - 1978; and

(ii) its metal composition and the heat treatment to which it was subjected in manufacture are the composition and treatment in accordance with Australian Standard M3 - 1951.

(3) An item of attachment referred to in sub-regulation (2) shall not be used after the expiration of 12 years from the date on which the item was first used.

(4) Sub-regulation (2)(e) does not apply to or in relation to -

(a) interlocking wedges in capels; and

(b) components of detaching hooks specifically defined in Australian Standard CM2 - 1956.

(5) A person shall not subject an item of attachment referred to in sub-regulation (2)(d)(ii) or (e)(ii) to heat treatment.

Penalty: $1,000.

229. SPECIAL EXEMPTION

An item of attachment which does not comply with regulation 229 but complies with the requirements of Australian Standard M3 - 1951, may be used at a mine but shall be replaced not later than 5 years after the commencement of these Regulations with items of attachment which comply with regulation 229.

230. STANDARD OF CONSTRUCTION OF SHAFT CONVEYANCES

A shaft conveyance shall not be used to transport persons in a mine unless -

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

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

(c) it has a trap door securely fitted in the bottom floor and if it is a multi-deck conveyance - it has a trap door and a ladder fitted in the intermediate decks providing access between decks;

(d) the sides of its compartments are so covered with metal plate or expanded metal as to keep persons and material travelling in it wholly within it;

(e) it is provided with a securely fastened gate which will keep persons, tools and equipment wholly within it;

(f) it is adequately ventilated;

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

(h) its design has been approved.

231. SAFE BOARDING AND LEAVING OF SHAFT CONVEYANCES

Adequate provision shall be made in a mine for persons to safely board and leave a shaft conveyance at working levels in the mine.

232. CARRIAGE OF TOOLS, MATERIAL, &c.

A person shall not carry tools, material or other things, other than -

(a) a scientific instrument;

(b) small tools in a container;

(c) tools or material required by persons engaged in repairing a shaft; and

(d) fire-fighting or rescue equipment,

in a conveyance, skip or cage in a shaft in a mine.

Penalty: $500.

233. MATERIALS TO BE PROPERLY PLACED IN CONVEYANCES

A person shall not raise or lower materials in a shaft, winze or other excavation unless the materials are securely placed in the conveyance raising or lowering them or attached to that conveyance in such a manner as to prevent them being accidentally detached from the conveyance.

Penalty: $500.

234. MULTI-DECK CAGES

A person shall not, without written approval -

(a) ride in a deck of a multi-deck cage in a mine while a load other than passengers is in a higher deck of that cage; or

(b) ride in a cage in a mine while equipment, long timber, rails or similar materials are slung below the cage or explosives are being transported.

Penalty: $500.

235. SIGNALLING FROM CAGES

(1) A shaft in a mine and a compartment of such a shaft in which a cage, skip or kibble is used shall be provided with approved means of signalling between every plat or brace in the shaft and the winding engine-room.

(2) Sub-regulation (1) does not prevent the use of knocker lines in shaft sinking or during an inspection or repairs.

236. CODE OF SIGNALS

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

(2) A driver of a winding engine at a mine shall, on receiving a signal listed in Column 1 of Schedule 1, carry out the action specified in Column 3 of that Schedule to that signal, subject to the special requirements specified in relation to that signal in Column 4 of that Schedule.

(3) Unless -

(a) otherwise provided in the table in sub-regulation (5);

(b) in an emergency; or

(c) with approval,

a winding engine-driver shall, when the conveyance is stationary upon receiving a signal -

(d) return it; and

(e) wait for 6 seconds before performing the actions required by the signal, or

when the conveyance is in motion -

(f) perform the action indicated by the signal; and

(g) return the signal.

(4) Subject to Regulation 283, other knocks or rings which do not conflict with the signals prescribed by this regulation may be used for signalling in a mine.

(5) A person shall not give a "passengers-on" 4 knocks or ring signal in a mine while the conveyance the subject of the signal is in motion.

(6) (a) The signal 5 knocks or rings to throw in or out of gear shall be repeated following the return of the signal by the driver;

(b) this signal is not to be given whilst the conveyance is in motion; and

(c) persons shall vacate a conveyance before the signal is given to put the winder out of gear and shall not enter the conveyance until the winder is put in gear.

(7) (a) The signal 6 knocks or rings to release the conveyance shall allow the driver to move it to another location; and

(b) A winding engine driver shall not leave a released conveyance stationary at a level or brace but shall move it to prevent unauthorized entry.

Penalty: $1,000.

237. REPAIRING AND TIMBERING SIGNALS

(1) Where persons are engaged at a mine in repairing or timbering work in a shaft, the person in charge of that work shall notify an engine-driver, as he comes on duty, of the nature of the work that is being carried out.

Penalty: $500.

(2) An engine-driver at a mine shall not react to a repairing or timbering signal unless he has been notified under sub-regulation (1).

Penalty: $200.

238. CODE OF SIGNALS TO BE DISPLAYED

The code of signals specified in Schedule 1 shall be clearly and conspicuously -

(a) posted in a mine in full view of the engine-driver; and

(b) displayed at a working plat and brace, and at such other places in a mine as are directed.

239. DOOR CONTROL

(1) Subject to sub-regulation (2), a winding engine which is -

(a) being used for the carriage of persons; and

(b) under push-button control,

at a mine shall be designed so as to be incapable of motion unless all shaft and cage doors used in connection with the winding engine are properly closed.

(2) Provision may be made for opening shaft doors when -

(a) a winding engine at a mine is being used in connection with the carriage of materials only;

(b) the conveyance is within 10 metres of a landing; and

(c) the engine is subject to inching control only.

240. PUSH-BUTTON CONTROLS

(1) Push-button controls located at a landing in a mine shall be accessible to a person who is inside a cage being operated by a winding engine only when the cage door is open, unless the automatic winding equipment requires that the cage winder be stopped before the cage door can be opened.

(2) Where control of a winding engine at a mine is by push button within a cage, a mechanical type push button shall be provided in the cage which, when operated, will cause the winding engine to stop.

241. SIGNALS IN WINZES MORE THAN 20 METRES DEEP

(1) This regulation applies to and in relation to winzes more than 20 metres deep in a mine.

(2) There shall be installed in a winze at a mine in which a hoisting appliance is used -

(a) an approved contrivance; or

(b) if no approved contrivance is present - a knocker line,

to communicate signals to the driver of an appliance.

(3) Signals shall not be communicated orally in a winze without approval.

242. SHAFT CREW

(1) Platmen, skipmen, bracemen and landers employed at a mine shall be instructed in and be competent to perform their duties.

(2) A person who has not attained the age of 18 years shall not be employed as a platman or braceman at a mine.

Division 6 - Drum Winding

243. APPLICATION

This Division applies to and in relation to a winding engine at a mine, the rope of which is wound on a drum.

244. TESTING OF ROPES

(1) This regulation applies subject to regulation 245.

(2) As directed or, if no direction has been given, not less than once in a period of 6 months -

(a) the ropes used in a winding engine shall be recapped; and

(b) a length of not less than 2 metres shall be cut from the shaft conveyance and counterweight end of the ropes used in a winding engine.

(3) At the expiration of 12 months after the first installation of a rope in a winding engine, a length of rope which has repeatedly passed over a head sheave, sufficient to enable a breaking and elongation test of 2 metres of that rope to be made, shall be cut from the shaft conveyance and counterweight end of the rope.

(4) Where there are 2 or more layers of rope on a winding engine, the rope at the drum shall be cropped not less than once a year in such a way that the position of the cross-over points on the drum is changed.

(5) Whenever a rope at a drum is cropped pursuant to sub-regulation (4), it shall be rewound on and reattached to the drum in an approved manner.

(6) Lengths of rope cut pursuant to sub-regulations (2)(b) and (3) shall, as soon as practicable after being cut, be sent to an approved testing station for testing.

245. EXEMPTIONS

(1) The Chief Government Mining Engineer may, by notice in writing served on the manager of a mine -

(a) exempt the manager of the mine from his obligation under any of the provisions of regulation 244.

(b) vary a provision of regulation 244 in its application to that mine and the regulation as so varied thereupon has effect in respect of that mine.

246. DRUM ATTACHMENTS

There shall be on the drum of a winding engine used for raising or lowering persons -

(a) such horns or flanges; and

(b) if the drum is conical - such other appliances,

as are sufficient to prevent the rope from slipping.

247. LUBRICATING ROPES

Winding ropes used with a drum winding engine shall be lubricated with a suitable lubricating compound not less than once a month.

248. SIZE OF DRUM AND SHEAVE

(1) Subject to this regulation -

(a) the diameter of the head sheave of a winding engine drum shall be -

(i) if a locked coil rope is used on the drum - not less than 100 times the diameter of the rope; or

(ii) if a rope other than a locked coil rope is used on the drum - not less than 80 times the diameter of the rope; and

(b) the depth of the rope groove in the head sheave wheel of the engine shall be not less than twice the diameter of the rope used.

(2) A winding engine, the head sheave of which does not comply with sub-regulation (1) shall not be used at a mine unless it is approved in writing by the Chief Government Mining Engineer.

249. BRAKES

(1) A drum of a winding engine used at a mine shall have one or more brakes that -

(a) are approved by the Chief Government Mining Engineer;

(b) are fitted in such a way that they can be applied by a winding engine-driver without his leaving the operating position;

(c) will be automatically applied -

(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 controlling the brakes falls below the approved level; or

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

(d) can be applied manually by a winding engine-driver irrespective of the action of a safety device that may act to apply it or them;

(e) however applied, can safely stop and hold a cage or skip under all conditions of loading and direction of travel and at any rate of acceleration or deceleration and at any rate of speed;

(f) howsoever applied, acts directly on a winding engine drum; and

(g) wherever practicable, are provided with a steel tension member between the individual sole plates of the brake shoes.

(2) A winding engine used at a mine shall not be used unless -

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

(b) if the engine is a push-button or automatically controlled engine - it is provided with a suitable device which will automatically apply the brake and keep it applied when it becomes sufficiently worn to affect its safe operation; and

(c) the factor of safety -

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

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

250. TESTING OF BRAKES

The braking system of a winding engine used at a mine shall be tested -

(a) directly after a brake adjustment has been carried out;

(b) after 5 months and not later than 6 months after a brake adjustment on the winding engine has been carried out; and

(c) when directed,

to ensure that when the drum is unclutched, the system is capable of supporting a conveyance with a full load of materials, plus 10% or with twice the allowable passenger load plus 10%, when that conveyance is situated at the lowest level in the shaft.

251. TWIN-DRUM ENGINES

(1) A person shall not, except -

(a) with approval; or

(b) in an emergency,

raise, support or lower another person in a conveyance connected to a winding engine which is provided with 2 drums while one of the drums is out of gear and loose on the shaft which operates it.

(2) When, in an emergency, a person is raised, supported or lowered in a conveyance connected with a winding engine referred to in sub-regulation (1) while one of the drums is out of gear and loose

on the shaft which operates it, the manager of the mine shall, not later than 24 hours after the event, notify an Inspector in writing of -

(a) the event; and

(b) the circumstances of the emergency.

(3) Winding in an emergency or with approval shall be done at less than half speed.

(4) Where a winding engine which is provided with 2 drums has one drum out of gear, the drum that is out of gear shall be prevented from revolving while it is out of gear.

252. CERTAIN WINDING ENGINES NOT TO BE USED

A person shall not lower another person by means of a conveyance on -

(a) a winding engine provided with only one drum; or

(b) a winding engine provided with 2 drums one of which is loose on the shaft that operates it,

if the brakes are the only means of halting the descent of the conveyance.

Penalty: $1,000.

253. PRECAUTIONS WHILE REPAIRS ARE EFFECTED

While -

(a) repairs are being effected to the clutch or brakes of a winding engine; and

(b) ropes are attached to the drums of that engine,

the skip or cage shall be removed or firmly supported by means other than the rope.

254. SAFETY MEASURES

(1) A conveyance in a shaft shall be fitted with suitable appliances to prevent the conveyance falling down the shaft.

(2) A conveyance shall be connected to its rope by a detaching hook of the type specified in Regulation 229(2) that will permit the release of the rope in the event of an overwind.

(3) The Chief Government Mining Engineer may exempt a manager of a mine from compliance with sub-regulation (1) or (2).

(4) A winding system shall be fitted with a slack-rope detector which gives notice by visual or audible signal to the cage and the winder driven that the rope is slack.

(5) A conveyance to which this regulation applies shall not be used unless the specific designs of the appliances referred to in sub-regulations (1), (2) and (4) have been approved by the Chief Government Mining Engineer.

255. TESTING OF CAGES

(1) A new or repaired cage in a shaft shall, before it is used, be proof-loaded with twice the load normally hoisted.

(2) Safety appliances required by regulation 254 to be fitted on a cage shall be tested at least once a month or as required by the Chief Government Mining Engineer.

Division 7 - Friction Winding

256. APPLICATION

This Division applies to a winding engine at a mine, on which the ropes are driven by friction.

257. DRIVING SHEAVE DESIGN

(1) The diameter of a driving sheave of a winding engine, measured at the bottom of rope grooves -

(a) if flattened strand ropes are used in the engine - shall be not less than 1,000 times the diameter of an outer wire in the winding rope; and

(b) if locked coil ropes are used in the engine - shall be not less than 100 times the diameter of the winding rope.

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

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

258. MAXIMUM LOADS

A winding engine shall not be loaded so that more than 70% of the available braking torque will be required to stop and hold the driving sheave of the engine.

259. BRAKES

(1) The driving sheave of a winding engine shall have not less than 2 brakes that -

(a) are approved by the Chief Government Mining Engineer;

(b) are fitted in such a way that they can be applied by a winding engine-driver without his leaving the operating position;

(c) will be automatically applied -

(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 controlling the brakes falls below the approved level; or

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

(d) can be applied manually by a winding engine-driver irrespective of the action of a safety device that may act to apply them;

(e) however applied, can safely stop and hold a cage or skip under all conditions of loading and direction of travel and at any rate of acceleration and at any rate of speed;

(f) howsoever applied, act directly on the winder drum sheave;

(g) wherever practicable, are provided with a steel tension member between individual sole plates of the brake shoes;

(h) when applied by means other than a stop switch provided pursuant to regulation 249(1)(d), shall be capable of producing a braking torque -

(i) when transporting men - of not less than 3 times; and

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

the maximum of the balance static torque on the winder sheave under the maximum allowable load; and

(j) 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.

(2) A winding engine shall not be used unless -

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

(b) if the engine is a push-button or automatically controlled engine - it is provided with a suitable device which will automatically apply the brake and keep it applied when it becomes worn sufficiently to affect its safe operation; and

(c) the factor of safety -

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

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

260. EQUIPMENT FOR WINDING ENGINES

(1) A winding engine shall be provided with -

(a) a device that will automatically synchronize a depth indicator and an automatic contrivance required by regulation 210(1)(e) to be provided with the position of a cage or skip in a shaft;

(b) a device that will indicate the slip of a rope relative to a driving sheave and stop the winder if a predetermined rate of slip is exceeded;

(c) a device for indicating in which direction the driving sheave is turning; and

(d) if it is used for raising or lowering men - a speed indicator driven from the sheave shaft and so placed as to be readily seen by a winding engine-driver.

(2) The synchronizing device adjustment referred to in sub-regulation (1)(a) shall be carried out only while the brakes of a winding engine are applied and the engine is stopped.

261. KEPS AND CHAIRING DEVICES

(1) Keps and chairing devices shall not be used in a shaft in conjunction with a friction winding engine without the written approval of the Chief Government Mining Engineer.

(2) Detaching appliances for cages, skips or counterweights shall not be used in a mine in conjunction with a friction winding engine.

262. SHEAVE DESIGN

(1) The diameter of a winding engine deflecting sheave 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 winding engine deflecting sheave shall be sufficient to prevent the rope from slipping off the sheave.

263. SUMP CLEARANCE

The shaft sump of a winding engine shall be kept sufficiently clear of water, debris and other material to prevent the balance ropes of the engine from contacting with water, debris or other material.

264. SUMP ACCESS

The space between the lowest stopping point of winding engine attachments and the shaft sump shall be equipped with ladders or other suitable means of access to permit adequate inspection and maintenance of the bottom of the shaft and the equipment.

265. ROPES TO BE TESTED

A rope used on a winding engine shall be non-destructively tested in a manner that, and not less frequently than, is directed by the Chief Government Mining Engineer.

266. LIFE OF ROPES

Subject to regulation 267, and unless otherwise approved by the Chief Government Mining Engineer, a rope at a mine used as -

(a) a friction winding rope - shall not be so used for a period which exceeds, or for periods which together exceed, 3 years; and

(b) a balance rope - shall not be so used for a period which exceeds, or for periods which together exceed, 4 years.

267. UNSAFE ROPES TO BE DISCARDED

A rope which shows signs of -

(a) more than 6 broken wires in a section equal to the length of one external lay;

(b) a rapid increase in the rate of stretch over the normal stretch noted during service;

(c) marked corrosion; or

(d) being otherwise unsafe,

shall be discarded immediately.

268. SAMPLING OF ROPE

The Chief Government Mining Engineer may direct the manager of a mine to cut samples of rope from specified points along the length of a discarded winding rope and subject those samples to specified tests.

269. ROPE DRESSING

A person shall not use a rope dressing which may increase the danger of a rope's slipping on a winding engine driving sheave.

Penalty: $500.

270. ROPE BALANCING

(1) Multiple winding ropes on a winding engine shall be attached to the cage, skip or counterweight through an apparatus designed to load the ropes as uniformly as practicable.

(2) An apparatus referred to in sub-regulation (1) connected directly to a cage, skip or counterweight shall be provided with the means for adjusting its position on the ropes and the means for indicating unequal tension between those ropes.

PART XI - SHAFT SINKING

271. USE OF CRANES PROHIBITED IN CERTAIN AREAS

(1) A crane shall not be used to hoist broken rock from an initial surface excavation, or from a shaft, at a mine -

(a) if the shaft perimeter has been traversed by dividers or some other structure that is or might be an obstruction to the free passage of the crane;

(b) if the depth from which that rock is hoisted is more than 50 metres; and

(c) without the written approval of the Chief Government Mining Engineer.

(2) A crane which is not -

(a) of a slewing type; or

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

shall not be used at a mine without the approval of the Chief Government Mining Engineer.

272. CONDITIONS OF USE OF CRANES

(1) The load lifted by a crane at a mine shall not exceed 50% of the normal safe working load of the crane.

(2) In relation to a crane used at a mine, an approved method of signalling or communicating between a dogman and -

(a) a supervisor; or

(b) the driver of the crane,

shall be installed.

273. CARRIAGE OF PERSONS BY CRANES

A crane driver shall not hoist a person from a shaft in a mine by means of a crane unless -

(a) the person travels in a kibble or other similar conveyance and, if more than one-third of the body of that person is or is likely to be outside the conveyance while so travelling, the person uses a safety belt of an approved type; and

(b) the person is at all times while so travelling within sight of a person stationed in a place to communicate or signal to the crane driver.

Penalty: $500.

274. SAFETY IN SHAFTS WHILE CRANE IN USE

A person shall not remain in a shaft excavation in a mine while a crane is being used to hoist broken rock up that shaft by means of a grab.

275. ACCESS TO SHAFTS WITHOUT SINKING STAGE

(1) This regulation applies to and in relation to a shaft in a mine in which a sinking stage is not in use.

(2) Subject to this regulation, a substantial ladderway from the surface to the bottom of a shaft, which ladderway may incorporate at its lower end a chain ladder not more than 6 metres long, shall be installed for use during shaft sinking operations.

(3) A substantial ladderway to the surface of a shaft is not required by sub-regulation (2) if not less than 2 winding plants with separate approved conveyances are available for immediate use in the shaft and each winding plant has an independent power source.

276. ACCESS TO CERTAIN SHAFTS

Where a sinking stage is in use in a shaft in a mine, a chain ladder not more than 6 metres long shall be installed for travel from the bottom of the shaft to the stage.

277. SPILLAGE

Adequate provision shall be made and maintained at a mine during a shaft sinking operation to prevent spillage falling down the shaft.

278. DOORS

(1) Without limiting the generality of regulation 277, a door shall be provided at the collar of a shaft in a mine to cover the sinking compartment while a shaft sinking operation is in progress.

(2) A door referred to in sub-regulation (1) shall be kept closed -

(a) while men, tools or materials are being loaded into or unloaded from a kibble or skip at the collar of a shaft; and

(b) while a kibble or skip is being dumped in a shaft,

unless approved alternative protection is provided to prevent spillage falling down the shaft.

279. DOORS TO BE CLEARLY VISIBLE

A door or other shaft protection device which, when moved into the haulage way or travel area of a shaft interferes, or might interfere with, the free passage of a conveyance in the shaft shall be -

(a) clearly visible to a driver of a winding engine; or

(b) clearly marked in the appropriate location on the depth indicator of a winding engine.

280. OVERWINDS

Provision shall be made for an indication of an overwind of a winding engine in a shaft at a mine to be immediately relayed to -

(a) the driver of the winding engine; and

(b) persons operating -

(i) doors which do not operate automatically; or

(ii) other shaft protection devices which do not operate automatically.

281. SHAFT BOTTOM PROTECTION

A shaft at a mine, which is a shaft that is sunk below a level that is being worked, shall be protected below that level by a penthouse constructed to the satisfaction of an Inspector.

282. TIMBER LININGS

Where timber is used to line a shaft, bearer sets or other means of support shall be provided -

(a) between working levels; or

(b) at distances not greater than 6 metres apart.

283. SIGNALS DURING SHAFT SINKING

A person involved in a shaft sinking operation shall not use a signal unless it is a signal -

(a) specified in Schedule 1; or

(b) approved by the Chief Government Mining Engineer.

284. MONKEYS, &c., IN DEEP SHAFTS

(1) This regulation applies to a shaft more than 50 metres deep.

(2) A suitable kibble and monkey arrangement or other approved conveyance shall be used for haulage in a shaft.

(3) A sinking monkey used in a shaft shall be -

(a) so constructed 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; or

(b) approved by the Chief Government Mining Engineer.

(4) A sinking monkey used in a shaft shall incorporate an overhead cover for the protection of persons travelling in it.

285. KIBBLES

A kibble used in a shaft sinking operation at a mine shall be of robust construction and designed to avoid catching on an obstruction during its movement in the shaft.

286. KIBBLE CHAINS

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

(a) by a bridle; or

(b) by not less than 3 chains, each of which is equally spaced around the perimeter of the top of the kibble.

(2) Chains referred to in sub-regulation (1)(b) shall -

(a) be of identical dimensions and strength;

(b) 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 degrees; and

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

287. KIBBLE, &c., SPILLAGE

A kibble or skip used in a shaft sinking operation at a mine shall not be -

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

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

288. FIRING METHODS

Unless otherwise authorized by the Chief Government Mining Engineer, firing during a shaft sinking operation at a mine shall be -

(a) by means of electricity only; and

(b) initiated from the surface of the mine or some other safe location.

289. EXEMPTION FROM REGULATIONS 291, 292 AND 293

Regulations 291, 292 and 293 do not apply to or in relation to winding ropes used to support a shaft sinking stage at a mine.

290. APPOINTMENT OF COMPETENT PERSON

(1) The manager of a mine may appoint a competent person to exercise his powers and perform his duties and functions under regulations 291, 292 and 293.

(2) An appointment of a competent person under sub-regulation (1) -

(a) does not affect the liability of the manager of the mine under regulations 291, 292 and 293 for an offence against those regulations or in respect of any negligence in the exercise of the power or the performance of a duty or function conferred or imposed on that manager by those regulations; and

(b) does not prevent the exercise of such a power or the performance of such a duty or function by the manager of the mine.

291. ROPE INSPECTIONS

Subject to regulation 289, the manager of a mine shall, not less than once a month, carefully examine the structure of a rope used at the mine for -

(a) broken wires;

(b) an obvious increase in the lay length;

(c) an obvious reduction in diameter;

(d) marked corrosion; or

(e) an unsafe condition.

292. ROPE MAINTENANCE

Subject to regulation 289, a rope used in a shaft sinking operation at a mine shall be lubricated with a suitable lubricating compound not less than once a month.

293. UNSAFE ROPES NOT TO BE USED

Subject to regulation 289, when a physical inspection of a rope used in shaft sinking operations at a mine shows that it appears to be unsafe for the use to which it is subjected, it shall be discarded.

294. ROPE LIFE

A rope shall not be used in a shaft sinking operation at a mine for a period which exceeds, or periods which together exceed, 2 years.

PART XII - EXPLOSIVES

Division 1 - Definitions

295. DEFINITIONS

In this Part, unless the contrary intention appears -

"A.N. mixture" means a mixture comprising -

(a) ammonium nitrate;

(b) an approved carbonaceous substance; and

(c) additional substances, as approved,

which form a high explosive;

"blaster" means a person who holds a blaster's permit or blaster's certificate of competency;

"blaster's certificate of competency" means a certificate issued under regulation 298;

"blaster's permit" means a permit issued under regulation 296;

"blasting agent" means an explosive which does not contain nitro-glycerine or nitro-glycol;

"bottom" means so much of a drill hole as could contain explosives, or is left in the face, after blasting;

"butt" means the impression on a face indicating the end of a hole in which explosives have been fired;

"explosive" means a material or mixture of materials which, when initiated, undergoes a rapid chemical change producing heat and high pressure;

"initiate", in relation to an explosion or explosive reaction, means the process of inducing a rapid chemical reaction which releases energy from an explosive either by applying heat or by importing shock;

"magazine" means a place at a mine used exclusively for the storage of explosives;

"misfire" means a charge or part of a charge that has failed to explode;

"primer" means a cartridge or a portion of a charge carrying a detonator or coupled to a detonating cord or another device for detonating the remainder of a charge;

"protected-type detonator" means a detonator -

(a) which has an inbuilt protective insulating sheath over the fuse head;

(b) the lead ends of which are short circuited; and

(c) the short circuit of which is covered with a protective sheath;

"stemming" means sand or other inert material placed in a hole to confine the explosive charge and includes material used for deck loading;

"tamping" means the pressing home of charges of explosives and includes the placing and consolidation of stemming;

"tamping stick" means a plain wooden rod or rod of other approved material used for the placement of explosives and tamping of stemming.

Division 2 - Blasters

296. ISSUE OF BLASTER'S PERMITS

(1) The manager of a mine may issue a blaster's permit to a person who -

(a) has not less than 12 months, experience assisting in blasting;

(b) speaks and understands the English language; and

(c) has attained 18 years of age.

(2) The manager of the mine shall keep a record of all persons to whom he issues a blaster's permit under sub-regulation (1).

(3) A duplicate copy of the blaster's permit issued under this regulation shall be forwarded to an Inspector within 7 days after it has been given.

297. SCOPE OF PERMITS

(1) A blaster's permit may specify that it is restricted -

(a) to firing explosives by safety fuse only;

(b) to firing explosives both by safety fuse and electrically; or

(c) to fire explosives underground in a mine or on the surface of a mine or both.

(2) A blaster's permit has effect only in relation to the mine specified in the permit.

298. ISSUE OF BLASTER'S CERTIFICATE OF COMPETENCY

The Chief Government Mining Engineer may issue a blaster's certificate of competency to a person.

299. FORM OF PERMITS AND CERTIFICATES

(1) A blaster's permit shall be in accordance with Form 1 of Schedule 2.

(2) A blaster's certificate of competency shall be in accordance with Form 2 of Schedule 2.

300. CANCELLATION OF PERMITS

(1) The manager of a mine, or an Inspector, may cancel a blaster's permit at any time either orally or in writing.

(2) Where a blaster's permit is cancelled under sub-regulation (1), an entry to that effect shall be made by the manager in the Explosives Record Book for the mine and the permit attached for destruction by an inspector.

Division 3 - Control and Testing of Explosives and Equipment

301. PERSON IN CHARGE OF MAGAZINES

(1) The manager of a mine shall appoint a person to be in charge of magazines at the mine.

(2) A person appointed under sub-regulation (1) shall have and retain in his possession or control the keys of the magazine at a mine.

(3) No other person (other than a person appointed under sub-regulation (1) shall have or retain in his possession a key to a magazine at a mine.

302. DISTRIBUTION, &c., OF EXPLOSIVES

(1) Explosives shall not be distributed at a mine except -

(a) under the supervision of a person appointed under regulation 301(1); and

(b) as directed.

(2) A record shall be kept in the Explosives Record Book of all incoming and outgoing explosives so that the location of explosives received at the mine is known at any time.

303. STORAGE OF EXPLOSIVES

(1) A person shall not take a quantity of explosives from a magazine at a mine larger than the quantity necessary for the blasting which he will be required to carry out during the shift he is working on.

Penalty: $500.

(2) Subject to sub-regulation (3), explosives at a mine not used during a shift shall be returned to a magazine at the end of the shift.

(3) If approved, explosives may be taken from a magazine at a mine and, if not charged, may be stored temporarily in approved containers in the workings of the mine.

304. TESTING OF FUSES

A safety fuse shall not be used at a mine until its burning rate has been determined by a test and the results of that test made known to the person using it.

305. ELECTRICAL FIRING EQUIPMENT

Approved circuit testers, exploders, switches, fuses, conductors and other necessary apparatus shall be provided at a mine for the purpose of electrical firing.

306. TESTING OF ELECTRICAL FIRING EQUIPMENT

(1) The equipment and apparatus provided under regulation 305 shall be maintained in good working order and tested not less than once a month -

(a) in the case of an exploder - by means of a rheostat; and

(b) in any other case - by approved means.

(2) The results of a test carried out under this regulation shall be recorded in the Explosives Record Book.

307. TESTING OF DETONATORS

(1) An individual electric detonator being tested in a mine for continuity shall be placed under cover adequate to prevent injury to persons should an explosion occur.

(2) A detonator with a delay interval shall, while being tested in a mine, remain under cover for a period in excess of the delay period for the detonator.

308. EXPLOSIVES IN CLOSED MINES

Explosives stored in a mine or part of a mine which is closed or about to be closed shall be removed and disposed of as directed by the manager.

Division 4 - Blasting Rules

309. CHIEF GOVERNMENT MINING ENGINEER TO APPROVE UNUSUAL, &c., METHODS

New methods in relation to unusual applications of explosives and explosive accessories shall not be used in a mine without the approval of the Chief Government Mining Engineer.

310. QUALIFIED BLASTERS ONLY TO FIRE EXPLOSIVES

A person shall not fire explosives in a mine unless he is the holder of -

(a) a blaster's certificate of competency; or

(b) a blaster's permit which specifies the mine, and the explosives which are to be fired in accordance with such restrictions, if any, specified in the permit.

Penalty: $1,000.

311. PROHIBITION OF SMOKING

A person in a mine shall not -

(a) smoke; or

(b) wear clothing that is electrostatic,

while he is within 10 metres of a place where explosives are being handled, charged or used in a mine.

Penalty: $1,000.

312. CHARGING HOLES

A person charging or firing explosives in a mine shall not -

(a) charge a hole unless he has first checked the hole and ensured that it is not obstructed; or

(b) without approval, charge more holes in a working face than are intended to be fired in one blasting.

313. PREPARATION OF DETONATORS

(1) Capped fuses for plain detonators shall be prepared only in an approved place at a mine.

(2) Fuses for plain detonators shall be cut square with a sharp instrument.

(3) A plain detonator shall be crimped onto its fuse by the use of approved tools and methods only.

314. LENGTH OF FUSES

A safety fuse which is shorter than 2 metres shall not be used at a mine except for testing the fuse.

315. LIGHTING OF MORE THAN ONE FUSE

(1) Subject to sub-regulation (2), a person at a mine shall not, at any one time, light more than -

(a) the number of fuses specified by an Inspector by entry in the Record Book for the mine; or

(b) if no such entry has been made - 8 fuses.

Penalty: $500.

(2) A person at a mine shall not, at any one time, light more than -

(a) unless he uses an approved fuse lighter - one fuse;

(b) unless he has a person assisting him - 5 fuses; or

(c) unless he uses an approved multiple cartridge or igniter fuse - 8 fuses.

Penalty: $500.

316. SAFETY FUSES IN SINKING

A person shall not, without approval, use a safety fuse to fire charges in the sinking of a shaft or winze at a mine.

Penalty: $500.

317. PRECAUTIONS TO BE TAKEN

A person lighting a fuse in a mine shall take such precautions as are necessary to ensure that during the lighting of the fuse and when that lighting is completed, no portion of the burning fuse or lighter falls into a hole or onto a fuse or explosive.

318. DUTY OF MANAGER AND BLASTER

The duty to ensure that regulations 314 to 317 inclusive are complied with is imposed jointly on -

(a) the manager of the mine in which the work referred to in those regulations is carried out; and

(b) the blaster in charge of that work.

319. BLASTING MATS

A person shall not initiate an explosion on the surface of a mine -

(a) in a built-up area;

(b) in the vicinity of a structure that is liable to be damaged by the explosion; or

(c) in a place specified by an Inspector,

unless the charge is covered with an adequate number of blasting mats to prevent debris being thrown into the air.

Penalty: $500.

320. BLASTING IN THE OPEN

(1) Blasting in or near -

(a) a built-up area; or

(b) an area specified by the Chief Government Mining Engineer,

shall be so conducted that disturbance to residents of the area is kept to a minimum.

(2) An Inspector may give a person a direction in relation to blasting in or near a built-up area.

321. ELECTRICAL FIRING PROCEDURE

(1) A person shall not fire shots electrically at a mine except in accordance with this regulation.

Penalty: $1,000.

(2) Detonator lead wires shall remain short circuited until the explosive charges are in position ready for firing.

(3) A firing cable leading to an explosive charge shall remain short circuited at the firing end while the leads from detonators are being connected to each other or to the firing cable.

(4) The short circuit at the firing end of a firing cable shall not be opened until all persons in the vicinity have been removed to a place of safety.

(5) Immediately before firing, a firing circuit shall, subject to sub-regulation (7), be tested at the firing end of the firing cable by an approved ohmmeter or other approved method.

(6) Where a test referred to in sub-regulation (5) indicates a continuous circuit and the blaster is satisfied that it will fire, the exploder may be connected to the firing conductors so that the charge may be fired.

(7) A firing circuit shall not be tested at a place any nearer to the face than would be safe if an explosion occurred during the test.

(8) The duty to ensure that this regulation is complied with is imposed jointly on the blaster and manager of the mine in which the firing is taking place.

322. ELECTRICAL HAZARDS

(1) Precautions shall be taken to prevent the firing cables, connecting wires and detonator leads used in electric firing in the vicinity of power or lighting conductors at a mine from -

(a) coming into contact with the power or lighting conductors; or

(b) being affected by a leakage of electrical current or a current induced thereby.

(2) An explosion initiated at a mine shall be so controlled that it does not cause the firing conductors to come into contact with a live power or lighting line.

(3) Where preparations for electric firing are being carried out underground in a mine, electric power shall not be used closer than 30 metres to the face being fired.

323. DISTANCE FROM TRANSMITTERS

A person shall not fire a shot electrically in a mine if the distance between the explosion and any type of radio transmitter, the power of which is specified in Column 1 of the table to this regulation, is less than the distance specified in Column 2 of the table opposite that power.

TABLE

Column 1	Column 2
Power of transmitter in watts	Distance in metres
Part I - Amplified Modulated Transmitters	
More than 5 but not more than 25	30
More than 25 but not more than 50	45
More than 50 but not more than 100	70
More than 100 but not more than 250	110
More than 250 but not more than 500	140
More than 500 but not more than 1,000	200
More than 1,000 but not more than 2,500	300
More than 2,500 but not more than 5,000	450
More than 5,000 but not more than 10,000	670
More than 10,000 but not more than 25,000	1,100
More than 25,000 but not more than 50,000	1,500
Part II - Frequency Modulated Transmitters	
More than 1 but not more than 10	1.5
More than 10 but not more than 30	3.0
More than 30 but not more than 60	4.5
More than 60 but not more than 250	9.0

324. STORMS

If an electrical or dust storm of sufficient intensity to be likely to be dangerous appears imminent, the person in charge of firing an explosive in a mine by using an electric detonator -

(a) if the firing is being done on the surface of the mine; or

(b) if the firing is being done underground and conditions favour -

(i) the conduction of electrical energy; or

(ii) the generation of static electricity,

shall -

(c) suspend the operation forthwith;

(d) ensure that the workers are withdrawn to a safe distance from the place of the firing; and

(e) not resume firing or preparations to fire until the storm has passed.

Penalty: $1,000.

325. EXPLODERS

(1) An exploder in a mine shall be -

(a) marked with a distinguishing number; and

(b) fitted with -

(i) a removable handle; or

(ii) a suitable cover with an approved locking device.

(2) Not more than one removable handle or approved locking device shall be issued at any one time for an exploder in a mine.

(3) A removable handle and approved locking device for an exploder in a mine shall be kept -

(a) locked when the exploder is not in use; and

(b) in the custody of the person firing the explosive or, if the charge is to be placed underwater, the diver so placing the charge, and no other person.

326. STORAGE OR DRY CELL BATTERIES IN BATTERY EXPLODERS

Storage or dry cell batteries shall not be used for electric firing unless they are contained in approved battery exploders.

327. MAINS FIRING EQUIPMENT

(1) A person shall not use electricity from power cables for firing a shot at a mine unless -

(a) an approved firing switch is installed between the source of power and the firing conductor;

(b) the firing switch is insulated and protected so as to ensure a total absence of current or current leakage into the firing cables unless the switch is closed;

(c) the firing switch, or another switch used to fire the shot, is placed in a fixed switchbox which is -

(i) provided with a lock; and

(ii) so constructed that it cannot be shut unless the switch is in the short circuit position; and

(d) the firing conductor is fitted with a plug capable of being connected to the appropriate socket in the switching apparatus.

Penalty: $1,000.

(2) The firing switch referred to in sub-regulation (1)(b) shall be so designed that the current flows for not more than 200 milliseconds and not less than 20 milliseconds.

(3) The key to the switchbox referred to in sub-regulation (1)(c) shall be kept by a person authorized by the manager of the mine and by no other person.

328. MAINS FIRING PROCEDURE

(1) A blaster shall ensure, while using electricity from power cables for firing shots at a mine -

(a) that no wiring, switch, switchbox or other equipment of a firing circuit is earthed;

(b) that the firing switch is not connected -

(i) to the source of power; or

(ii) to another electrical contact,

until all persons in the vicinity have been removed to a safe place; and

(c) that, before he connects power to the firing switch, the circuit to the explosive charge is tested from a safe place with an approved testing instrument.

Penalty: $500.

(2) A blaster shall not use a firing switch in circumstances referred to in sub-regulation (1) in a mine unless he has given a prior warning, and he shall fire the charge by closing the firing switch immediately after giving the warning.

Penalty: $500.

(3) Immediately after firing or attempting to fire a charge at a mine by electricity from power cables, the blaster shall disconnect the firing conductors from the switching apparatus and lock the switch-box.

Penalty: $500.

(4) The duty to ensure that this regulation is complied with is imposed jointly on the blaster and manager of a mine in which the firing is taking place.

329. BLASTING WARNINGS

(1) A blaster intending to fire an explosive in a mine shall, before firing, give to all persons in the vicinity who might receive injury unless they were so warned, an approved warning of the locality of the firing and of the number of charges to be exploded.

(2) After surface blasting is completed, the blaster shall give a signal that such blasting is completed.

(3) An approved signal or warning shall be recorded in the Explosives Record Book.

Penalty: $500.

330. NO ACCESS TO BLASTING AREA

A blaster intending to fire an explosive at a mine shall, before firing, ensure that all means of access to the place where firing is about to take place are securely guarded against traffic -

(a) by displaying an appropriate notice and erecting a barricade; or

(b) by a person acting on the instructions of the blaster.

Penalty: $500.

331. BLASTING AREA TO BE CLEAR

A blaster shall not fire an explosive at a mine until he has checked to ascertain that all persons in the vicinity of the danger area have left that area.

Penalty: $1,500.

332. SHELTERS

(1) In all open cuts or other surface works where blasting is carried on, approved shelters shall be provided for the protection of persons during the blasting.

(2) The manager of a mine may require that, during blasting operations at the mine, a person shall retire to a shelter or other safe place at such distance from the blasting as the manager may determine.

333. SAFETY FUSE BLASTS TO BE COUNTED

(1) This regulation applies to and in relation to firing explosives at a mine by safety fuse methods.

(2) The number of shots exploded in a blasting operation at a mine shall be counted, and a misfire shall be deemed to have taken place if there is any doubt as to the number of shots fired.

(3) Where 2 or more persons firing shots are near one another at a mine -

(a) they shall, between themselves, arrange the order of their firing in such a way as to ensure that there is no confusion in counting the explosions in each working place; and

(b) the person most remote from a safe area shall fire first.

334. PROCEDURE AFTER BLASTING

Immediately after electrically firing or attempting to electrically fire a charge at a mine, a blaster shall -

(a) ensure that any residual electrical charge is discharged from the exploder; and

(b) disconnect the firing conductors from the exploder and short circuit them by twisting the ends of the wires together or by some other approved means.

335. INSPECTION AFTER BLASTING

Work shall not proceed in a working place at a mine after a blast has occurred in the working place until it has been inspected by a competent person to ensure that the place is safe.

336. MISFIRES

A charged hole which has failed to fire after initiation shall be deemed to be a misfire.

337. PROCEDURE ON MISFIRES

(1) A person shall not approach a misfired charge, other than a charge that was fired electrically, until after the expiration of 30 minutes after the fuse was ignited.

(2) A person shall not approach a misfired charge that was fired electrically until after the expiration of 10 minutes after the firing cable is disconnected and short circuited.

Penalty: $1,500.

338. BOTTOMS

(1) A bottom which exists after firing in a working place at a mine shall be deemed to be a misfire.

(2) A blaster shall thoroughly wash out with water a bottom in which only A.N. mixture has been used as an explosive and which is a misfire before further boring, barring down or picking is done at the face in which the bottom exists.

(3) A blaster shall adopt the procedure set out in regulation 339 in respect of a bottom in which bottom priming using a primer of high explosives has been used and which is a misfire.

Penalty: $500.

339. BOTTOMS WITH NITRO-GLYCERINE OR NITRO-GLYCOL EXPLOSIVES

(1) When a bottom exists after firing an explosive which has a nitro-glycerine or nitro-glycol base in a working place at a mine, a competent person shall examine the bottom for remaining unexploded explosive.

(2) If, on an examination under sub-regulation (1) -

(a) no explosive is present - normal working procedure may be followed; but

(b) if the bottom cannot be seen clearly, or if unexploded explosive remains - the explosive shall be deemed to have misfired.

(3) A person at a mine shall not -

(a) reuse a bottom which is not a misfire; or

(b) drill closer than one metre to the outer edge of a bottom.

Penalty: $500.

340. PROCEDURE ON NITRO-GLYCERINE, &c., MISFIRES

(1) This regulation applies to and in relation to a misfire of an explosive which has a nitro-glycerine or nitro-glycol base.

(2) Immediately on becoming aware of a misfire, a blaster shall place a barricade or other obstruction across all means of access to the area and a danger notice to give notice of an unattended misfire.

(3) If a charge has misfired at a mine a person shall -

(a) carefully withdraw the stemming to not less than 0.3 metres and not more than 0.15 metres, from the top of the charge with either air and water or water under pressure;

(b) insert and fire a new primer to attempt to detonate the original charge; and

(c) not do anything else without the approval of the manager of the mine.

Penalty: $1,000.

341. PROCEDURE ON BLASTING AGENT MISFIRES

(1) If a charge of blasting agent has misfired -

(a) the blaster who placed the charge may attempt to wash the explosive from the hole; or

(b) the blaster who placed the charge may -

(i) carefully withdraw the stemming to the top of the charge with either air and water or water under pressure; and

(ii) insert and fire a new primer to attempt to detonate the original charge.

(2) If an attempt to wash out a hole or a refiring under sub-regulation (1) is unsuccessful, further action in relation to the misfire shall not be taken without the authority of the manager of the mine.

(3) A person shall not approach a hole in which a new primer has been fired under sub-regulation (1)(b)(ii) until after the expiration of one hour after the refiring.

342. MISFIRES TO BE NOTIFIED

(1) A person firing, or engaged in the firing of, explosives at a mine shall report all misfires of which he is aware -

(a) to the persons relieving him from duty; and

(b) to the shift supervisor,

upon being relieved of duty.

Penalty: $500.

(2) A shift supervisor shall enter details of a misfire, or ensure that such details are entered, into the Explosives Record Book for the mine at the end of the shift.

(3) A misfire which involves more than 250 kilograms of explosives shall be notified to an Inspector within 24 hours.

343. RECORDING INCIDENTS

Any unusual incident or irregular occurrence in relation to the testing, use, transport, storage or any other matter which involves explosives or blasting accessories shall be recorded in the Explosives Record Book.

344. BUTTS SAFETY

(1) Drilling shall not be done in a face underground in a mine until -

(a) the whole face, back and muckpile has been washed down;

(b) the back has been checked for its safety;

(c) all butts and bottoms in the face have been washed and cleaned;

(d) the face has been examined; and

(e) all misfires have been treated in accordance with these Regulations.

(2) A hole shall not be bored -

(a) in a butt;

(b) towards a butt; or

(c) within 100 millimetres of the outer edge of a butt,

which is underground in a mine.

345. STORAGE OF EXPLOSIVES

All explosives at a mine shall be stored in a magazine sited, constructed, ventilated, lined and lit in an approved manner.

346. MAGAZINES

Without limiting the power of an Inspector under regulation 345, the construction, ventilation, lining and lighting of a magazine referred to in that regulation shall be such as -

(a) to render it secure against unauthorized entry;

(b) to permit adequate ventilation;

(c) to minimize a risk of fire; and

(d) to protect the explosives from flying projectiles.

347. STORAGE OF DETONATORS

(1) Detonators for explosives shall not, without approval, be stored in the same magazine as other explosives.

(2) Detonators which are not electric detonators for explosives shall not be issued from a magazine -

(a) unless attached to a fuse; or

(b) without approval.

(3) Each different type of detonator for explosives shall be stored separately in a magazine.

(4) Approval for the purposes of sub-regulation (1) shall specify -

(a) the minimum distance from the other explosives at which detonators must be kept; and

(b) the position and standard of construction of a special compartment where detonators may be kept in the magazine.

348. STORAGE OF FUSES

(1) Ignitor fuses and safety fuses for explosives shall each be stored -

(a) in an explosives magazine in separate containers and separated from other explosives; or

(b) if it is not possible to comply with paragraph (a) - in a cool, dry, safe place at the mine away from a risk of fire.

(2) Fuse lighters for explosives shall be stored in a detonator magazine and no other place.

349. LIGHTS IN MAGAZINES

(1) A person shall not use a naked light in an explosives magazine at a mine.

Penalty: $500.

(2) An electric light in an explosives magazine at a mine shall be approved.

350. BRINGING EXPLOSIVES ONTO A MINE

Explosives brought onto a mine shall be conveyed in approved containers directly to a magazine at the mine.

351. TRANSPORT OF EXPLOSIVES

Explosives transported at a mine shall be conveyed directly from a magazine to the workings in an approved container.

352. EXPLOSIVES CONTAINERS NOT TO BE OTHERWISE USED

A person shall not place any other thing of whatever nature in the same container as an explosive.

353. WRAPPING EXPLOSIVES

A person shall not remove a wrapper from a cartridge of explosive except -

(a) to make a primer cartridge;

(b) to charge a free running or gel type explosive; or

(c) in order to examine the condition of the explosive.

Penalty: $500.

354. EXPLOSIVES TO BE CORRECTLY SIZED AND PLACED WHILE CHARGING

(1) A person shall not forcibly press a cartridge of explosive into a hole the diameter of which is less than the diameter of the cartridge.

(2) A person shall not sink a detonator into a primer cartridge to a depth greater than the length of the detonator.

(3) A person shall not drop a cartridge or containerized explosive, used to charge quarrying holes, into a hole the diameter of which is greater than 50 millimetres, but the person shall lower it into the hole by an approved means.

355. CHARGING PROCEDURE

(1) In loading an explosive into a hole, a person shall not -

(a) use a metal tool, bar or rod or a pricker tool with a metal part; or

(b) tamp an explosive otherwise than with a tamping stick.

(2) A person using stemming to load an explosive into a hole shall commence by tamping it lightly and gradually increasing the force of the tamping until the loading is completed.

Penalty: $500.

356. INSPECTOR MAY DIRECT USE OF SPECIFIC EXPLOSIVE

An Inspector may direct that only an approved low freezing temperature type of explosive shall be supplied to persons using explosives.

357. HIGH TEMPERATURE BLASTING

A person shall not, at a mine, use an explosive in a hole in which the temperature exceeds 55 degrees Celsius -

(a) without the approval of the Chief Government Mining Engineer; and

(b) unless he uses a detonating cord and no other method to initiate the explosive.

Penalty: $500.

358. UNDERWATER BLASTING

(1) A person shall not engage in underwater blasting -

(a) unless the method of blasting is approved; and

(b) if another person is in the water and closer to the explosion than the distance specified in Column 2 of the table in this regulation - using a weight of explosive specified in Column 1 of the table opposite that distance.

TABLE

Column 1	Column 2
Weight of explosive charge used	Distance
kilograms	metres
Less than 25	900
More than 25 but not more than 50	1,350
More than 50 but not more than 75	1,750

Penalty: $1,000.

(2) No charge exceeding 75 kilograms shall be used underwater at a mine without the approval of an Inspector.

359. BULLING CHARGES

(1) A fuse used for bulling holes at a mine shall be long enough to let the primer be in contact with the bulling charge and for the fuse to extend above the collar of the hole.

(2) A bulled hole shall be washed out with water and left for a period of not less than 4 hours before recharging.

360. OLD EXPLOSIVES

Old or deteriorated explosives shall not be stored at a mine.

Division 5 - Blasting Agents

361. STORAGE OF AMMONIUM NITRATE

(1) Ammonium nitrate stored at a mine shall be stored in an approved building on the surface of the mine.

(2) Before approving a building under sub-regulation (1), an Inspector shall consider -

(a) the method of and materials used in construction of the building;

(b) the ventilation of the building;

(c) the place in the building where the ammonium nitrate is to be stored; and

(d) the extent to which the building is protected from fire.

(3) A building in which ammonium nitrate is stored shall not be sited -

(a) closer than 15 metres from another building or place used for storage of other material; or

(b) downhill from a place where oil is stored.

362. TRANSPORT, &c., OF AMMONIUM NITRATE MIXTURES

(1) A person shall not transport or store an A.N. mixture in containers -

(a) made of zinc or copper; or

(b) of a capacity of more than 25 kilograms.

Penalty: $1,000.

(2) Sub-regulation (1) does not prevent the transport of A.N. mixtures in approved bulk containers.

363. BLASTING AGENTS IN COMPLIANCE WITH THE EXPLOSIVES ACT

A blasting agent -

(a) manufactured, used or stored at a mine; and

(b) which is approved as an explosive or manufactured in accordance with the conditions of the Explosives Act,

is deemed approved under these Regulations.

364. CHIEF GOVERNMENT MINING ENGINEER MAY APPROVE DIFFERENT REQUIREMENTS

(1) A person shall not prepare or use A.N. mixtures as an explosive at a mine except in accordance with this regulation.

(2) The Chief Government Mining Engineer may, by instrument in writing exempt the manager of a mine from the requirements of sub-regulations 3, 4 and 5.

Penalty: $500.

(3) An A.N. mixture shall be used on the day on which it is prepared unless approved.

(4) Surplus A.N. mixture shall be placed in an approved magazine or destroyed by an approved method.

(5) An A.N. mixture shall be stored away from heat and moisture in an enclosed and marked container in an approved magazine.

365. PREPARATION OF AMMONIUM NITRATE MIXTURES

In the preparation of A.N. mixture at a mine -

(a) the preparation of the mixture shall be carried out on the surface of the mine or an approved place underground in the mine;

(b) spilt material shall be cleaned up promptly and safely disposed of by an approved method;

(c) mechanical equipment -

(i) shall not be used unless approved; and

(ii) shall be earthed while in use;

(d) the quantity and places in which oil is stored for use shall be approved;

(e) a dye shall be incorporated into the A.N. mixture as a means of identification; and

(f) approved fire protection shall be provided at the place where the preparation is carried out.

366. LOADING

(1) This regulation applies to and in relation to the loading of holes to be charged with a blasting agent.

(2) A hole shall be loaded to ensure continuous explosive lines unless deck loading is used.

(3) Pneumatic loading shall not be used unless the loader, charging hose and earthing arrangements used in that loading are approved.

(4) A blasting agent shall be loaded through an anti-static hose when pneumatic loading is used.

(5) Where pneumatic loading and electric firing are used, protected-type detonators shall be used.

367. EARTHING REQUIRED

(1) Loaders referred to in regulation 366(3) and associated equipment shall be earthed to give a total resistance to earth of not more than one-tenth of an ohm.

(2) A person shall not use a water line, compressed air line, wire covered hose, rail or permanent electrical earthing system as a means of earthing.

Penalty: $500.

368. CHARGING BROKEN GROUND

Where free running explosives are loaded into holes drilled in broken ground, or in bulled holes -

(a) an accurate measure shall be kept of the charge to avoid overloading; and

(b) the manager shall be informed of any excess charge.

369. UNDERWATER BLASTING

A.N. mixtures used for blasting underwater shall be placed in waterproof containers.

PART XIII - WELDING

370. SPECIAL STEELS TO BE MARKED

A structure, crane appliance or hoisting appliance at a mine which has a load-bearing member or part of a load-bearing member constructed of steel with a specific yield stress in excess of the stress of common grade structural steel, shall be clearly and permanently marked, in a manner which does not weaken the member or part, to show -

(a) its location; and

(b) the specification of that steel.

371. WELDING SPECIAL STEELS

(1) A person who does not hold a welding supervisor's certificate in accordance with Australan Standard 1796 - 1975 or an approved equivalent certificate shall not weld a member or part of a member referred to in regulation 370.

(2) When welding a member or part of a member referred to in regulation 370 -

(a) the recommendations of the manufacturer of the steel and the electrode shall be followed;

(b) the appropriate electrode for the steel involved shall be used;

(c) the appropriate preheat and after-heat treatment procedure shall be followed; and

(d) the member or part of the member shall -

(i) be chipped and cleaned with a wire brush;

(ii) be thoroughly inspected by the welder; and

(iii) not be treated with an anti-rust compound until the inspection required by sub-paragraph (ii) has been made.

372. RECORDS OF WELDING

Full details of all welding of steel referred to in regulation 370 in a mine, including the name of the welder and his qualifications, shall be entered in the Record Book.

373. WELDING NOT TO AFFECT SAFETY

Welding of a member or part of a member referred to in regulation 370 shall not be carried out if it will in any way adversely affect the safety, strength or serviceability of the structure, crane appliance or hoisting appliance of which the member or part of the member forms a part.

374. WELDING SCREENS

(1) Screens shall be provided in areas where -

(a) welding is to be carried out; and

(b) persons other than the welder are passing or working.

(2) A welder shall ensure that screens provided under sub-regulation (1) are used to prevent flashing emanating from a welding area being seen from an area where persons other than the welder are passing or working.

Penalty: $100

375. ELECTRIC WELDING

Electric welding equipment shall not be used at a mine unless the earthing arrangement and the cables used are approved.

376. USE AND MARKING OF ACETYLENE BOTTLES

Bottles containing acetylene used at a mine -

(a) shall be stood upright when used; and

(b) shall be marked with approved signs.

377. TRANSPORT, STORAGE AND FILLING OF GAS BOTTLES

Bottles containing a gas used for welding at a mine shall only be transported, filled and stored in accordance with Australian Standard 2030 - 1977.

378. COMPLIANCE WITH CODES

Welding shall only be carried out at a mine in accordance with the relevant part of Australian Standard 1796 - 1975 for that particular material being welded.

PART XIV - SURFACE OPERATIONS

Division 1 - Open Cuts and Pits

379. OPENINGS INTO UNDERGROUND WORKINGS

The sinking of passes from the floor of an open cut for the purpose of filling in underground stopes or block caving or glory holing into underground openings shall not be undertaken except with the approval of and subject to conditions specified by an Inspector.

380. STOPING UNDER OPEN CUTS

No stoping shall be carried on at a mine so that the back of the stope is closer than 20 metres to the floor of an open cut in which work is being carried out.

381. BATTERS OF OPEN CUTS AND QUARRIES

The batter of a face and profile of an open cut or quarry shall be maintained in an approved manner.

382. FACES OF OPEN CUTS AND QUARRIES

(1) Subject to sub-regulation (3), the face of an open cut or quarry -

(a) shall be no more than 10 metres high;

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

(c) shall be kept free of loose material; and

(d) if it is more than 2 metres high - shall not be undercut.

(2) The face of an open cut or quarry above the working area shall be provided with berms not less than 2 metres wide at every 10 metres of height.

(3) The Chief Government Mining Engineer may, by notice in writing, exempt a manager from a requirement of this regulation.

(4) An exemption under sub-regulation (3) shall be noted in the Record Book.

383. CLAY-PIT FACES

A clay-pit in a mine shall be worked in such a manner that the width of each active bench is greater than twice the vertical height of the face.

384. ACCESS TO SAND-PITS

(1) A sand-pit in a mine within or adjacent to a built-up area shall be so fenced as to prevent access to it being gained by persons who are not authorized by the manager to gain access to it.

(2) An Inspector may, in writing, direct that a specified fence be erected around a sand-pit in a mine.

385. HEIGHT OF SAND-PITS

The height of a single working face of a sand-pit in a mine shall not exceed -

(a) the height of the vertical reach of the excavating equipment working at that face; or

(b) 10 metres,

whichever is the lesser.

386. WORKING OF SAND-PITS

The working face of a sand-pit in a mine shall be worked back and forth in as straight a line and over as great a length as practicable.

387. SAND SLUMPS

At the end of each day's work on a sand-pit in a mine, the face of the pit shall be sloped to prevent slump of sand.

Division 2 - Dumps and Dams

388. CHIEF GOVERNMENT MINING ENGINEER TO APPROVE DUMPING

Material from a mine shall not be -

(a) discharged on a dump or into a dam; or

(b) stockpiled,

except with and in accordance with the approval of the Chief Government Mining Engineer.

389. POWERS OF CHIEF GOVERNMENT MINING ENGINEER

The Chief Government Mining Engineer may, by notice in writing, require the manager of the mine to supply him, within the time specified in the notice, with -

(a) accurate plans, maps and sections of a proposed dump in the mine and the immediate environs of that dump; and

(b) construction and development programmes for that dump,

and may refuse to approve the discharging of material under regulation 388 until such plans and programmes have been supplied.

390. DUMP SUPERVISOR

Material shall not be discharged at a dump or dam at a mine except under the supervision of a competent person appointed by the manager of the mine.

391. PRECAUTIONS WHILE DUMPING

(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 at a mine.

(3) A spotter or wheel stop block or safety windrow of 0.5 to 0.75 metres height shall be employed while material is being dumped over the dumping edge of a dump at a mine.

392. CERTIFICATION OF DAMS

(1) A dam shall not be constructed at a mine unless the design and proposed methods of the construction of that dam have been approved in writing by the Chief Government Mining Engineer.

(2) In sub-regulation (1) a reference to a dam shall be construed as being a reference to a dam -

(a) having a reservoir storage capacity of 20,000 cubic metres or more and a dam wall height of 10 or more metres; or

(b) having a reservoir storage capacity of 50,000 cubic metres or more and a dam wall height of 3 or more metres.

(3) A dam referred to in sub-regulation (2) shall be inspected by an approved person at least once in every 12 months.

(4) Upon completion of the inspection referred to in sub-regulation (3) a report of such inspection shall be forwarded to the Chief Government Mining Engineer.

(5) The Chief Government Mining Engineer, upon receipt of the report referred to in sub-regulation (4), may issue a certificate for approval to use the dam.

(6) A certificate of approval referred to in sub-regulations (1) and (5) shall be in a form approved by the Chief Government Mining Engineer and shall be issued subject to such conditions as are specified by him in the certificate.

Penalty: $1500.

393. DAM SAFETY

(1) A dam at a mine shall be safeguarded to prevent entry by persons not authorized by the manager of the mine to gain access to the dam.

(2) Notices warning of danger shall be erected in prominent positions on all access routes approaching a dam at a mine.

(3) Life-saving equipment of an approved type shall be available near a dam at a mine.

Division 3 - Roads

394. HAULAGE AND ACCESS ROADS STANDARDS

(1) This regulation applies to and in relation to haulage and access roads used to transport ore, rock or other products or material.

(2) A road shall be -

(a) clearly defined by posts, not less than 1.5 metres high and not more than 100 metres apart, which have reflective material attached;

(b) sign-posted with speed indicator signs and give way signs, where appropriate;

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

(d) unless it is designated a one way road, wide enough to allow 2 of the widest vehicles used on a mine to pass each other with safety.

395. OTHER ROADS

(1) This regulation applies to and in relation to roads other than roads to which regulation 394 applies.

(2) A road on a mine shall be clearly defined in the approved manner by approved marker posts and signs.

396. MOBILE EARTHMOVING EQUIPMENT ON ROADS

Mobile earthmoving equipment shall not operate on a road other than a road referred to in regulation 394 unless preceded by a vehicle or person giving warning of the approach of the equipment.

Division 4 - Machinery

397. MACHINERY RECORD BOOK

(1) A book to be known as the Machinery Record Book shall be kept for a mine.

(2) A Machinery Record Book shall comprise record sheets in a form approved by the Chief Government Mining Engineer for a piece of machinery.

398. INSPECTION OF MOBILE EQUIPMENT

(1) This regulation applies subject to regulation 399(2)(b).

(2) Mobile equipment used on a mine shall be examined by the driver at the beginning of each shift and at the completion of such an examination the drivers shall complete a drivers report in respect of such equipment.

(3) The report referred to in sub-regulation (2) shall be examined during each shift by a competent person appointed for that purpose by the manager of the mine.

(4) Notwithstanding sub-regulations (2) and (3), mobile equipment shall be examined at least once in every 14 days or 150 hours of use, whichever is the lesser, by a suitably qualified person approved by the manager of the mine.

(5) The inspections referred to in sub-regulations (2), (3) and (4) shall ensure in all respects that the mobile equipment is in a safe working condition.

(6) A person carrying out an inspection required by sub-regulations (2), (3) and (4) shall enter details of -

(a) the results of that inspection; and

(b) the actions taken by him to remedy a defect found during an inspection,

in the Machinery Record Book for the mine.

399. SPECIAL PRECAUTIONS FOR CERTAIN MACHINERY

(1) This regulation applies to and in relation to vehicles and machinery specified by an Inspector by notice in writing served on the manager of the mine.

(2) Machinery or vehicles shall not be used at a mine unless -

(a) they are suitable for the purpose for which they are intended to be used and can be worked safely for that purpose; and

(b) they are inspected before a shift by the driver in accordance with the instructions of the manager of the mine.

(3) The instructions referred to in sub-regulation (2)(b), and a note of a malfunction in a machine discovered during an inspection under that sub-regulation, shall be entered in the Machinery Record Book for the mine by the person making the inspection and the driver of the machine respectively.

400. DRIVER'S QUALIFICATIONS

(1) The manager of a mine shall not employ a person to operate machinery in the mine unless that person is the holder of a permit or certificate of competency, required by direction of the Chief Government Mining Engineer to operate the machinery on the mine.

(2) A person shall not drive or operate machinery in a mine unless authorized to do so by the manager of the mine. Such authorization shall be in writing.

(3) The manager may -

(a) issue a driver's permit to a person who has adequate training, qualifications and experience to safely operate or drive the machinery;

(b) permit a person to undergo training if the person is accompanied by a person who is designated as an approved instructor, providing that the machinery is clearly marked to indicate that it is under the control of a trainee driver or trainee operator.

(4) The manager shall keep a record of all persons to whom he issues a driver's permit under sub-regulation (3)(a).

(5) A driver's permit shall be in accordance with Form 3 of Schedule 2.

(6) The manager may cancel a driver's permit at any time either orally or in writing.

(7) Where a driver's permit is cancelled under sub-regulation (4), an entry to that effect shall be made by the manager in the Machinery Record Book and the permit attached for destruction by an Inspector.

(8) A duplicate copy of the driver's permit issued under this regulation shall be forwarded to an Inspector within 7 days after it has been given.

(9) A driver's permit has effect only in relation to the mine specified in the permit.

401. ISSUE OF DRIVER'S CERTIFICATE OF COMPETENCY

(1) The Chief Government Mining Engineer may issue a driver's certificate of competency to a person.

(2) A driver's certificate of competency shall be in accordance with Form 4 of Schedule 2.

(3) An inspector may cancel a driver's certificate of competency.

402. CABIN PROTECTION

The driver's cabin of a vehicle or loader used for rock handling at a mine shall be so constructed as to protect the driver from a rock spillage and from the vehicle or loader overturning.

403. FIRE EXTINGUISHERS, &c.

(1) Fire extinguishers of an approved type and capacity shall be installed on mobile equipment on the surface of a mine.

(2) Buckets filled with dry sand, or other approved fire fighting equipment, shall be provided at a service station on the surface of a mine.

404. EXHAUST LOCATION

The engine exhaust gases from mobile equipment, which is on the surface of a mine and is operated by an internal combustion engine, shall be discharged at a point remote from the operator or driver of the equipment.

405. SAFETY GEAR ON EARTHMOVING EQUIPMENT

(1) Mobile earthmoving equipment used on the surface of a mine shall -

(a) carry an audible warning device;

(b) carry flashing lights and an automatic audible warning device which operate when the equipment is moving backwards;

(c) be provided with mirrors which enable the operator to see behind the equipment; and

(d) have effective brakes incorporating a fail-safe action.

(2) Where a brake on mobile earthmoving equipment is operated by a supply of stored energy -

(a) a warning device to show the driver a loss of supply in the energy reservoir shall be incorporated in the equipment in a position readily seen by the driver; and

(b) the braking system of rubber tyred vehicles shall comply with the relevant provisions of the Society of Automotive Engineers Code for Off Highway Rubber-Tired, Self-Propelled Construction Machines being minimum performance criteria published by the Society on 4 January 1979 and known as S.A.E. J 1152.

406. CRUSHER EQUIPMENT

(1) A crusher tipping platform at a mine shall be provided with effective means of signalling to the vehicle driver from the crusher.

(2) A feeding platform in a crushing plant at a mine shall be -

(a) provided with a protection rail to prevent the operator falling into the crusher; and

(b) covered over to provide shelter for the operator.

407. REFLECTING CLOTHING

(1) Pedestrians and vehicles in the vicinity of a crushing plant at a mine shall wear reflector tape or an approved device distinctly visible to the operator of the plant.

(2) Pedestrians (including spotters in dumping areas, riggers, supervisors and maintenance personnel and vehicles) employed in and about heavy mobile equipment shall wear approved reflective clothing.

408. SAFETY BELTS

A person driving or riding on a vehicle at a mine, other than a vehicle the velocity of which cannot exceed 20 kilometres per hour, shall wear a safety belt unless otherwise authorized by an Inspector.

Penalty: $500.

409. RIGHT OF WAY

(1) Mobile earthmoving equipment has right of way over any other type of vehicle at a mine.

(2) Loaded earthmoving equipment shall have right of way over unladen equipment.

Penalty: $1,000.

410. SAFETY WHILE LOADING

(1) The driver of a loader and the driver of a vehicle into which material is being loaded at a mine shall not leave or enter the cabin of the loader or vehicle, as the case may be, during the loading operations unless there is clear agreement to that effect between the drivers and it is safe to do so.

(2) The driver of a shovel or loader at a mine shall ensure that the bucket of the shovel or loader does not travel over the cabin of another vehicle during loading operations.

(3) The driver of a vehicle to be loaded shall at no time manoeuvre the vehicle in such a manner as to place the cabin under the bucket of a shovel or loader.

Penalty: $1,000.

411. TIPPING INTO CRUSHERS

The driver of a tipping vehicle at a mine shall not approach a crusher tipping area to tip material unless the crusher operator signals that it is safe to do so.

Penalty: $1,000.

412. FIXED TOWBARS

The driver of a vehicle at a mine shall not drive a vehicle hauling a trailer or machine unless -

(a) the trailer or machine is linked to the vehicle by a rigid towbar and 2 safety chains and is securely held by a bolt or other device while locked into position; and

(b) the trailer or machine is fitted with a fail-safe braking system of an approved type.

Penalty: $500.

413. GROUNDING HYDRAULIC LIFTING EQUIPMENT

An operator of equipment which incorporates an hydraulic lifting device at a mine shall not leave the cabin or place of operating that equipment unless the devices lifted have been lowered to the ground or are otherwise supported in such a manner as to be safe from accidental lowering.

Penalty: $500.

414. SIGNAL CODE

A driver of mobile equipment used on an open cut, quarry or other excavation shall not -

(a) start the equipment - unless he has first given one audible blast;

(b) move the equipment forward - unless he has first given 2 audible blasts; or

(c) move the equipment backward - unless he has first given 3 audible blasts,

as a warning signal.

415. FUEL STORAGE

Fuel used for internal combustion engines in mobile equipment on the surface of a mine shall be stored in approved tanks.

416. FUELLING OPERATIONS

Fuelling and servicing of internal combustion engines in mobile equipment on the surface of a mine shall, if so directed, be undertaken only at an approved fuelling and service station.

PART XV - ELECTRICITY

Division 1 - Preliminary

417. INTERPRETATION

In this Part, unless the contrary intention appears -

"apparatus" means an electrical appliance, machine, fitting, consuming device, control or protective gear in which conductors are used or of which conductors form a part;

"bare" means not covered with insulating materials;

"circuit" means an arrangement of conductors for the purpose of carrying electrical current;

"competent person" means a person who holds -

(a) an electrical mechanic's licence Grade A issued under the Electrical Workers and Contractors Act; or

(b) such other qualifications as are approved by the Chief Government Mining Engineer;

"dead" in relation to an electrical circuit, means at or about earth potential.

"electric hand-lamp" means an electric lamp which may be installed in a suitable fitting and attached to a flexible cable and when so installed and attached is normally carried in the hand when used;

"existing apparatus" means apparatus at a mine, which apparatus was being used immediately before the commencement of this Part, as apparatus;

"extra-low voltage" means a potential difference between conductors of not more than 32 volts alternating current or 115 volts direct current;

"high voltage" means a potential difference between conductors of more than 650 volts alternating or direct current;

"live" in relation to apparatus, means that that apparatus has an electrical energy potential different to that of the earth's potential such that if the two were connected a current would flow from one to the other;

"low voltage" means a potential difference between conductors of more than 32 volts alternating current or 115 volts direct current but not more than 250 volts alternating or direct current;

"medium voltage" means a potential difference between conductors of more than 250 volts alternating or direct current but not more than 650 volts alternating or direct current;

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

"open sparking" means sparking which, owing to lack of adequate protection, may ignite flammable gas outside the apparatus in which the sparking occurs;

"portable machine or apparatus" means an electrically operated machine or apparatus capable of being carried while in use, but does not include a battery-powered hand-lamp;

"remote control" in relation to switchgear or electrically operated equipment, means controllable from a distance by electrical or other means, switchgear or equipment is not remote control if the control device is contained within the switchgear or equipment or is an integral part of a machine;

"system" means an electrical system in which all conductors and apparatus are electrically connected to a common source of electromotive force;

"touch voltage" in relation to apparatus, means the voltage at which the exposed frame or container of the apparatus, normally at earth potential, may be raised above earth potential during fault conditions;

"trailing cable" means a cable with stranded or bunched conductors, insulation, filling, reinforcement and a protective covering which is specially designed to provide a flexible electrical connection between multi-phase portable, mobile and transportable apparatus and a fixed point;

"transportable lamp" means an electric lamp which may be installed in a suitable fitting and attached to a flexible cable and, when so installed and attached, is normally mounted in a fixed position when in operation;

"transportable machine or apparatus" means an electrically operated machine or apparatus 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.

418. INSPECTOR'S POWERS RELATING TO EXISTING APPARATUS

An Inspector who is of the opinion that it would be unsafe for any existing apparatus to continue to be used at a mine may direct the manager of a mine to cease using that apparatus.

419. INSPECTOR'S POWERS RELATING TO ALTERATIONS OR ADDITIONS

When an alteration or addition is made to existing apparatus at a mine, an Inspector may direct the manager of a mine to alter a specified part of the existing apparatus to comply with this Part.

420. DUTY TO COMPLY WITH PART

(1) The duty to ensure compliance with this Part in respect of a mine is imposed on -

(a) the owner of;

(b) the agent of;

(c) the manager of a mine;

(d) all subordinate officials of;

(e) an engineer appointed by the owner or agent of the mine who, not being subordinate to the manager of the mine, supervises the generation, transformation, distribution or use of electrical energy or the installation of apparatus for; and

(f) a person who, by contract or otherwise, undertakes for or on behalf of the owner of the mine, the installation, alteration, removal or repair of apparatus at,

a mine.

(2) It is not a defence to a prosecution for an offence against this Part that another person specified in sub-regulation (1) has been convicted of or charged with the same or similar offence.

421. NOTICE OF NEW WORK, &c.

(1) This regulation does not apply to or in relation to the installation of telephonic or signalling apparatus at a mine.

(2) The manager of a mine shall give written notice to the Chief Government Mining Engineer of his intention to -

(a) commence using electricity at the mine; or

(b) if the use of electricity has been previously disconnected for a period exceeding 3 months, to reintroduce the use of electricity.

Penalty: $500.

422. RETURNS OF LOADINGS

The manager of a mine shall, not less than once every 3 months, furnish to the Chief Government Mining Engineer full particulars of additional loadings to existing apparatus at the mine, otherwise than for lighting or for general purpose outlets, and the date on which the additions were made.

423. MANAGER OF A MINE TO APPOINT ELECTRICAL SUPERVISORS FOR MINE

The manager of a mine shall, as the occasion requires, appoint a competent person to supervise the installation, maintenance and testing of apparatus at the mine.

424. MANAGER OF A MINE TO NOTIFY APPOINTMENT OF COMPETENT PERSON

The manager of a mine shall, not later than 14 days after the appointment of a competent person under regulation 423, forward notice in writing of the appointment to the Chief Government Mining Engineer.

425. UNAUTHORIZED ENTRY

A person shall not enter a room containing apparatus at a mine unless -

(a) he is authorized to do so by the manager of the mine;

(b) in an emergency; or

(c) in pursuance of these Regulations.

Penalty: $500.

426. APPARATUS NOT TO BE INTERFERED WITH

A person shall not, without lawful authority, interfere with, remove or render useless an electric line, machine or apparatus used in connection with the supply or use of electricity at a mine.

Penalty: $500.

427. WARNING NOTICES

(1) The following approved notices shall be exhibited at distribution centres, substations, pumping stations and crushing stations at a mine -

(a) a notice containing directions as to resuscitation of persons suffering from electric shock;

(b) a notice containing directions as to procedure in case of fire;

(c) a notice prohibiting or regulating the use of apparatus in the vicinity of the notice; and

(d) a notice containing instructions for communicating with the person referred to in regulations 474 and 496 concerning apparatus.

(2) An Inspector may direct the manager of a mine to exhibit notices referred to in sub-regulation (1) at a place other than a place referred to in that sub-regulation.

(3) A notice exhibited in pursuance of this regulation shall be constructed of durable non-hygroscopic material.

(4) A notice exhibited in pursuance of this regulation which becomes defaced, obliterated or destroyed shall be replaced as soon as practicable.

(5) A person working in connection with electrical apparatus shall acquaint himself with the contents of the notices exhibited at his place of work.

Penalty: $500.

428. PLANS TO BE KEPT

(1) A plan, at a scale not smaller than 1:2,500, showing the position, size and duty of all fixed apparatus and cables below ground at a mine, including signalling and telephone apparatus, shall be kept at the mine.

(2) The plan referred to in sub-regulation (1) shall be brought up to date not less than once every 3 months.

(3) An Inspector may require the manager of the mine to produce to him the plan referred to in sub-regulation (1) for the mine.

429. DEFECTS TO BE REMEDIED

A defect detected in an apparatus used at a mine, which would render such apparatus hazardous, shall be remedied as soon as is practicable or the apparatus removed from service.

430. TEMPORARY CABLES

Notwithstanding any other provision of this Part, approved cables may be used for temporary distribution purposes for a period not exceeding -

(a) the period specified by an Inspector when granting the approval; or

(b) if no period is so specified - 3 months.

Division 2 - Standards of Electrical Apparatus Generally

431. CHIEF GOVERNMENT MINING ENGINEER MAY VARY STANDARDS

The Chief Government Mining Engineer may, by notice in writing, vary the standards prescribed by this Division in respect of the design, construction, performance and rating of apparatus, cables, conductors and materials used at a mine.

432. GENERAL STANDARDS

Subject to this Part, apparatus at a mine shall comply with Australian Standard 3000 Part 1 1976.

433. STANDARD AND PLACEMENT OF APPARATUS AND CONDUCTORS

An apparatus and conductor at a mine shall -

(a) be of sufficient capacity for the work it may be called upon to perform;

(b) be insulated or have all exposed live parts enclosed, or protected;

(c) be so placed, installed, worked and maintained as to -

(i) minimize the risk of accidental shock, fire, overheating, deterioration and mechanical damage; and

(ii) ensure that dust and moisture are excluded from within the enclosures of the apparatus or conductor, as the case may be; and

(d) have enclosures of non-ignitable, non-hygroscopic material which is either -

(i) non-conducting; or

(ii) of rigid metal,

and clear of internal mechanisms.

434. CLEARANCE AROUND APPARATUS

(1) An apparatus in a mine, that has to be worked on or attended to by a person shall be provided with not less than 600 millimetres clear working space around, and adequate means of access to, such apparatus.

(2) Handles for operating a machine in relation to an apparatus shall be placed on the machine in a position convenient to the operator of the machine.

435. ROOMS, &c., HOUSING APPARATUS

(1) An unattended motor room, switchroom or transformer room at a mine, containing exposed conductors or switchgear, shall be kept secured against the entry of persons not authorized by the manager of the mine to gain access to it.

(2) A room, chamber or enclosure at a mine in which electrical apparatus is housed shall be kept dry and free from debris.

436. PROTECTION OF GENERATORS

(1) Unless otherwise approved, a generator in a mine shall be provided with a switch and fuse, or a circuit-breaker in each active pole between the generator and the busbars.

(2) Sub-regulation (1) does not apply to or in relation to an electric winder generator or to motor generator sets employing a regenerative feed-back system.

437. MOTOR GENERATOR TO BE ENCLOSED

A motor generator and fully enclosed metal-clad apparatus at a mine shall be provided with -

(a) suitable glands, screwed apertures or clamps for securing the protective covering of the connected conductors; or

(b) suitable bushed or shaped apertures for the entry of conductors.

438. CAPACITY OF CIRCUIT-BREAKERS, &c.

(1) A circuit-breaker or contactor at a mine shall have a rupturing capacity not less than its prospective fault level at the point of installation.

(2) Sub-regulation (1) does not apply to or in relation to installations in which the circuit-breakers or contactors are backed by HRC fuses which have a category of duty that will satisfactorily and safely interrupt the prospective fault current.

439. TRANSFORMER OVERCHARGING PROTECTION

Suitable provision shall be made, where electrical energy in apparatus at a mine is transformed or converted, to guard against danger arising from a lower voltage apparatus becoming charged above its normal voltage by leakage from or contact with higher voltage apparatus.

440. LIGHTNING PROTECTION AND EARTHING

Methods used for lightning protection and earthing at a mine shall be in accordance with the recommendations of Australian Standard 1768 - 1975.

441. ISOLATION OF REMOTE MOTORS

A motor which is operated remotely at a mine or in such a way that it cannot be seen from its switchgear or control gear shall be provided with facilities for locking it in an isolated position.

442. HAULAGE, &c., SYSTEMS OF MOTORS

Haulage and conveyor systems of a motor at a mine shall comply with Australian Standard 1755 - 1975, but an Inspector may direct that lanyard stops be provided along the full length of the conveyor.

443. SAFETY OF REMOTE CONTROL APPARATUS

Remote control apparatus at a mine shall be designed -

(a) to operate safely; and

(b) to incorporate means of stopping the machine otherwise than by a remote control device.

444. STANDARDS OF LAMPS

A transportable lamp and electric hand-lamp may not be used if it is in excess of extra low voltage unless approved protection devices are installed.

445. FIRE EXTINGUISHERS

Fire extinguishers conforming to the relevant Australian Standards shall be kept in working order and be ready for immediate use at distribution centres and at other approved and clearly indicated stations.

446. BACK-UP LIGHTING

An approved alternative system of lighting, either fixed or portable, shall be provided at a mine for use in the event of failure of electric light in a building or room at the mine where such a failure of electric light is likely to create a situation dangerous to human life.

447. PROTECTION AND REPLACEMENT OF LIGHTS

(1) A light fitting and lamp at a mine shall be effectively protected against damage.

(2) An electric lamp at a mine shall be replaced only by a person authorized by the manager of the mine to do so.

448. USE OF TRANSFORMERS FOR SIGNALLING

A stepdown transformer used to obtain power for signalling shall be of an approved double-wound type and one of the following methods shall be adopted to prevent the secondary winding becoming charged at the higher voltage -

(a) the primary and secondary windings shall be wound on separate legs of the transformer and the transformer core effectively earthed; or

(b) if the primary and secondary windings are wound on the same leg of the cores, an earthed winding or metallic sheath shall be interposed between the 2 windings and be suitably insulated from both primary and secondary windings.

449. CONTACT-MAKING DEVICES

Contact-making devices used for signalling at a mine shall be so constructed and installed as to prevent accidental closing of the circuit.

450. RENEWAL OF FUSES

(1) Subject to this regulation, the current setting of a circuit-breaker and replacement of a fuse at a mine shall be carried out only by a competent person.

(2) The manager of a mine may authorize a person who is not a competent person to reset a circuit-breaker or replace a fuse in the mine if a competent person is not available.

(3) Before a circuit-breaker is reset or a fuse is replaced at a mine the electrical power shall be cut off from the fuse.

(4) A reset circuit-breaker or a new fuse at a mine shall be examined by a competent person as soon as is possible after it has been reset or replaced, as the case may be, under sub-regulation (2).

Division 3 - Trailing Cables

451. STANDARDS FOR TRAILING CABLES

Unless otherwise approved, trailing cables for electrically operated portable, transportable and mobile machines or dredges shall comply with the requirements of Australian Standard 1802 - 1976, but flexible cables used with single-phase portable hand-held tools, portable and transportable hand-held tools and portable and transportable lights may be in accordance with the relevant Australian Standard for flexible cables.

452. EARTHING OF TRAILING CABLES

Trailing cables used on high voltage mobile and transportable machines at a mine shall be provided with an earthing conductor and pilot conductor.

453. INSULATION OF TRAILING CABLES

Trailing cables used on high voltage apparatus at a mine shall be provided with approved insulation and -

(a) a concentric tin coated copper strand screen around each power conductor; or

(b) a flexible armouring enclosing all conductors; or

(c) a combination of paragraphs (a) and (b).

454. JOINTS IN TRAILING CABLES

(1) Joints made in a trailing cable at a mine shall be -

(a) efficient;

(b) so made as to prevent the entry of water; and

(c) appropriate to the flexibility, conducting and insulating properties of the cable.

(2) Trailing cables at a mine, coupled together or terminated by means of a bolted coupling, shall be protected in such a manner that removal of its plug from a socket shall automatically disconnect the power supply from the trailing cable.

455. CONNECTION OF TRAILING CABLES TO APPARATUS

(1) The separate conductors of a twin or multi-core trailing cable at a mine shall be divided only for such a length as is necessary for the making of a connection to apparatus.

(2) A cable referred to in sub-regulation (1), when connected to apparatus shall, with its outer covering complete, be securely held by approved clamps in such a manner as to -

(a) protect the cable from injury; and

(b) prevent mechanical strain at the terminals.

456. TRAILING CABLES TO BE IDENTIFIED

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

(a) on a suitable label securely attached to the cable near a plug; or

(b) by other approved means.

457. OVERLOADS, &c., IN TRAILING CABLES

(1) A trailing cable at a mine shall take supply only from an approved control panel equipped with a circuit-breaker or magnetic contactor capable of entirely cutting off the power supply to the trailing cable in the event of an overload or the occurrence of an earth fault.

(2) A fixed isolating or terminal box with a switch capable of cutting off the power supply entirely to the trailing cable shall be provided at a point where a trailing cable at a mine is joined to a mains cable or an overhead line.

458. OPERATING TRAILING CABLES

(1) A person using a trailing cable at a mine shall carefully observe the cable while it is in use and upon observing a defect shall immediately notify an official of the mine.

Penalty: $500.

(2) Trailing cables at a mine shall, at all times where practicable, be kept clear of rails and traffic.

(3) Special care shall be taken to prevent injury to and undue strain on a trailing cable while a machine to which it is attached is in operation or is being moved from place to place.

459. DEFECTIVE TRAILING CABLES

A trailing cable at a mine, which becomes defective, damaged or inflicts a shock upon a person, shall be immediately removed from service.

Division 4 - Work on Apparatus

460. WORK ON LIVE APPARATUS

(1) Subject to this regulation, where work is required to be carried out at a mine on a normally live part of an apparatus and the working voltage of the part exceeds extra-low voltage but does not exceed medium voltage, the apparatus shall be effectively isolated from the source of supply of electricity.

(2) A part of an apparatus referred to in sub-regulation (1) may be made live for the purpose of adjustment or testing.

(3) A part of an apparatus shall not be made live under sub-regulation (2) unless rubber mats are supplied and used, and insulated gloves conforming to the relevant Australian Standard 2223 - 1978 are supplied to and worn by the persons working on the part.

461. WORK ON HIGH VOLTAGE LIVE APPARATUS

(1) Subject to sub-regulation (2), where work is required to be carried out on a normally live part of an apparatus and the working voltage of the part exceeds medium voltage, the person working on the apparatus shall, before working on it -

(a) effectively isolate it from the source of supply;

(b) test it to ensure that is is not live; and

(c) earth it.

Penalty: $500.

(2) Work may be carried out at a mine on live apparatus of a voltage exceeding medium voltage if -

(a) the most senior competent person in the mine examines the proposed work and approves it;

(b) the work is only carried out by suitably qualified and trained persons in accordance with approved safety procedures; and

(c) all equipment used for testing purposes is approved equipment.

(3) An approval under sub-regulation (2)(a) shall be entered in the Record Book.

462. VOLTAGE USED FOR SIGNALLING

(1) Subject to this regulation, the voltage used for signalling at a mine shall not exceed -

(a) if bare wires are used - extra-low voltage; and

(b) if insulated circuits are used - low voltage.

(2) Subject to sub-regulation (3), the voltage used for a telephone at a mine shall not exceed extra-low voltage.

(3) The voltage used for ringing, by means of hand-operated magneto or other source of power not exceeding 1,000 watts output, shall not exceed 115 volts.

463. VOLTAGE OTHER THAN EXTRA-LOW VOLTAGE USED FOR SIGNALLING

Where the voltage used for signalling in a mine -

(a) exceeds extra-low voltage but does not exceed 110 volts - the power for the voltage shall be obtained from a transformer whose secondary or output winding has the centre point earthed to the main earthing system of the mine; or

(b) exceeds 110 volts but does not exceed low voltage - the power for the voltage shall be obtained from a transformer whose secondary or output winding has the centre point earthed through an approved earth leakage protection device.

464. VOLTAGE FOR PORTABLE, &c., APPARATUS

(1) Subject to sub-regulation (2), a portable machine or apparatus shall not be used at a mine at a voltage exceeding low voltage unless approved.

(2) A portable machine or apparatus may be used at a mine at a voltage which does not exceed extra-low voltage only if it is used in accordance with these Regulations.

(3) The voltage used for a mobile or transportable machine or apparatus used at a mine shall not exceed medium voltage without the approval of the Chief Government Mining Engineer.

465. OPERATION OF REMOTE CONTROL MOTORS

(1) Where a motor at a mine is operated by remote control and is stopped at a point, the circuit shall be so arranged that the motor cannot start again until released from the point where it was stopped.

(2) Where remote control operations at a mine are by means of a pull wire, the pull wire shall be installed and operated in accordance with Australian Standard 1755 - 1975.

466. VOLTAGE OF TRANSPORTABLE, &c., LAMPS

(1) A transportable lamp shall not be used at a mine -

(a) at a voltage which exceeds low voltage; or

(b) unless approved protection devices are provided on the lamp.

(2) A person shall not use an electric hand-lamp in a mine at a voltage which exceeds extra-low voltage.

Penalty: $500.

Division 5 - Tests, &c.

467. ROUTINE TESTS

(1) A competent person appointed under regulation 423 for a mine shall carry out -

(a) as often as directed -

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

(ii) an examination of insulation of power circuits including machines, cables and apparatus forming part of or connected with 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; and

(b) not less than -

(i) once every 3 months or at such periods as may be required by an Inspector - a test of the effectiveness of earth leakage equipment; and

(ii) once a week - an examination for abrasions and other defects of trailing cables,

in use at the mine.

(2) A competent person appointed under regulation 423 for a mine shall carry out the tests and examinations prescribed by these Regulations for -

(a) a new apparatus and circuit; and

(b) an apparatus and circuit reconnected for use after being disconnected for one month,

in the mine before the apparatus or circuit, as the case may be, is used.

468. RECORDS OF TEST RESULTS

The results of a test or examination carried out under this Division shall be recorded in the Record Book and submitted for approval of the Chief Government Mining Engineer.

469. DUTIES OF COMPETENT PERSON

(1) It is the duty of a person appointed under regulation 423 for a mine to -

(a) receive and attend to a report made to him as to the state of an apparatus under his control;

(b) ensure that materials necessary for the regular working and efficient state of apparatus and cables under his control at the mine are constantly supplied;

(c) ensure that, so far as lies within the scope of his authority, apparatus and cables, including automatic or other protective devices associated with such apparatus and cables, are maintained in a safe working condition;

(d) remedy a defect in an apparatus or cable at the mine not later than 24 hours after notification of that defect or remove that apparatus or cable from service;

(e) report immediately to the manager of the mine a circumstance affecting or likely to affect the safe use of an apparatus or cable in the mine; and

(f) stop the use of an apparatus or cable which is, or appears to be, dangerous.

(2) A person appointed under regulation 423 for a mine shall, subject to the direction of the manager of the mine, have full control of -

(a) apparatus;

(b) such other plant or machinery as the manager of the mine may direct; and

(c) workmen employed in connection with the erection and maintenance of such apparatus, plant or machinery,

of the mine.

470. TESTING INSTRUMENTS

An instrument suitable for measuring resistance of not less than 50 megohms and rated at -

(a) 500 volts for circuits up to and including medium voltage; and

(b) 1,000 volts for circuits above medium voltage,

shall be provided and shall be used by a person making a test of insulation resistance at a mine.

471. INSULATION RESISTANCE

(1) The insulation of circuits, cables and apparatus shall be so maintained that the insulation resistance between -

(a) conductors; or

(b) conductors and earth,

shall be not less than -

(i) in the case of low or medium voltage circuits - one megohm; and

(ii) in the case of a circuit which is not a low or medium voltage circuit - one megohm plus one megohm for each 1,000 volts or part thereof by which the voltage of the circuit exceeds medium voltage.

(2) The insulation resistance of a trailing cable at a mine shall be not less than one megohm when measured -

(a) between conductors; and

(b) between the conductors and earth screen or, where the cable has no earth screen, between the conductors and surrounding water in which the cable has been immersed for not less than 6 hours.

Division 6 - Surface Apparatus

472. APPLICATION

This Division applies to and in relation to apparatus on the surface of a mine only, and is additional to the requirements of Divisions 1, 2, 3, 4 and 5 of this Part.

473. CONTROL OF POWER SUPPLY IN OPEN CUTS

The power supply to apparatus in an open cut shall be controlled by one or more circuit-breakers capable of automatically cutting off the supply in the event of overcurrent or the occurrence of an earth fault in the main power supply system.

474. WATCH TO BE KEPT

Whenever a conductor on a mine is live, a person authorized by the manager of a mine shall be readily available to operate, during an emergency, the switchgear controlling the power supply available to the mine.

475. CIRCUIT CONTROL AND PROTECTION

(1) Electrical equipment in a mine shall be controlled at the main switchboard of the mine by a circuit-breaker capable of opening all the active conductors of the circuit it controls.

(2) Circuits emanating from a distribution board at a mine shall be protected at the board by -

(a) a fuse in an active conductor; or

(b) a circuit-breaker fitted with an overcurrent device in an active conductor.

(3) Provision shall be made for each distribution board to be separately isolated.

476. SHORT CIRCUIT PROTECTION

(1) A circuit in a mine shall be protected -

(a) against short circuit overload; and

(b) if directed - against earth leakage.

(2) A protection device used for the purposes of sub-regulation (1) shall be capable of isolating the power supply to the protected circuit.

477. STANDARDS OF AUTOMATIC EARTH LEAKAGE PROTECTION

(1) Automatic earth leakage protection systems required under regulation 476(1)(b) shall, if fixed, be approved.

(2) An Inspector shall not approve for the purposes of sub-regulation (1) a system of automatic earth leakage protection unless he is satisfied that the maximum operating time of the system does not exceed the time indicated by the graph line shown in Schedule 3 as corresponding to the touch voltage of the system.

(3) Automatic earth leakage equipment used at a mine shall be provided with approved means by which a test of its effectiveness may be made.

(4) For the purposes of a test referred to in sub-regulation (3), the current in the test circuits shall be not greater than 20% more than the current setting of the earth leakage relay of the apparatus.

478. FUSES

(1) Fuses and automatic circuit-breakers at a mine shall be constructed and adjusted to interrupt the current so as to effectively protect conductors, motors and other current-consuming devices.

(2) Fuses at a mine shall be approved.

(3) Except in medium and high voltage overhead line systems, instrumentation and control circuitry fuses shall be of an approved non-rewirable type.

479. INTERLOCKING OF ENCLOSURES

(1) Enclosure doors and the removable covers of switchgear and control equipment that provide access to live parts of apparatus, except parts supplied from an extra-low voltage supply and switchgear controlling lighting, remote control circuits, busbar chambers and terminal boxes, shall be interlocked either mechanically or electrically with a circuit-breaker device installed on the supply side of the apparatus to effectively isolate the supply from the apparatus installed within the enclosure.

(2) A part of apparatus remaining live within an enclosure which has the cover opened or removed shall be effectively screened or shielded and, where required, labelled "LIVE! ISOLATE ELSEWHERE".

480. EARTHING OF APPARATUS

(1) Earthing electrodes associated with the earthing system of a mine shall be at the surface of the mine unless otherwise approved.

(2) An earthing conductor shall not be used to carry the normal current of a circuit other than its own monitoring circuit.

(3) The neutral point of an alternating current electrical system shall be -

(a) solidly earthed;

(b) earthed through an impedance; or

(c) if it is for mobile or transportable equipment - approved by the Chief Government Mining Engineer.

481. REMOTE CONTROL CIRCUITS

The voltage for a remote control and electrical interlock circuits shall not exceed low voltage.

482. PORTABLE, &c., MACHINE PROTECTION

(1) Mobile and transportable machines and their associated trailing cables operating at a voltage which exceeds extra-low voltage shall be protected by -

(a) approved automatic earth leakage equipment; and

(b) if directed, approved automatic earth continuity equipment, capable of cutting off the voltage 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 sub-regulation (3), automatic earth leakage equipment required under sub-regulation (1)(a) shall be set to operate at a leakage current not exceeding -

(a) on circuits the voltage of which does not exceed medium voltage - one ampere; and

(b) on circuits the voltage of which exceeds medium voltage - 2 amperes.

(3) A portable machine or apparatus and associated trailing cable operating at a voltage which exceeds extra-low voltage shall be protected by earth leakage equipment of the instantaneous type set to operate at a value not exceeding 30 milliamperes.

(4) An Inspector may direct that a portable machine or apparatus and its associated trailing cables be protected by approved automatic earth continuity protection capable of cutting off the voltage in the event of a break in the earth conductor of the cable between the supply or control box and the machine.

(5) A fault current limiting device in a portable machine or apparatus shall have an approved time rating.

483. HIGH VOLTAGE MOBILE AND TRANSPORTABLE MACHINES

(1) This regulation applies to and in relation to high voltage mobile and transportable machines.

(2) High voltage switchgear and control gear shall be -

(a) located at a distance from the machine it serves; and

(b) operated by remote control at the machine.

(3) The voltage for remote control equipment shall not exceed 110 volts.

(4) A machine shall be provided with -

(a) a control cubicle to protect the trailing cable; and

(b) a load-breaking and load-making isolator within the control cubicle.

(5) An isolator required by sub-regulation (4) shall be -

(a) manually operated and interlocked with the cubicle door; and

(b) provided with facilities for earthing the outgoing cables from the control cubicle.

(6) Earthing facilities referred to in sub-regulation (5)(b) shall be -

(a) interlocked with the main isolator; and

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

(7) 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 its safe position.

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

(9) A remote control circuit shall be designed so that if it fails there are alternative means to stop the equipment until the fault in the remote control circuit is rectified.

484. INSULATION STANDARDS

(1) Subject to regulation 485, cable and conductor, other than a bare overhead surface cable or trolley wire or earthing conductor, shall be -

(a) protected along their entire length with insulating material of a quality and mechanical strength sufficient for the purpose for which the conductor or cable is used; and

(b) so far as is practicable, so protected as to maintain fully the insulating properties of the insulating material under conditions of temperature and moisture suitable for the area where they are used.

(2) Cable insulation required by sub-regulation (1) for a circuit, the voltage to earth of which exceeds low voltage, shall be not less than 650 volts grade.

485. INSULATION OF CERTAIN CONDUCTORS

A conductor, other than an overhead cable shall, in addition to insulation, be protected by a suitable covering to guard against mechanical damage and such covering shall be installed to the satisfaction of an Inspector.

486. STANDARDS AND INSULATION OF CERTAIN HIGH VOLTAGE CONDUCTORS

(1) This regulation does not apply to or in relation to overhead cables.

(2) A cable shall not be used to carry a voltage in excess of medium voltage at a mine unless it is -

(a) approved; or

(b) of a multi-core type and electrically symmetrical in design.

(3) A cable referred to in sub-regulation (2) shall, in addition to the other requirements of these Regulations, be protected by -

(a) a suitable armouring enclosing all conductors;

(b) suitable individually earthed metal screens;

(c) suitable collectively earthed metal screens;

(d) a combination of (a) and (b); or

(e) an approved protective covering.

(4) A buried conductor shall be adequately protected against damage.

487. GENERAL STANDARD FOR EARTHING CONDUCTORS

The material and protection of earthing conductors, shall be in accordance with Australian Standard 3000 Part 1, 1976.

Division 7 - Extensible Machines on the Surface

488. APPLICATION

This Division applies to and in relation to the use of an extensible machine and similar equipment on the surface of a mine and in the vicinity of overhead lines and associated electrical appliances.

489. DEFINITIONS

In this Division, unless the contrary intention appears -

"apparatus" includes a live aerial conductor and machine, transformer, switchgear, piece of equipment or fitting in which there are live exposed conductors and which is used or designed to be used for the conveyance of electricity at a voltage exceeding extra-low voltage;

"close proximity" in relation to apparatus means, where the voltage between conductors within that apparatus or between the conductors of that apparatus and earth -

(a) does not exceed 11,000 volts - a radius of 1.5 metres from that apparatus;

(b) exceeds 11,000 volts but does not exceed 132,000 volts - a radius of 3 metres from that apparatus; and

(c) exceeds 132,000 volts - a radius of 6 metres from that apparatus;

"exposed" in relation to apparatus, means -

(a) bare;

(b) not effectively covered by insulating material; or

(c) not effectively guarded by a fixed barrier or fixed earthed metal shield;

"extensible machine" means a crane, drill rig, mast, hoist, tip-truck or other extensible machine of the mobile, crawler or walking type;

"in charge" means in charge otherwise than as a servant or agent;

"working site" means the area on a mine in which mining operations are being carried out by an extensible machine and includes the route traversed by such a machine.

490. WORKING SITE TO BE EXAMINED

The person in charge of an extensible machine which is to enter a working site on which an apparatus is situated shall, immediately before the machine enters the working site, and immediately before the machine commences operations at the working site, make or cause to be made a thorough examination of the working site and its approaches to determine whether, in the course of those operations, the machine is likely to come into close proximity of apparatus.

Penalty: $1,000.

491. PRECAUTIONS TO BE OBSERVED

(1) When it appears, following an examination made in accordance with regulation 490, that a machine is likely to come into close proximity of an apparatus in the course of operations at a working site, the person in charge of the machine or the person in charge of the working site shall immediately notify the manager of the mine.

Penalty: $500.

(2) The manager of a mine who is notified under sub-regulation (1) shall not permit operations to be carried on at the working site until -

(a) the apparatus on the site has been -

(i) rendered dead;

(ii) removed from the working site; or

(iii) securely fenced; and

(b) other necessary measures to protect the apparatus during those operations have been taken.

492. AUTHORIZED PERSON

The manager of a mine notified under regulation 491(1) shall appoint a person, other than the driver of the machine, to give adequate warning to that driver of the danger of that machine's coming into close proximity with an apparatus.

493. DUTIES OF AUTHORIZED PERSON

A person appointed under regulation 492 shall, during his appointment -

(a) carry out the duties specified in regulation 491(2) with due care and diligence; and

(b) perform no other duty or function whilst carrying out those duties.

Penalty: $1,000.

494. WARNING SIGNS

There shall be kept permanently affixed to and prominently displayed in the driving station of a machine operating at a working site a notice warning persons of the danger of operating that machine in close proximity to electrical apparatus.

Division 8 - Underground Apparatus

495. APPLICATION

This Division applies to and in relation to apparatus underground in a mine and is additional to the requirements of Divisions 1, 2, 3, 4 and 5 of this Part.

496. CONTROL OF POWER SUPPLY

The power supply to apparatus in a mine shall be controlled by one or more circuit-breakers capable of automatically cutting off the power supply in the event of overcurrent or the occurrence of an earth fault in the main power supply system.

497. WATCH TO BE KEPT

Whenever a conductor in a mine is live a person authorized by the manager of the mine shall be readily available to operate, in the case of emergency, the switchgear controlling the power available to the mine.

498. COMMUNICATION TO BE MAINTAINED

A telephone or another suitable method of communication shall be available at all times between the surface, underground and main substations or distribution centres in a mine.

499. CIRCUIT CONTROL AND PROTECTION

(1) Electrical equipment shall be controlled at the main switchboard of a mine by circuit-breakers capable of opening all the active conductors of the circuit they control.

(2) Circuits emanating from a distribution board in a mine shall be protected at the board by -

(a) a fuse in an active conductor; or

(b) a circuit-breaker fitted with an overcurrent device in an active conductor.

(3) Provision shall be made for each distribution board to be separately isolated.

500. ENCLOSURE AND INTERLOCKING OF DISTRIBUTION BOARDS

A distribution board shall be -

(a) enclosed; and

(b) if it contains fuses feeding multi-phase apparatus - so interlocked with an isolating switch that the fuses cannot be withdrawn whilst live.

501. SHORT CIRCUIT PROTECTION

(1) A circuit shall be protected -

(a) against overload and short circuit; and

(b) if so required by an Inspector - against leakage of the current to earth.

(2) A protection device installed pursuant to regulation 499 (2)(b) shall be capable of isolating power supply to the protected circuit.

502. AUTOMATIC EARTH LEAKAGE PROTECTION

(1) Apparatus at a mine shall be protected by an approved automatic earth leakage protection system and controlled by a circuit-breaker at the surface of the mine.

(2) An Inspector shall not approve a system of automatic earth leakage protection for the purposes of sub-regulation (1) unless he is satisfied that the maximum operating time of the system does not exceed the time indicated by the graph line shown on the graph in Schedule 4 as corresponding to the touch voltage of the system.

(3) Automatic earth leakage equipment shall be provided with approved means by which tests of its effectiveness may be made.

(4) For the purposes of tests referred to in sub-regulation (3), current in the test circuits shall be not greater than 20% more than the current setting of the earth leakage relay of the apparatus.

(5) The earth leakage equipment required by sub-regulation (1) shall be set to operate at a current setting not exceeding 5 amperes.

503. FUSES

(1) Fuses and automatic circuit-breakers shall be constructed and adjusted to interrupt the current so as to effectively protect conductors, motors and other current-consuming devices.

(2) Fuses shall be approved and, except in instrumentation and control circuitry, shall be of an approved non-rewirable type.

504. SELECTIVE OPERATION OF EARTH LEAKAGE PROTECTION

Where selective operation of earth leakage protection is required for different portions of the electrical equipment those portions of the equipment shall be automatically controlled by a circuit-breaker operated by leakage current in the portions so controlled.

505. INTERLOCKING OF ENCLOSURES

(1) Enclosure doors and the removable covers of switchgear and control gear that provide access to live parts of apparatus, except parts supplied from an extra-low voltage supply and switchgear controlling lighting, remote control circuits, busbar chambers and terminal boxes, shall be interlocked either mechanically or electrically with a circuit-breaker installed on the supply side of the apparatus to effectively isolate the supply from the apparatus installed within the enclosure.

(2) A part of apparatus remaining live within an enclosure which has the cover opened or removed shall be effectively screened or shielded and, where required, labelled "LIVE! ISOLATE ELSEWHERE".

506. EARTHING OF APPARATUS

(1) Earthing electrodes associated with the earthing system of a mine shall be at the surface of the mine unless otherwise approved.

(2) An earthing conductor shall not be used to carry the normal current of a circuit other than its own monitoring circuit.

(3) The neutral point of an alternating current electrical system shall be -

(a) solidly earthed;

(b) earthed through an impedance; or

(c) if it is for mobile and transportable equipment - as approved by the Chief Government Mining Engineer.

507. REMOTE CONTROL CIRCUITS

The voltage for a remote control and electrical interlock circuit shall not exceed 110 volts.

508. PORTABLE, &c., MACHINE PROTECTION

(1) Mobile and transportable machines and their associated trailing cables operating at a voltage which exceeds extra-low voltage shall be protected by -

(a) approved automatic earth leakage equipment; and

(b) if directed, approved automatic earth continuity equipment, capable of cutting off the voltage 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 sub-regulation (3), automatic earth leakage equipment required under sub-regulation (1)(a) shall be set to operate at a leakage current not exceeding -

(a) on circuits the voltage of which does not exceed medium voltage - one ampere; and

(b) on circuits the voltage of which exceeds medium voltage - 2 amperes.

(3) A portable machine or apparatus and its associated trailing cable operating at a voltage which exceeds extra-low voltage shall be protected by earth leakage equipment of the instantaneous type set to operate at a value not exceeding 30 milliamperes.

(4) An Inspector may direct that a portable machine and apparatus and its associated trailing cables be protected by approved automatic earth continuity protection capable of cutting off the voltage in the event of a break in the earth conductor of the cable between the supply or control box and the machine.

(5) A fault current limiting device in a portable machine or apparatus shall have an approved time rating.

509. OPERATING TIME OF AUTOMATIC EARTH LEAKAGE SYSTEM

An Inspector shall not approve a system of automatic earth leakage protection for the purposes of regulation 508 unless he is satisfied that the maximum operating time of the system does not exceed the time, indicated by the graph line shown on the graph in Schedule 5, as corresponding to the touch voltage of the system.

510. INSULATION STANDARDS

(1) Subject to regulation 511, a cable and conductor or earth conductors, other than bare trolley wires, shall be -

(a) protected along their entire length with insulating material of a quality and mechanical strength sufficient for the purpose for which the conductor or cable is used; and

(b) so far as is practicable, so protected as to maintain fully the insulating properties of the insulating material under conditions of temperature and moisture suitable for the area where they are used.

(2) Cable insulation required by sub-regulation (1) for a circuit, the voltage to earth of which exceeds low voltage, shall be not less than 650 volts grade.

511. INSULATION OF CERTAIN CONDUCTORS

A conductor, other than an overhead cable, shall, in addition to insulation, be protected by a suitable covering to guard against mechanical damage and such covering shall be installed to the satisfaction of an Inspector.

512. STANDARDS AND INSULATION OF CERTAIN HIGH VOLTAGE CONDUCTORS

(1) A cable other than an overhead cable shall not be used to carry a voltage in excess of medium voltage at a mine unless it is -

(a) approved; or

(b) of a multi-core type and electrically symmetrical in design.

(2) A cable referred to in sub-regulation (1) shall, in addition to the other requirements of these Regulations, be protected by -

(a) a suitable armouring enclosing all conductors;

(b) a suitable individually earthed metal screen;

(c) suitable collectively earthed metal screens; or

(d) a combination of (a) and (b); and

(e) an approved protective covering.

(3) A cable, other than an overhead cable, used to carry a voltage which does not exceed low voltage shall be protected by -

(a) suitable strong armouring;

(b) a galvanized steel conduit or other approved covering; or

(c) an approved type of individual or collective metal earthed screen.

(4) A buried conductor shall be adequately protected against damage.

513. GENERAL STANDARD FOR EARTHING CONDUCTORS

The material used in the construction and protection of an earthing conductor shall be in accordance with Australian Standard 3000 Part 1, 1976.

514. PROTECTION OF CABLES IN SHAFTS

(1) A cable used in a shaft shall be -

(a) adequately protected and substantially fixed; and

(b) if not capable of sustaining its own weight - adequately supported at intervals appropriate to the weight and type of the cable.

(2) Sufficient space shall be left in a shaft between a cable, which is not completely boxed in or otherwise protected from falling material, and the side of the shaft, to enable the cable to yield to lessen the effect of a blow from a falling object.

515. PROTECTION OF CABLES DURING REPAIR, &c.

Adequate temporary protection shall be provided so that cables are protected from risk of damage while mine openings are being repaired or blasting is being carried out.

516. MOBILE OR TRANSPORTABLE MACHINES

(1) A mobile or transportable machine shall not operate underground from a 3-phase alternating current supply the voltage of which exceeds medium voltage, without the approval of the Chief Government Mining Engineer.

(2) The connected load of a machine approved to operate under sub-regulation (1) and its ancillary equipment shall be not less than 300 kilovolt-amperes.

517. HIGH VOLTAGE MOBILE AND TRANSPORTABLE MACHINES

(1) This regulation applies to and in relation to high voltage mobile and transportable machines.

(2) High voltage switchgear and control gear shall be -

(a) located at a distance from the machine it serves; and

(b) operated by remote control at the machine.

(3) The voltage for remote control equipment shall not exceed 110 volts.

(4) A machine shall be provided with -

(a) a control cubicle to protect the trailing cable; and

(b) a load-breaking and load-making isolator within the control cubicle.

(5) An isolator required by sub-regulation (4) shall be -

(a) manually operated and interlocked with the cubicle door; and

(b) provided with facilities for earthing the outgoing cables from the control cubicle.

(6) Earthing facilities referred to in sub-regulation (5)(b) shall be -

(a) interlocked with the main isolator; and

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

(7) 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 its safe position.

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

(9) A remote control circuit shall be designed so that if it fails there are alternative means to stop the equipment until the fault in the remote control circuit is rectified.

518. CHARGING STATIONS

A room at a mine used as a charging or repair station shall be of suitable fireproof construction and ventilated with intake air only.

519. CHARGING, &c., OF BATTERIES

(1) A person shall not charge, repair or inspect a battery in a place which is not -

(a) a charging or repair station; or

(b) approved.

(2) A person who is not authorized to do so by the manager of the mine shall not charge, repair or inspect a battery at the mine.

Penalty: $500.

520. CONSTRUCTION OF BATTERY BOXES

A battery box and its cover at a mine shall be -

(a) so constructed of non-flammable material as to minimize accidental or unauthorized interference with the battery; and

(b) efficiently ventilated.

521. CONTROL AND PROTECTION OF BATTERIES

A traction battery at a mine shall be -

(a) controlled and protected by a circuit-breaker or magnetic contactor in a pole; or

(b) if its voltage does not exceed extra-low voltage - by a circuit-breaker or magnetic contactor in one pole and a fuse in the remaining pole.

522. TROLLEY WIRES

(1) A trolley wire at a mine shall be positioned not less than -

(a) if it is guarded on both sides - 2.2 metres; or

(b) in other cases - 2.6 metres,

above the top of the rails.

(2) The voltage of a trolley wire at a mine shall not exceed medium voltage.

(3) A trolley wire at a mine shall be -

(a) divided into 2 or more sections so that if a fault develops the faulty section of the trolley wire shall be immediately disconnected from the supply; and

(b) provided with sectionalizing switches so arranged that they can be locked in the open position.

523. PRECAUTIONS IN RELATION TO BARE UNGUARDED TROLLEY WIRES

(1) This regulation applies to and in relation to the use of bare unguarded trolley wires at a mine.

(2) A person who is not authorized in writing by the manager of the mine shall not be or remain in an area of the mine where a trolley wire is live.

(3) A person shall not switch on a power supply to a trolley wire until the approved procedures have been carried out to ensure that no unauthorized person is in the area of the trolley wire.

(4) The clearance between a trolley wire and a loaded train, exclusive of the current collector on the train, shall be not less than 300 millimetres.

(5) Warning signs shall be provided and located to the satisfaction of an Inspector.

(6) A locked gate or other approved device shall be provided at an entrance to an area containing a trolley wire which is live.

(7) A trolley wire operated locomotive shall be provided with means -

(a) in the cab of the locomotive - for lowering and keeping in a lowered position the current collector and its appurtenances; and

(b) outside the cab - for locking current collectors in a lowered position.

(8) The driver of a locomotive or vehicle in an area containing a live trolley wire shall, while driving the locomotive or vehicle, be in a cab so designed that the supply of electricity in the trolley, if applied to the cab, would be conducted to the rails without danger to a person in the cab.

(9) Suitable precautions shall be taken to prevent a trolley wire from coming into contact with another electrical circuit or metal construction used in a roadway.

(10) The manager of a mine shall not issue an authorization under sub-regulation (2) unless he has satisfied himself that -

(a) it is necessary for the person proposed to be authorized to be in the area while a trolley wire is live; and

(b) the person has been properly instructed in the duties he is to perform while in the area.

524. HAULAGE TRACKS

(1) Tracks of the main haulage systems at a mine which use a rail return shall be bonded at rail openings, and cross-bonding shall be placed at intervals not exceeding 60 metres.

(2) Special provision shall be made for bonding around switches and frogs in a track referred to in sub-regulation (1), to ensure a continuous return.

(3) Bonding required by this regulation shall be tested for continuity at regular approved intervals.

525. DRAINAGE

Provision shall be made to adequately drain damp mine openings and water dripping from the roof shall be conducted clear of a trolley wire or track.

526. MAXIMUM LOAD OF LIGHTING SUBCIRCUIT

The load of a final subcircuit used for lighting in a mine shall not exceed 15 amperes unless the circuit is protected by a circuit-breaker.

PART XVI - DREDGES

Division 1 - Approval, Equipment, &c.

527. DREDGES TO BE APPROVED

(1) A dredge shall not be used in mining operations, unless it has been approved by the Chief Government Mining Engineer.

(2) An application to the Chief Government Mining Engineer for approval under sub-regulation (1) shall be accompanied by the following information concerning the dredge which is the subject of the application:

(a) full details of the design and construction of the dredge;

(b) bouyancy calculations made by a qualified naval architect in relation to the dredge;

(c) the results of bouyancy tests in relation to the dredge; and

(d) a copy of the survey certificate issued under the Marine Act.

(3) The Chief Government Mining Engineer may refuse to determine an application for approval under this regulation until information, in addition to that prescribed by sub-regulation (2), has been supplied.

528. HATCHES, &c.

Hatches and other deck openings in a dredge used at a mine shall be -

(a) placed no further than 7 metres from the longitudinal centre line of the hull of the dredge; and

(b) unless otherwise approved in writing by the Chief Government Mining Engineer, fitted with watertight seals or safeguarded with coamings not less than 400 millimetres high.

529. FREEBOARD

(1) A dredge used in a mine shall have not less than 150 millimetres of freeboard at any point when fully laden and working to maximum capacity in a land based or inland operation.

(2) A dredge used in a river, estuarine or open water operation shall have free board as appropriate to the current marine survey certificate.

530. ANCHORS TO BE APPROVED

An anchor for a headline or sideline of a dredge in a mine shall not be used unless it is approved.

531. LIFE-SAVING EQUIPMENT

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

(a) at a place near the bow and near the stern of the dredge on both the port and starboard sides -

(i) a lifebuoy;

(ii) a light line not less than 50 metres long; and

(iii) a boat-hook;

(b) an approved boat containing -

(i) a light line not less than 50 metres long; and

(ii) a boat-hook,

and equipped and ready for use with -

(iii) oars and rowlocks; or

(iv) an approved method of propulsion;

(c) a looped wire line securely fastened around the outside of the pontoons at approximately 15 centimetres above the water-line; and

(d) a number of life-jackets equal to the maximum number of persons likely to be aboard the dredge at any one time.

532. EXTRA LIFE-SAVING EQUIPMENT IN DEEP, &c., WATERS

An Inspector may, if he is of the opinion that the stream in which a dredge at a mine is being constructed or worked is deep or swift flowing, direct the manager to provide the following life-saving equipment in addition to the equipment required by regulation 531:

(a) not less than 2 approved boats, maintained for use and supplied with a lifebuoy;

(b) a boat-hook; and

(c) a light line not less than 15 metres long.

533. PLACING OF LIFE-SAVING EQUIPMENT

Life-saving equipment on a dredge at a mine shall be -

(a) kept in conspicuous places within easy reach; and

(b) if damaged or lost, immediately replaced.

534. PASSENGER BOATS

Boats used for conveying passengers at a mine shall -

(a) be made of steel or other approved material;

(b) have a flat bottom;

(c) have a well in the centre of the boat; and

(d) have a metal-lined airtight compartment fore and aft, so designed that the boat will stay afloat when it is full of water, even if carrying a full complement of passengers.

535. LATRINES

A dredge at a mine shall be provided with not less than the approved number of latrines.

536. SAFETY EQUIPMENT

(1) A dredge at a mine shall be fitted -

(a) with an electric return signalling system to connect the winch to the discharge end of the screen;

(b) fore and aft on each side, with a device that sounds an alarm whenever the freeboard is less than the freeboard referred to in regulation 529;

(c) with a pendulum to show at all times the list of the dredge;

(d) with a device to sound an alarm when the list to either side exceeds the list approved for the dredge by the Chief Government Mining Engineer;

(e) with an automatic device to ensure immediate stoppage of the bucket line in the event of an overload on the bucket line;

(f) with a means of indicating the dredging depth; and

(g) with sounding pipes or automatic devices for a hull compartment to indicate its water level.

(2) An Inspector may, by notice in writing, require the manager of a mine to install the safety devices specified in the notice in a dredge used in the mine.

(3) The Chief Government Mining Engineer may exempt the manager of a mine from compliance with a specified provision of sub-regulation (1) or (2) in relation to a dredge which is not a bucket dredge.

537. EXPOSED MACHINERY

(1) Exposed gearing, belting or other machinery in a dredge at a mine shall be guarded to the satisfaction of an Inspector.

(2) The sides of the uncovered portion of the hull of a dredge that is not entirely covered in shall be fitted with -

(a) stanchions not more than 2.5 metres apart; and

(b) not less than 2 substantial handrails or tightly stretched wires or chains.

(3) The lower of the rails, wires or chains referred to in sub-regulation (2)(b) -

(a) shall be not more than 25 centimetres above the deck; and

(b) shall not be removed except for the purpose of taking material on board the dredge.

538. FIRE-FIGHTING EQUIPMENT

A dredge at a mine shall be provided with sufficient and approved fire-fighting equipment.

539. HULLS

(1) The hull of a dredge at a mine shall be kept sound and watertight to the satisfaction of an Inspector.

(2) The interior of a hull compartment in a dredge at a mine, other than compartments in which the storage of ballast has been approved, shall be kept clean and reasonably free of water.

Division 2 - Testing of Equipment

540. CHECKING OF FIRE-FIGHTING EQUIPMENT

Fire-fighting equipment on a dredge at a mine shall be -

(a) checked; and

(b) if it consists of water and hose - tested not less than once every 6 months,

and the results of those checks and tests recorded in the Record Book for the mine.

541. TESTS OF OTHER EQUIPMENT

(1) The manager of a mine may appoint a competent person to exercise his powers and perform his duties and functions under this regulation.

(2) The appointment of a person under sub-regulation (1) -

(a) does not affect the liability of the manager of the mine for a breach of this regulation or in respect of negligence in the exercise of a power or a performance of a duty or function; and

(b) does not prevent the exercise of a power or the performance of a duty or function by the manager of the mine.

(3) Not less than once a day the following tests shall be made of dredges at a mine:

(a) sounding of all hull compartments, and freeboard at the bow and stern, both port and starboard;

(b) in the case of a bucket dredge - the dredging depth or angle of ladder unless the dredging depth is recorded automatically; and

(c) checking of the automatic alarm bell provided in compliance with regulation 536(1)(d).

(4) A person carrying out a test under sub-regulation (3) shall as soon as practicable on completion of the test record the results in a record book kept on the dredge and such record book shall be available for examination by an Inspector.

Division 3 - Operation of Dredges

542. DREDGE LINES

(1) Unless otherwise approved, headlines and sidelines of a dredge at a mine shall have free play between the anchor and the dredge unless a securely anchored deflecting sheave is used between the anchor and dredge.

(2) A person shall not operate a dredge at a mine unless -

(a) obstacles likely to impede the free play of the headlines of the dredge are removed; or

(b) the headlines of the dredge are elevated over the obstacles referred to in paragraph (a).

543. HEADLINES, &c., CROSSING PATHS

Where headlines or sidelines of a dredge at a mine cross a path or other thoroughfare, warning notices shall be placed in a conspicuous position on the path or thoroughfare.

544. WORK NEAR HEADLINES

(1) In this regulation, "danger zone", in relation to a dredge, is the area between a headline and traverse of the dredge and the face being worked.

(2) No work shall be carried out in the vicinity of a headline of a dredge or within the danger zone of the dredge while the dredge is operating at a mine.

(3) Nothing in this regulation prevents an authorized person from travelling in the vicinity of a dredge headline.

545. LIFE-SAVING EQUIPMENT TO BE USED

A member of a dredge crew at a mine shall, when employed in boat work or on board a dredge, wear and use life-saving equipment of a design approved by an Inspector.

546. PASSENGERS IN BOATS

A passenger shall not be carried in the fore or aft compartment or on the deck of a boat.

547. COMPETENT PERSON TO BE IN CHARGE OF BOATS

A boat at a mine shall be placed in charge of a competent person who shall be appointed by the manager and whose name shall be recorded in the Record Book for that mine.

548. BOAT AND DREDGE LOADING LIMITS

(1) A boat or dredge at a mine shall not carry at any one time a number of persons in excess of the number specified in relation to that boat or dredge, as the case may be, by an Inspector.

(2) A notice in the approved form setting out the number specified under sub-regulation (1) in respect of a boat or dredge shall be posted in an approved place on the boat or dredge.

549. DREDGING NEAR BOUNDARIES

Dredging operations at a mine shall not be carried out -

(a) if the designed dredging depth does not exceed 25 metres - closer than 30 metres; and

(b) if the designed dredging depth exceeds 30 metres - closer than 30 metres plus one metre for each 2 metres or part thereof by which the designed dredging depth exceeds 30 metres,

to the boundaries of a mine.

550. DREDGE NOT TO CROSS RIVER, &c.

A dredge at a mine shall not be moored in or pass across a river or water-way unless approved.

551. STACKING

A stacking belt or bucket elevator installed on a dredge at a mine shall not be used without the approval of the Chief Government Mining Engineer.

552. MOVING EQUIPMENT

A person at a mine shall not step on the moving buckets or chain of a dredge or cross the well while the buckets are in motion except by the gangway provided for that purpose.

Penalty: $500.

553. GANGWAYS

(1) A dredge at a mine working close to a bank shall be provided with a gangway not less than 75 centimetres wide and of a length -

(a) sufficient to reach from the bow of the dredge to the bank; or

(b) not less than the approved length.

(2) A gangway referred to in sub-regulation (1) shall have a substantial handrail at a side and be secured to the deck of the dredge.

554. MAN-OVERBOARD PROCEDURES

(1) A person at a mine who sees or becomes aware of another person falling overboard from a dredge or boat shall immediately -

(a) if the person has fallen overboard from the dredge - stop the bucket line or the underwater equipment of the dredge; and

(b) in every case - sound the alarm.

(2) Equipment stopped under sub-regulation (1)(a) shall not be restarted -

(a) unless the person who fell overboard has been rescued or the body of that person has been recovered; or

(b) without approval.

555. STARTING PROCEDURE FOR WINCHES

(1) A winchman on a dredge at a mine shall not start the screen until -

(a) he has signalled his intention to the member of the crew in charge of the screen; and

(b) that member has replied with an all-clear signal.

(2) After an automatic overload stopping device referred to in regulation 536(1)(e) has come into operation, the winchman of a dredge shall not re-engage the dredge in digging until he is satisfied that the overload has been cleared.

556. RIDING MARKERS

A dredge at a mine used in a water-way which is used for public recreation shall carry -

(a) riding lights in accordance with the Marine Act and in accordance with the directions of the Chief Government Mining Engineer; and

(b) marker buoys on a headline, sideline, anchor or pipeline which is submerged or partly submerged.

PART XVII - TRENCHES

Division 1 - Preliminary

557. APPLICATION

(1) This Part applies to a trench where the excavated depth of the trench is more than 1.5 metres.

(2) Regulation 9 of these Regulations shall apply to this Part where the manager of a mine has appointed a person to act as constructor.

Division 2 - Duties and Responsibilities of Constructor and Foremen

558. GENERAL DUTY OF CONSTRUCTOR AND FOREMAN

(1) In this Part, unless the contrary intention appears, a constructor and a foreman shall comply with a regulation in this Part.

(2) Notwithstanding sub-regulation (1), where emergency trenching operations are carried out, a constructor or a foreman shall take such precautions as are necessary and reasonable to ensure the safety of persons engaged on such operations.

559. NOTICE OF PROPOSED TRENCHING OPERATIONS

A constructor of a proposed trench shall give written notice of the following particulars to the Chief Government Mining Engineer at least 3 days prior to work commencing:

(a) the name and address, including postcode, and office telephone number of the contractor, or authority, if any, undertaking the excavation of the proposed trench;

(b) the location of the trench;

(c) the approximate number of persons to be employed on site;

(d) the proposed date of commencing work on the trench;

(e) the particulars as to the average depth and width of the proposed trench; and

(f) whether or not the trench is likely to exceed 7 metres in depth at any position.

560. INSPECTIONS BY FOREMAN

(1) Notwithstanding any other provision of these Regulations, a foreman of a trenching operation, or other competent person authorized by him, shall, at least once during a working shift, inspect the trenching operation to ensure compliance with these Regulations.

(2) An inspection made under sub-regulation (1) shall be recorded in a book kept for that purpose by the foreman.

(3) If a person, other than a foreman of a trenching operation, makes an inspection under sub-regulation (1) and records that inspection in a book under sub-regulation (2), the foreman shall countersign such record as soon as reasonably possible.

(4) A record book kept under sub-regulation (2) shall be made available to an Inspector on request.

Division 3 - Safety and Protection Provisions

561. FIRE EXTINGUISHERS

A person shall not remove from a site in or about a trench a fire extinguisher or other fire suppression equipment provided by a constructor at or near the site, unless authorized by the foreman of the site.

562. SECURITY OF TRENCH AREA

(1) A foreman shall ensure that all reasonable precautions to keep the public and vehicular traffic away from trenches and machinery are taken by erecting barricades and warning signs.

(2) A barricade or warning sign erected pursuant to sub-regulation (1) shall comply with Australian Standard 1743 - 1975.

(3) A barricade erected pursuant to sub-regulation (1) shall be fitted with warning lights during the hours of darkness.

(4) Where work in or about a trench is undertaken during the hours of darkness, illumination to the satisfaction of an Inspector shall be provided for the safety of workmen in or about the trench.

563. PREVENTION OF PUBLIC ACCESS

Measures which are -

(a) reasonable; or

(b) suitable to the satisfaction of an Inspector,

shall be taken by a foreman of a trench to prevent members of the public from having access to an area over which a load carried by a crane or hoist passes.

564. LADDERS

(1) Where a person is required to enter a section of a trench, a ladder or other means of entry or exit shall be installed at intervals not greater than 30 metres along that section of the trench.

(2) Where a ladder is used in a trench it shall extend at least 0.5 metre above the top of the trench and shall be securely held in position.

565. WORKING ALONE

A person shall not work alone in a trench exceeding 2 metres in depth unless another person is on duty outside the trench in close proximity to the part of the trench in which the first-mentioned person is working.

566. FIRST AID

(1) First aid equipment shall be provided and maintained for persons who work in or about a trench.

(2) A person who removes from the site where trenching works are being undertaken any first aid equipment provided pursuant to sub-regulation (1) without the consent of the foreman shall be guilty of an offence against these Regulations.

567. AIR QUALITY

(1) Where an internal combustion engine is operated in or about a trench, provision shall be made to ensure that exhaust gases and fumes are discharged to a point sufficiently remote from the trench to prevent the return to or accumulation in the trench of such gases or fumes.

(2) The air quality in a trench shall comply with the requirements of Regulations 96, 98 to 103.

Division 4 - Ground Support, Drainage, Backfilling, &c.

568. TRENCH SUPPORTS

Where necessary, to prevent the collapse of the walls of a trench, the constructor or foreman of the trench shall ensure that -

(a) the trench is provided with a ground support system; or

(b) the walls of the trench are battered.

569. PROTECTION OF PERSONS WORKING IN TRENCHES

(1) A person shall not enter a trench except for the purpose of erecting necessary ground supports pursuant to regulation 568 unless he is protected by a satisfactory shield or cage.

(2) Wherever practicable a person shall not enter an unsupported section of a trench for the purpose of erecting the necessary ground supports required pursuant to regulation 568.

570. TRENCH SUPPORT SYSTEMS

(1) A trench support system provided pursuant to regulation 568 shall be designed to resist a combination of static and dynamic loads which may develop from actual or foreseeable conditions including -

(a) variations in the water content of on site material or of spoil material;

(b) changes in or to on site or spoil material resulting from exposure to air or other climatic conditions;

(c) loads from any source; and

(d) vibration from any source.

(2) Where trenches are adjacent to existing services, roads, railways or other ways above which vehicles travel, the trench support system shall be designed to carry the additional loads to which it is subjected due to the proximity of the road, railway or way and a foreman shall ensure that no vehicle or equipment is driven so close to the edge of the trench as to endanger the stability of the trench walls and trench supports.

(3) A foreman shall ensure that a trench support system is constructed and installed as designed.

571. MATERIALS FOR TRENCH SUPPORT SYSTEMS

(1) Materials used for a trench support system shall be of good quality and of sufficient dimensions to prevent the trench collapsing.

(2) Notwithstanding sub-regulation (1), where timber supports are used in the form of soldier sets, the dimensions of the individual members of the sets shall be not less than 152 millimetres by 38 millimetres.

(3) The design of steel components used in a trench support system shall comply with to Australian Standard 1250 - 1975.

(4) The design of concrete components in a trench support system shall comply with the appropriate requirements of Australian Standard 1480 - 1974.

572. INSTALLATION

(1) The installation of ground support members shall be undertaken with the least possible delay after the excavation of a trench has advanced sufficiently to permit their installation.

(2) The terms of sub-regulation (1) shall not prevent the use of sheet piling or another method of ground support where the support members are advanced ahead of the ground being excavated.

(3) A trench support system shall be tight and bear firmly against the trench walls and, where necessary, wedges shall be used to tighten members.

573. MAINTENANCE

Trench supports shall at all times be maintained in good condition to the satisfaction of an Inspector, until withdrawn in accordance with regulation 581.

574. STRENGTHENING OF SUPPORTS

Where it is necessary to use a trench support system to support machinery or other heavy objects, such trench support system shall be strengthened in order to safely take the extra load imposed upon it.

575. FLOODING OF TRENCHES

Where a trench in which people are working is situated adjacent to a river or stream, precautions shall be taken to -

(a) prevent flooding of the trench;

(b) ensure that trench supports are designed to account for an additional load that may result from such proximity; and

(c) satisfactory arrangements shall be made to give timely warnings to persons working in the trench in the event of a sudden or flash flood.

576. SPOIL

(1) Spoil from trenches shall -

(a) be stabilized by suitable means including the use of toe boards where necessary; and

(b) be placed in such a position as not to create a danger from spoil rolling back into the trench.

(2) Notwithstanding sub-regulation (1) -

(a) spoil from a trench shall be placed no closer than 0.5 metre from the edge of the trench,

except that -

(b) where it is impracticable to provide for the distance of 0.5 metre referred to in paragraph (a), this distance may be reduced provided that toe boards are installed to a height of at least 300 millimetres above the point where the toe of the spoil heap intersects the natural surface of the ground.

577. PERMANENT STRUCTURES

Where it is necessary to alter a trench support system to enable installation of a permanent structure or work to be built in the trench, precautions shall be taken to ensure that no person is endangered by such work.

578. ITEMS IN OR NEAR TRENCHES

(1) No tool, machinery, timber or other object shall be placed in or kept adjacent to a trench in a manner which may endanger the safety of a person in the trench.

(2) A foreman shall ensure that pipes placed near a trench shall be secured to prevent them from rolling.

579. DRAINAGE

(1) Trenches shall be kept drained so as not to endanger the safety of workmen.

(2) Water drained from a trench shall be pumped to an adequate distance or location to ensure that it cannot again permeate the ground in the vicinity of the trench.

(3) Drains shall be provided where necessary to protect a trench from surface run-off.

580. DRAINAGE INSPECTION

Where a trench at a site has been subjected to heavy rains or flooding, inspection of the trench and its supports shall be carried out by the foreman of the site and remedial action required pursuant to regulation 558 shall be undertaken before the resumption of work in that trench.

581. REMOVAL OF SUPPORTS

Where a trench support system at a site is to be removed on completion of work in the trench, such removal shall be done by or under the personal supervision of the foreman of the site, or competent person authorized by him, and in a predetermined procedure so as to avoid injury to persons and damage to nearby buildings, bridges or other works and structures.

582. BACKFILLING

When the work for which a trench was excavated has been completed, the trench shall be backfilled and such backfilling shall be carried out and completed in such a way as to fully restore the stability and surface of the ground.

583. HANDLING OF EQUIPMENT

A foreman of a site shall ensure that only trained and competent persons shall operate mobile machinery and equipment in or near a trench.

584. REGULATIONS NOT TO AFFECT OTHER LAW

The provisions of these Regulations are in addition to, and do not affect the operation of, the provisions of any law relating to industrial safety or any other law in the Territory.

585. GENERAL PENALTY PROVISIONS

(1) A person who -

(a) does an act or thing that he is forbidden to do by or under a provision of these Regulations;

(b) does not do an act or thing that he is required or directed to do by or under a provision of these Regulations; or

(c) otherwise contravenes or fails to comply with a provision of these Regulations,

is, unless that provision or another provision of these Regulations provides that he is guilty of an offence, guilty of an offence by nature of this sub-regulation.

(2) Except as provided in these Regulations, the penalty applicable in relation to an offence against these Regulations is a fine of $1,000.

SCHEDULE 1 REGULATION 236

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 I - 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 must be done with extreme care
3	hoist	hoist conveyance	(a) if winding engine is used for timbering or repairing, hoisting must be done with extreme care

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
			(b) if given after a firing signal, return signal and hoist carefully
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	move conveyance
8	material or tools on	drive slowly	move conveyance
12	accident signal	move	to be followed after pause by the signal for the level where the conveyance is required

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 II - Level Signals		
1 then 1	No. 1 level		move
" 2	No. 2 level		move
" 3	No. 3 level		move
" 4	No. 4 level		move
" 5	No. 5 level		move
2 then 1	No. 6 level		move
" 2	No. 7 level		move
" 3	No. 8 level	hoist or	move
" 4	No. 9 level	lower	move
" 5	No. 10 level	to	move
3 then 1	No. 11 level	specified	move
" 2	No. 12 level	level	move
" 3	No. 13 level		move
" 4	No. 14 level		move
" 5	No. 15 level		move
4 then 1	No. 16 level		move
" 2	No. 17 level		move
" 3	No. 18 level		move
" 4	No. 19 level		move
" 5	No. 20 level		move
5 " 1	No. 21 level		move
" 2	No. 22 level		move
" 3	No. 23 level		move
" 4	No. 24 level		move
" 5	No. 25 level		move
6 " 1	No. 26 level		move
" 2	No. 27 level		move
" 3	No. 28 level		move
" 4	No. 29 level		move
" 5	No. 30 level		move
7 " 1	No. 31 level		move

SCHEDULE 2

FORM 1

Regulation 299(1)

NORTHERN TERRITORY OF AUSTRALIA

Mines Safety Control Regulations

BLASTER'S PERMIT

.....

(full name of blaster)

is qualified to fire explosives at .....

.....

(name and address of mine)

This permit is restricted to -

		initial
*	firing explosives electrically only	.....
*	firing explosives by safety fuse only	.....
*	firing explosives both by safety fuse and electrically	.....
*	firing explosives underground	.....
*	firing explosives on the surface	.....
*	firing explosives both underground and on the surface	.....

....

Signature of Holder Manager

* Delete if inapplicable and initial deletion Date issued / /

SCHEDULE 2

FORM 2

Regulation 299(2)

NORTHERN TERRITORY OF AUSTRALIA

Mines Safety Control Regulations

BLASTER'S CERTIFICATE OF COMPETENCY

.....

(full name of blaster)

is qualified to fire explosives at a mine.

....

Signature of Holder Chief Government Mining Engineer

Date Received / / Date Issued / /

SCHEDULE 2

FORM 3

Regulation 400(3)(a)

NORTHERN TERRITORY OF AUSTRALIA

Mines Safety Control Regulations

DRIVER'S PERMIT

.....

(full name of driver)

is qualified to drive or operate at .....

.....

(name and address of mine)

This permit is restricted to -

	initial
*	-
*	-
*	-
*	-
*	-
*	-
*	-
*	-

.....

Signature of Holder

.....

Manager

Date issued / /

SCHEDULE 2

FORM 4

Regulation 401(1)

NORTHERN TERRITORY OF AUSTRALIA

Mines Safety Control Regulations

DRIVERS CERTIFICATE OF COMPETENCY

.....

(full name of driver)

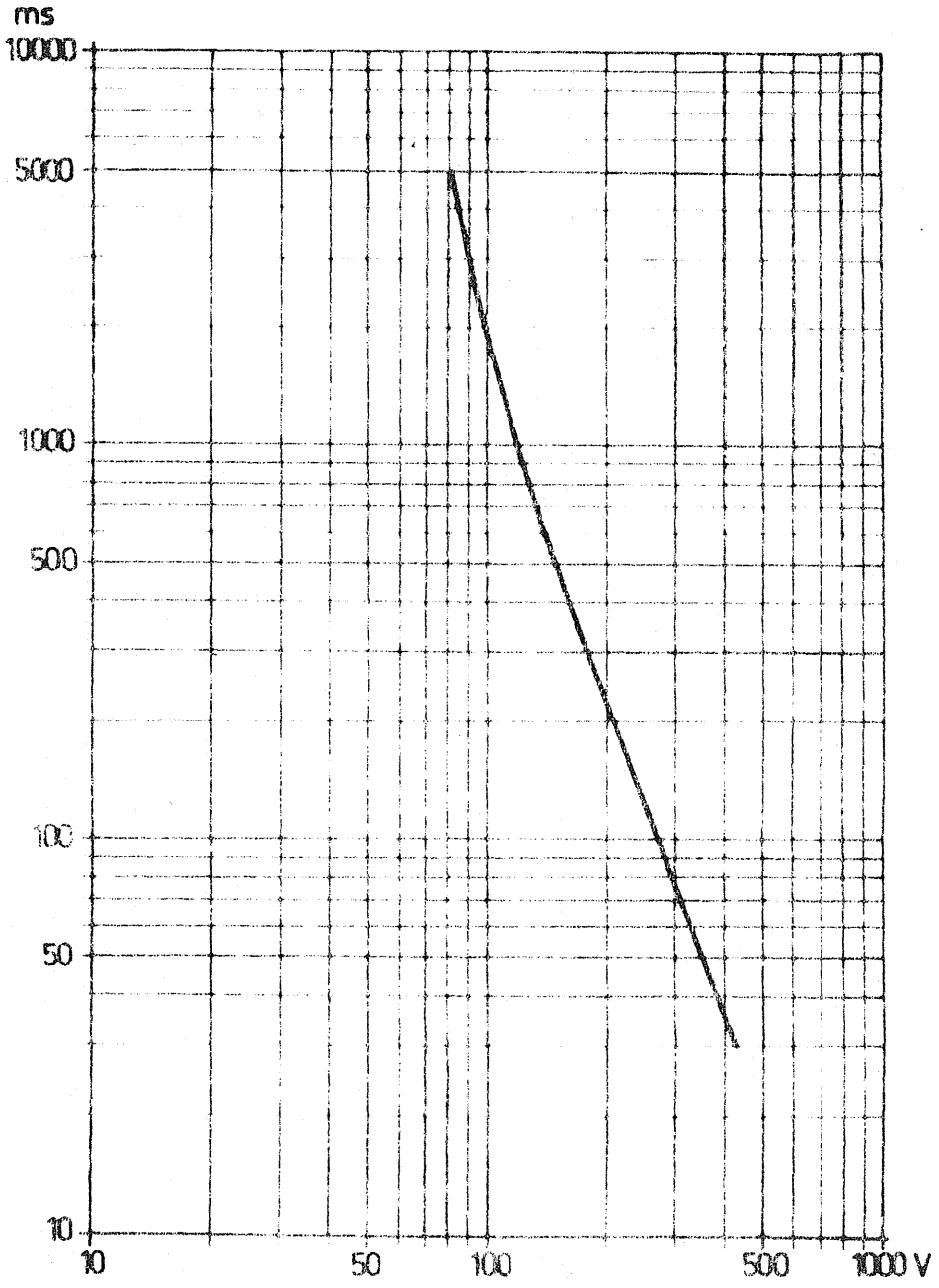
is qualified to drive or operate at a mine.

....

Signature of Holder Chief Government Mining Engineer

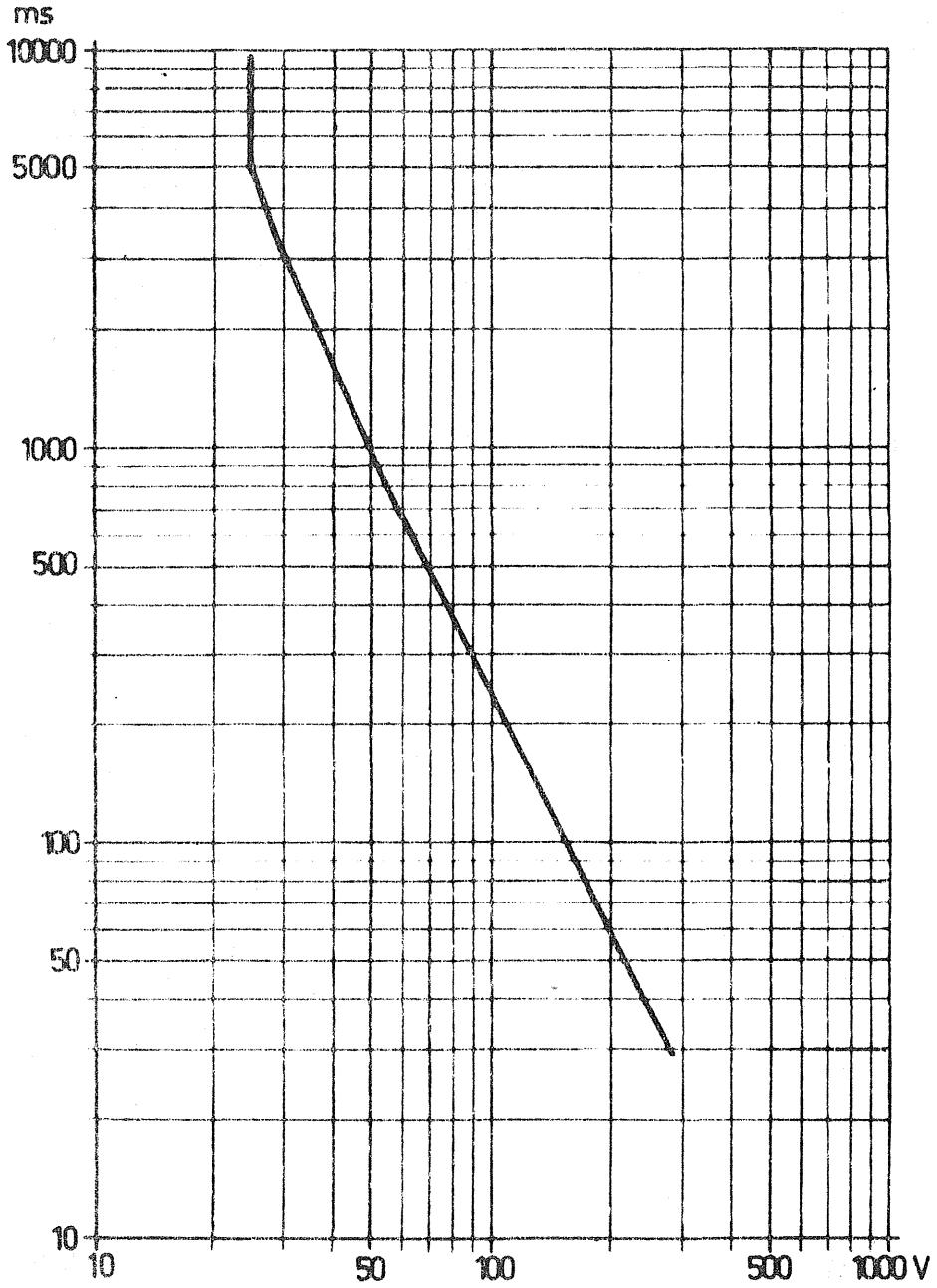
Date Received / / Date Issued / /

SCHEDULE 3 REGULATION 477



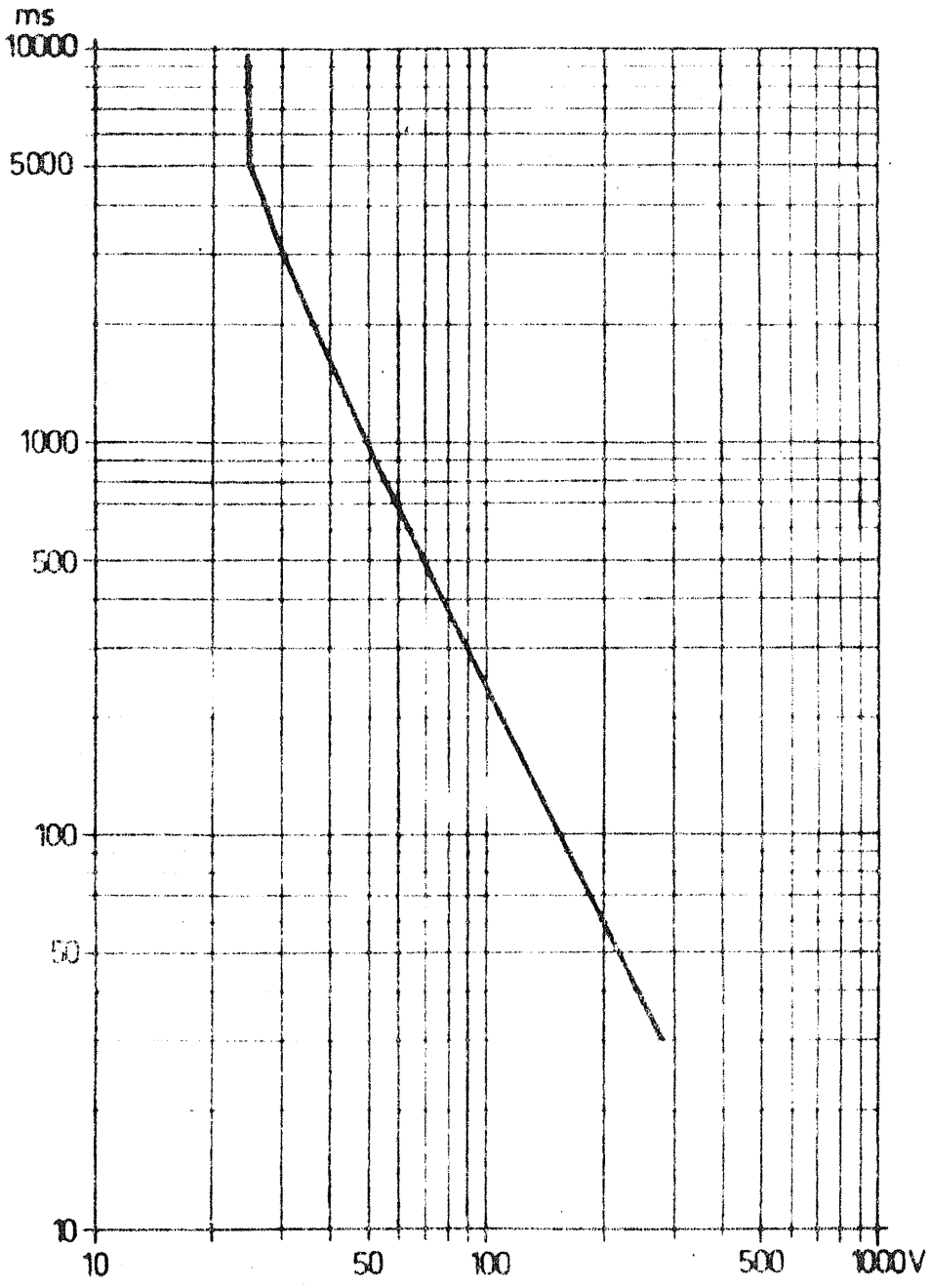
PROSPECTIVE TOUCH VOLTAGE (a.c.)
AND MAXIMUM OPERATING TIME FOR
FIXED APPARATUS ON THE SURFACE ONLY

SCHEDULE 4 REGULATION 502



PROSPECTIVE TOUCH VOLTAGE (a.c.)
AND MAXIMUM OPERATING TIME FOR
ALL APPARATUS UNDERGROUND

SCHEDULE 5 REGULATION 509



PROSPECTIVE TOUCH VOLTAGE (a.c.)
AND MAXIMUM OPERATING TIME FOR
TRANSPORTABLE AND MOBILE APPARATUS