

INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 195A.

Mining (Safety).

GENERAL ANNOTATION.

ADMINISTRATION.

The administration of the Chapter was vested in the Minister for Minerals and Energy at the date of its preparation for inclusion. The present administration may be ascertained by reference to the most recent Determination of Titles and Responsibilities of Ministers made under Section 148(1) of the Constitution.

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INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 195A.

Mining (Safety) Act.

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INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 195A.

Mining (Safety) Act.

Being an Act to provide for the regulation and inspection of mines and works, and for related purposes, to be incorporated and read with the *Mining Act*.

PART I.—PRELIMINARY.

1. Compliance with Constitutional requirements, etc.

(1) This Act, to the extent that it regulates or restricts a right or freedom referred to in Subdivision III.3.C (*qualified rights*) of the Constitution, namely—

- (a) Section 44 (*freedom from arbitrary search and entry*); and
- (b) Section 49 (*right to privacy*); and
- (c) Section 51 (*right to freedom of information*),

is a law that is made for that purpose, taking into account the National Goals and Directive Principles and the Basic Social Obligations, in particular the National Goals and Directive Principles entitled national sovereignty and self reliance, for the purpose of giving effect to the public interest in—

- (d) public safety; and
- (e) public welfare; and
- (f) public health.

(2) For the purposes of Section 29 of the *Organic Law on Provincial Government*, it is hereby declared that this Act relates to a matter of national interest.

2. Interpretation.

(1) In this Act, unless the contrary intention appears—

“agent” means a person acting on behalf of the owner or occupier, and includes a person having the care and direction of, or any part of, or any works connected with, a mine;

“alluvial miner” means a person who is the holder of an alluvial miner's permit granted under this Act;

“boiler” means any apparatus adapted to the continuous conversion of any liquid into steam, vapour or gas, and includes any part of the apparatus that is capable of being so adapted by the closing of stop-valves or stop-cocks, and the fittings and appurtenances of the apparatus;

“Chief Inspector” means the person appointed as the Chief Inspector under Section 5(1);

“colliery” means a mine worked for the production of coal or shale;

“commencement date” means 8 June 1978, being the date on which the *Mining (Safety) Act 1977* came into force.

“dam” includes—

- (a) any natural or artificial depository of water; and

(b) any dam for the retention of tailings and waste products of mining operations;

“dredge” means a boat, raft or pontoon carrying excavating machinery, and a screening or washing plant for mining alluvial gravel;

“electrical apparatus” includes all apparatus, machines, and fittings in which conductors of electric current are used or of which they form a part;

“excavation” means any cavity in or about any mine or works, and includes any shaft, winze, drive, rise and all passages and workings in a mine;

“explosives” means explosives within the meaning of the *Explosives Act*;

“inspector” means an inspector appointed or deemed to have been appointed under this Act, and includes the Chief Inspector;

“machinery” means every kind of mechanical appliance, and includes stationary and portable boilers, steam apparatus, steam and other engines, locomotives, air receivers, furnaces, stampers, winding and pumping gear, whims, windlasses, chains, trucks, cages, tramways, tackle, blocks, ropes, tools, and all electrical and other appliances which can be used for developing, receiving, transmitting or converting either mechanical or natural power of any kind, used in or about any mine or works;

“manager” means the person for the time being having immediate control and direction of operations in or about any mine, or at or in any works, and includes a mine manager or manager of works, or deputy manager appointed under this Act by an owner, agent or manager;

“motor” includes—

(a) any stationary engine; and

(b) any engine whose motive force is electricity, gas, oil, petrol, compressed air or hydraulic power; and

(c) any internal combustion engine;

“owner” means—

(a) in relation to a mine—

(i) the holder of the mining tenement on which the mine is situated; or

(ii) the holder of a sublease of such tenement; or

(iii) a person in possession of such tenement with the consent of the holder; and

(b) in relation to works—the owner or lessee, or person in possession with the consent of the owner or lessee, of the land on which the works are situated;

“quarry” means a surface excavation or tunnel made in the earth for the purpose of extracting stone, gravel, rock or other material for the construction of roads or buildings;

“reef” means a vein, lode or deposit other than surface alluvial ground, containing minerals;

“the repealed Act” means the *Mines and Works Regulation Act 1935*, of the former Territory of New Guinea (Adopted);

"rise" means any vertical or inclined way or opening upward from the underground workings in a mine;

"safety pillar" means every portion of a reef, mineral deposit or ground left *in situ* for the support and protection of—

(a) the surface; or

(b) any structure, plant or excavation on the surface; or

(c) any underground workings;

"stope" means a working in which a section or block of reef, which has been opened up by means of levels and their connexions, is being removed;

"this Act" includes any regulations made under this Act;

"underground miner" means the holder of an underground miner's permit granted under this Act;

"winding engine" means any machinery used for raising or lowering men or materials in a shaft in any mine or other works, whether erected on the surface or underground;

"winze" means any vertical or inclined way or opening downwards from the underground workings in a mine;

"workings" include all those portions of a mine which have been excavated, whether abandoned or not, and those portions being excavated;

"works" means any battery, crushing mill, cyanide or chlorination works, smelting works, or metal refining, power generation, or other works in which operations are carried on for, or incidental to, the winning or the treatment of mine products, whether such battery, mill or works is or is not connected with any mine.

(2) Subject to Subsection (1), a word or expression defined in Section 2 of the *Mining Act* shall, unless the contrary intention appears, have that defined meaning when used in this Act.

3. Application.

(1) Subject to Subsection (2), this Act, shall extend and apply to every mine held under any tenure, and to every works operating in connexion with mining or in the winning, or the treatment, of gold or minerals.

(2) The Minister may at any time by notice in the National Gazette exempt any, or any class of mine or works, or any gold-field or mineral field, from the operation of any Part or section of this Act.

4. Quarries, etc.

(1) Unless the Minister otherwise orders, this Act shall not apply to any quarry or to any dam made for the provision of water for agricultural, pastoral, transport, domestic or other purposes not connected with mines or works.

(2) An order of the Minister referred to in Subsection (1) shall be published in the National Gazette and shall—

(a) declare what provisions of the Act are applied; and

(b) specify the quarry or dam, or the classes of quarry or dam, to which the several provisions are applied.

PART II.—ADMINISTRATION.

5. Appointment of inspectors.

(1) The Minister may, by notice in the National Gazette, appoint—

- (a) a person to be the Chief Inspector; and
- (b) such other persons to be inspectors as he thinks necessary,

for the purposes of this Act.

(2) The Minister shall issue to the Chief Inspector and to each inspector a certificate stating that he is an inspector.

(3) Where the appointment of a person under this section expires or is revoked, that person shall immediately surrender to the Minister the certificate issued to him under this section.

PART III.—INSPECTION, REGULATION, AND WORKING OF MINES AND WORKS.

Division 1.—Inspection.

6. Powers of inspector.

(1) For the purposes of this Act, an inspector, at all reasonable times, may—

- (a) enter, inspect, and examine any mine or works but so as not unnecessarily to interfere with the working of the mine or works; and
- (b) examine into and make inquiries respecting—
 - (i) the state and condition of; and
 - (ii) the state and condition of the machinery in or about; and
 - (iii) the ventilation of; and
 - (iv) the adequacy of any special rules in force in; and
 - (v) all matters relating to the safety and health of the persons employed in or about; and
 - (vi) the compliance, generally, with the provisions of this Act affecting, any mine or works; and
- (c) take or remove for—
 - (i) the purpose of analysis or testing; or
 - (ii) use in evidence in connexion with an offence against this Act, samples of gold, minerals and other substances from a mine or works; and
- (d) inspect, take extracts from, and make copies of any documents relating to any mine or works; and
- (e) order, by written notice to the manager—
 - (i) the cessation of operations in, and the withdrawal of all persons from any, or any part of, a mine or works; or
 - (ii) the discontinuance of the use of any machinery,that the inspector considers unsafe, unless and until such action as is necessary for safety and specified in the notice is taken and completed; and

(f) obtain and record statements from witnesses, and appear at inquests, and call and examine witnesses, and conduct or assist in the conducting of a prosecution for any offence against this Act; and

(g) exercise such powers as are necessary for carrying this Act into effect.

(2) Before exercising any of his powers under Subsection (1), the inspector shall produce his certificate referred to in Section 5(2)—

(a) to the person present at the mine or works, as the case may be, who is or appears to be in charge of that mine or those works; or

(b) where the inspector is about to give an order under Subsection (1)(e)—to the manager to whom he is about to give that order.

(3) Any person who is aggrieved by a decision, requisition or order of an inspector made under this Act may appeal in writing to the Chief Inspector who shall, as soon as practicable, hear and dispose of the appeal, but the bringing of the appeal does not affect the operation of the decision, requisition or order appealed from pending disposition of the appeal.

(4) On appeal under Subsection (3), the Chief Inspector may—

(a) rescind or affirm the decision, requisition or order appealed from; or

(b) make a new decision, requisition or order in substitution,

and that decision, requisition or order shall not be subject to further appeal.

(5) In exercising his powers under this Act, an inspector may be accompanied by any person who the inspector believes has special or expert knowledge of any matter being inspected, tested or examined.

7. Warden, etc., to have powers of inspector.

(1) Any—

(a) Warden; or

(b) mining engineer or geologist in the Public Service authorized by the Director to do so,

may exercise the powers of, and incidental to, entry, examination, and inquiry which are, under this Act, conferred on inspectors.

(2) Any surveyor or other officer in the Public Service authorized by the Chief Inspector to do so, may enter and inspect any mine or works and take samples from any mine or works.

(3) A person who obstructs a person referred to in this section in exercising his powers under, or referred to in, this section, is guilty of an offence.

Penalty: A fine not exceeding K1 000.00.

8. Particulars of inspection to be entered in book.

(1) After every inspection of any mine, works or machinery, the inspector shall enter in a book which shall be kept for that purpose at the mine or works—

(a) his observations on the condition of the mine, works and machinery at the time of the examination; and

(b) the particulars of any alterations or requirements he thinks necessary.

(2) Nothing contained in or omitted from any entry made by the inspector shall limit the responsibility of the owner, agent or manager under this Act.

(3) The book kept under this section shall be open at all reasonable times to the examination of any—

- (a) Warden; and
- (b) inspector; and
- (c) person employed in or about the mine or works; and
- (d) person authorized in writing by the Chief Inspector to examine it.

9. Power of inspector to give directions to remedy dangerous practice, etc.

(1) Where an inspector finds that—

- (a) any mine, works or part of any mine or works; or
- (b) any matter, thing or practice in or connected with a mine or works, or in connexion with the control, management or direction of any mine or works,

is dangerous or defective, the inspector shall by written requisition addressed to the owner or manager of the mine or works and delivered at the mine or works—

- (c) specify the nature of the danger or defect; and
- (d) require that the matter complained of be remedied immediately or within the time specified in the requisition.

(2) An owner or manager who refuses or fails to comply with any requisition made under Subsection (1) is guilty of an offence.

(3) A copy of every requisition made under this section and received by the owner or manager shall be entered by him in the book required to be kept under Section 8.

10. Inspector to investigate cause of complaint.

(1) Where an inspector receives any written complaint purporting to be made by or on behalf of any person employed in or about any mine or works, or by any association of persons who are so employed, that any part of the mine or works or any machinery used there is unsafe, he shall, without delay, investigate the complaint.

(2) An inspector or other officer of the Public Service to whose knowledge the complaint comes, shall not disclose the identity of the person making the complaint.

11. Warden may authorize examination of mine in certain cases.

(1) In any case in which a Warden has reason to believe that a state of imminent danger exists in or about any mine or works and there is no inspector available for the purpose, he may—

- (a) authorize in writing any two persons, competent to make the inspection, to inspect the mine or works specified in the authority; and
- (b) require them to report to him the result of their inspection.

(2) The persons authorized under Subsection (1) may, in relation to the safety of employees engaged in or about the mine or works specified in the authority, exercise the powers of, and incidental to, entry, examination and inquiry which are, under this Act, conferred on inspectors.

12. Obstructing inspectors, etc.

Any person who—

- (a) wilfully obstructs or uses insulting language to; or

(b) fails to obey any order lawfully made by, an inspector or a person having the powers of an inspector acting in the course of his duty, is guilty of an offence.

13. Neglecting or refusing facilities for inspection.

Any owner, agent or manager of a mine or works who, when required by an inspector or by a person having the powers of an inspector, to furnish him with the means or facilities necessary to enable him to enter, inspect or examine, or to exercise his power of inquiry in connexion with, any part of the mine or works, neglects or refuses to furnish the means or facilities is guilty of an offence.

14. Warden, etc., to treat information confidentially.

A Warden, inspector, or other officer of the Public Service who, except in the course of his duty or as a witness in any court, makes any oral or written report, or divulges to any person any facts in respect of any mine or works is guilty of an offence.

Penalty: A fine not exceeding K1 000.00 or imprisonment for a term not exceeding 12 months.

15. Inquiry as to observance of provisions relating to safety.

(1) Where an inspector believes that any provision of this Act or any special rule made under this Act affecting the safety and well-being of any person employed at or about any mine or works is not being observed he may hold an inquiry.

(2) For the purposes of an inquiry under Subsection (1) the inspector may—

- (a) summon by writing under his hand any person whose evidence he considers likely to be material to the determining of any question the subject of the inquiry; and
- (b) take evidence on oath; and
- (c) require the production of any relevant book or document in the possession or control of any person.

(3) Any person who, after payment or tender of the prescribed expenses, without reasonable cause, neglects or fails to attend in obedience to the summons, or to be sworn, or to answer any question or produce any relevant book or document is guilty of an offence.

Penalty: A fine not exceeding K200.00.

(4) This section shall not be construed as compelling a person to answer any question which would tend to incriminate him.

Division 2.—Management and Supervision.

16. Appointment and qualifications of manager.

(1) Every mine or works, while being worked or operated, shall be under a manager, who shall be responsible for the control, management and direction of the mine or works.

(2) Except as provided in the regulations, an owner of a mine shall not appoint or allow any person who does not hold the prescribed manager's certificate to be the manager of the mine.

(3) Except as provided in the regulations, the name and address of the manager of any mine or works shall, within one month of his appointment be registered with the Chief Inspector by the owner or his agents.

(4) Where the name and address of a person has been furnished for registration as the manager of more than one mine or works the Chief Inspector may, by written notice require the owner or his agent to appoint, within the time specified in the notice, a different manager for each mine or works and may refuse to register the name for more than one mine or works.

(5) The Chief Inspector shall—

(a) keep a register of the name and address of every manager and of the mine or works of which he is manager; and

(b) issue to the owner or his agent a certificate of the registration.

17. Penalty for operating without a registered manager.

(1) Subject to Subsection (2), if any mine or works is worked or operated for a period of more than seven days, except under the control, management and direction of a manager whose name has been registered under Section 16, the owner and agent of the mine or works are each liable to a penalty of a fine not exceeding K20.00 for every day of the period in excess of seven days that the mine or works, as the case may be, was so worked or operated.

(2) If the manager of the mine or works—

(a) is incapacitated by illness or accident; or

(b) is about to be absent from the mine or works for more than seven days,

he or the owner or agent may appoint a competent person approved by the Chief Inspector, not necessarily the holder of a manager's certificate, to be deputy manager during the incapacity or absence, and the manager, owner or agent shall promptly notify the Chief Inspector of the appointment and the reason for the appointment.

(3) A deputy manager appointed under Subsection (2) shall be subject to the same obligations and liabilities as a manager.

(4) An appointment as deputy manager under Subsection (2) shall not, except with the permission of the Chief Inspector, be for a longer period than two months.

18. Manager to enforce Act.

A manager shall enforce the observance of the provisions of this Act in or about the mine or works of which he is the manager and shall, at the first opportunity, report any breach of the provisions of this Act to an inspector.

19. Management where mine worked by contractor or tributer.

(1) It shall be a condition of every agreement made with a contractor or tributer for the working of the whole or any part of a mine of which there is a registered manager that, unless and until the contractor or tributer, with the consent of the owner or agent of the mine, appoints a manager to supervise the working, the registered manager shall have the control and supervision of, and be responsible for, the working of the whole, or that part, of the mine.

(2) Where the contractor or tributer appoints a manager for a part only of the mine—

(a) the owner and the contractor or tributer shall, in writing, specify the part of the mine and, in respect of that part, the manager so appointed shall have responsibility for the observance of the provisions of this Act; and

(b) in respect of the remainder—the registered manager referred to in Subsection (1) shall have full responsibility.

(3) This section does not apply where the whole of the land or mines comprised in a mining tenement is the subject of a tribute agreement and it is one of the conditions of the tribute agreement that the tributer or a person appointed by him shall be appointed manager.

20. Withdrawal of workmen in case of danger.

(1) Notwithstanding the absence of any order referred to in Section 6(1)(e) the manager, when it appears that the mine or part of the mine of which he is the manager is, from any cause, dangerous, shall promptly—

- (a) cease operations in, and withdraw all persons from, the mine or the part of the mine where the danger exists; and
- (b) report the facts to the nearest inspector in writing; and
- (c) enter, in a book kept for the purpose, the fact and date of the report as well as a brief memorandum of the facts reported.

(2) Where under this section any workman has been withdrawn from any mine or part of a mine, he shall not, except so far as may be necessary for the purpose of exploring and reporting on the existence of danger in the mine, be readmitted to the mine or the part of the mine until an inspector certifies that the mine or part of the mine is free from danger.

21. Proof of negligence.

The occurrence of any accident in or on any mine or works shall be prima facie evidence of negligence on the part of the owner and the manager.

Division 3.—Conditions of Employment.

22. Underground employees to have knowledge of English or Pisin.

A person shall not be employed in the underground working of any mine unless—

- (a) he is able readily and intelligibly to speak, and readily to read in print or manuscript, English or Pisin; or
- (b) he is able to understand, and make himself understood by, those under whom he is placed.

23. Age of employees.

(1) A person shall not be employed in any capacity in or about any mine or works unless—

- (a) being a male—he is over the age of 16 years; or
- (b) being a female—she is over the age of 16 years and is—
 - (i) employed in clerical or technical duties; or
 - (ii) engaged in working any mining tenement of which she is the holder.

(2) In no case shall a female be employed or work underground.

24. Employment of lander, braceman or platman.

A person shall not be employed in a mine as a lander, braceman or platman unless he is 18 years of age or over and is the holder of a prescribed permit.

25. Owner, etc., responsible for compliance with certain conditions.

An owner, agent, or manager who fails to—

- (a) enforce; or
- (b) dismiss or transfer to some other employment, when ordered to do so by an inspector, any employee employed in contravention of,

any of the provisions of Sections 22, 23 and 24 is guilty of an offence.

26. Limitation of employment underground.

(1) Subject to Subsection (2), an owner, agent or manager shall not employ a person underground in a mine for more than—

- (a) eight hours in any period of 24 hours; or
- (b) 48 hours in any period of seven days.

(2) A person is not liable for a breach of this section where the employment in excess of the number of hours mentioned in this section is certified by an inspector to be, or to have been, in some—

- (a) process that is necessarily continuous; or
- (b) operation necessary for the safety of the mine; or
- (c) emergency or special circumstance that justifies the employment.

27. Employees to be under control of owner, etc., in certain cases.

Where, in the opinion of an inspector, the employment of a person in or about a section of a mine or works could result in danger to that person or to any other person, the inspector shall order that that person or any person shall not be so employed unless he is under the immediate control of the owner or manager or of some other person appointed by the owner or manager and approved in writing by the inspector for the purpose.

28. Underground employment of men not being underground miners.

(1) Every person who is not an underground miner shall, while employed on any underground face in any mine, be employed only under the supervision of an underground miner.

(2) Every underground face in any mine at which a person who is not an underground miner is employed shall, at least once in every two hours during every working shift, be visited and inspected by the underground miner who is in charge of the underground face.

29. Alluvial mining.

The owner, agent or manager of a mine where, in mining on any alluvial ground, there is any employment of—

- (a) a person who is not an alluvial miner; or
- (b) more than 10 persons; or
- (c) explosives,

shall ensure that the employment is under the supervision of an alluvial miner.

30. Certificate or permit required to drive winding engine, etc.

(1) The owner, agent or manager shall not, in or about any mine or works, employ a person to drive, control or operate—

- (a) any winding engine or machinery, other than a winding engine or machinery operated by manual power, when used for raising or lowering men in a shaft or for raising or lowering materials in a shaft when the shaft is being sunk; or
- (b) any steam engine or boiler; or
- (c) any machinery or device to which the Minister declares, by notice in the National Gazette, that this section shall apply,

unless the person holds the prescribed certificate or permit.

(2) A person shall not drive, control, or operate—

- (a) any winding engine or machinery, other than a winding engine or machinery operated by manual power, when used for raising or lowering men in a shaft or for raising or lowering materials in a shaft when the shaft is being sunk; or
- (b) any steam engine or boiler; or
- (c) any machinery or device to which the Minister declares, by notice in the National Gazette, that this section shall apply,

unless he holds the prescribed certificate or permit.

31. Medical certificate for person in charge of winding engine.

(1) Every person in charge of a winding engine shall, at intervals of not more than two years, forward to the Chief Inspector a certificate by a medical practitioner stating that the person is not suffering from deafness, defective vision, epilepsy, disease of the heart or other physical infirmity to such extent as would, or would be likely to, render him unfit for his duties or liable to become suddenly incapable of controlling the engine.

(2) A person in charge of a winding engine who does not comply with Subsection (1) and any manager who employs the person, is guilty of an offence.

32. Responsibility for employees.

The holder of a certificate or permit granted under this Act, when acting as an overseer of employees in or about any mine or works, shall take reasonable precautions to ensure that those employees do nothing to contravene the provisions of this Act.

33. Negligence or misconduct of persons holding a certificate or permit.

(1) Where the holder of a certificate or permit under this Act is guilty of such negligence or misconduct as to endanger the safety of a person employed in or about a mine, he is guilty of an offence.

Penalty: A fine not exceeding K1 000.00.

(2) The court by which a person is convicted under this section may—

- (a) suspend his certificate or permit; or
- (b) cancel the certificate or permit and declare the person convicted to be disqualified from obtaining a certificate or permit,

for such time as the court thinks fit.

34. Limitation on employment in charge of machinery.

(1) Unless permitted by writing under the hand of an inspector, a person in charge of machinery shall not be employed in or about a mine or works for shifts or periods longer than those prescribed.

(2) Between and during the shifts or periods there shall be such intervals as are prescribed.

Division 4.—Plans of Mines.

35. Plans to be kept at mine.

(1) The owner, agent or manager of a mine shall ensure that accurate plans and sections of all underground workings of the mine, and such surface workings as the Chief Inspector requires, shall be made from surveys effected by a mining or other surveyor or by a manager as prescribed, and are kept in an office at the mine.

(2) The plans and sections shall from time to time, and at intervals of not more than three months, be amended so as to show all the underground or other workings not previously included in the plans or sections.

(3) The plans and sections shall have relation to some permanent surface mark and show such features of the workings as are prescribed.

36. Copies of plans of abandoned mines to be furnished.

Where any mine having underground workings is abandoned or ceases operations for a period of more than seven days, the manager shall, where required by the Chief Inspector—

- (a) cause a survey of the mine to be completed promptly; and
- (b) forward to the Chief Inspector a copy of the plans and sections of the workings certified by the surveyor or other person making the survey.

37. Plans may be inspected.

Every owner, agent or manager of a mine, or the person for the time being having the custody of the plans or sections referred to in Section 35, shall—

- (a) produce them or cause them to be produced to an inspector or to any other officer authorized for the purpose in writing by the Chief Inspector within a reasonable time after a demand has been made for their production; and
- (b) permit the person to examine and make copies of any plan or section.

38. Exemptions as to plans.

Notwithstanding this Act, the Chief Inspector may, by writing under his hand, exempt any owner, agent or manager from keeping plans or sections in relation to the whole or any part of the workings of a mine.

39. Copies of plans of workings to be furnished annually.

The owner, agent or manager of a mine shall furnish to the Chief Inspector not later than 31 March in every year, copies of the plans and sections made and kept in accordance with Section 35, certified by the manager as true copies and showing all the underground workings and, where the Chief Inspector requires, the surface workings of the mine, existing on 31 December last preceding.

40. Power to order check survey.

(1) Where the Chief Inspector believes that a copy of a plan or section of the workings of any mine furnished in accordance with this Act is incorrect or incomplete, he shall report the matter to the Minister.

(2) The Minister may, if he thinks fit, order a survey of the workings to be made for the purpose of checking the copy of the plan or section.

(3) If, as a result of the survey ordered by the Minister, it appears to the Minister that a copy of a plan or section is incorrect or incomplete, he may require that the costs of the survey shall be paid to the State and the costs shall be a debt due from the owner of the mine to the State.

41. Copies of plans to be confidential.

(1) A person shall not, except on the authority of the Minister, or the Chief Inspector and for the purposes of the State, make a copy of, or tracing from, any copy of a plan or section furnished to the Chief Inspector, or taken by an inspector or other officer, in accordance with this Act, without the consent of the owner, agent or manager of the mine to which the plan or section relates.

(2) A person having the custody of any copy referred to in Subsection (1) shall not, except with the authority and for the purposes or with the consent referred to in Subsection (1), allow any person to inspect, or give to any person any description of, or information relating to, the copy.

(3) Notwithstanding Subsections (1) and (2), where the right or title to any mine is abandoned, surrendered or forfeited, a person, on application to the Chief Inspector, may be permitted to examine the copies of the plans and sections of the mine held by the Chief Inspector.

Division 5.—Construction and Use of Dams.

42. Conditions relating to construction or alteration of dams.

(1) A person must not commence to construct or enlarge or otherwise alter any dam or a capacity exceeding 3 000 000 l for the purposes connected with any mine or mining operations without the approval of the Chief Inspector.

(2) Before approval under Subsection (1) is given, the person requiring it must—

(a) lodge with the Chief Inspector plans and specifications showing such details as may be prescribed of the construction or enlargement or other alteration proposed to be carried out; and

(b) satisfy the Chief Inspector that all proper measures have been and will be taken to ensure safety.

(3) The Chief Inspector may make it a condition of his approval that the proposed construction or enlargement or other alteration shall be carried out only under the supervision of an inspector or some person nominated by him.

(4) A person must not, in carrying out any work referred to in Subsection (1), depart in any particular from the plans and specifications on which the approval for the work was granted without the written consent of the Chief Inspector or the inspector or person under whose supervision the work is required to be carried out.

(5) A person must not use the dam until an inspector has inspected it and certified that it is satisfactory.

(6) Any person who contravenes any of the provisions of this section is guilty of an offence.

Penalty: A fine not exceeding K1 000.00.

43. Inspection of dams.

(1) All dams constructed or used for mining purposes may, at all reasonable times, be inspected by an inspector.

(2) Where it appears to an inspector that any dam is dangerous to human life or property he may, by written notice to the owner or the person in charge of the dam, require him promptly—

(a) to empty the dam and keep it empty; or

(b) to discontinue its use until it has been repaired or reconstructed to the satisfaction of the inspector.

(3) Where—

(a) he deems it advisable; or

(b) any repairs or reconstruction required under Subsection (2) have not been promptly carried out,

the inspector may cause to be taken such measures for the repair of any defect in the dam as he considers necessary for safety, and the cost of the repair shall be a debt due from the owner of the dam to the State.

44. Dams about to be abandoned to be emptied, etc.

(1) Where the owner of any dam used for mining purposes intends to abandon it, he shall, before abandoning it, cause it to be emptied or to be treated in the manner prescribed.

(2) Within 14 days after abandoning the dam the owner shall, in writing, notify the Chief Inspector of the abandonment.

Division 6.—Safety.

45. Any unsafe condition in mine or works to be reported.

(1) Every person employed in or about a mine or works who becomes aware of anything in or about the mine or works which is likely to cause injury to a person or to the mine or works shall promptly report the fact to a person in authority at the mine or works.

(2) Every person on leaving the place in any mine or works at which he is employed shall report—

(a) to the person relieving him; or

(b) to the person in charge at the place,

the condition of the workings at the place.

(3) The manager, on becoming aware of any danger existing in or about a mine or works, shall take such steps as are necessary to eliminate the danger.

46. Employees to ascertain if appliances are safe.

(1) Every person employed in or about a mine or works shall, before commencing and whilst at work, take all reasonable precautions to ascertain whether the tubs, trucks, chains, tackle, windlass, ropes, tools or other appliances used by him and the place in which he works are safe.

(2) A person shall not—

- (a) use any of the appliances referred to in Subsection (1) which appear unsafe; or
- (b) remain in any unsafe working place.

47. Danger signals.

(1) The manager of a mine or works shall cause to be erected and maintained such danger signals and in such positions in the mine or works as an inspector directs.

(2) Danger signals referred to in Subsection (1) shall be in such form, approved by an inspector, as will be understood by all employees working in the mine or works.

48. Cyanide poisoning.

(1) The owner, agent or manager of every mine or works where cyanide is used shall ensure that a sufficient supply of an efficient antidote against cyanide poisoning is kept at a convenient place in a box labelled "Cyanide Antidote" to the lid of which shall be affixed explicit directions for its use.

(2) All vessels used for treatment with acid or zinc slimes from the cyanide process shall be fitted with mechanical agitators and hood or other appliances of such nature as to ensure that the fumes generated in the vessels are carried direct to the external air.

(3) Where tailings from milling operations are used for filling worked-out areas underground, the moisture contained in the tailings and the liquid draining off the tailings shall not have a higher cyanide content than 0.005% expressed as cyanide of potassium.

49. Supply of drinking water.

An adequate supply of wholesome drinking water shall be provided and made readily accessible in a convenient position in every mine or works by the owner, agent or manager.

50. Ventilation of adjoining mine not to be obstructed.

Where any ventilation of the underground workings of a mine is afforded by communication between it and an adjoining mine, the owner, agent or manager of either mine shall not, without the consent of an inspector, obstruct or permit an obstruction to the ventilation so afforded.

51. Damaging or removing protection from abandoned workings.

(1) A person who, after the disuse or abandonment of any excavation—

- (a) wilfully damages the excavation or renders it dangerous by the removal of any timber, fencing, casing, lining, ladder, platform or other thing; or
- (b) removes, without the consent of an inspector, any portion of any mound or dump placed at the mouth of a shaft for the purposes of preventing persons or animals from falling into the shaft,

is guilty of an offence.

Penalty: A fine not exceeding K1 000.00.

(2) The court before whom a person is convicted of an offence against this section may, in addition to imposing the prescribed penalty, order the person within the time limited by the order—

- (a) to replace the timber, fencing, casing, lining, ladder, platform, portion of the mound or dump or other thing removed; and

(b) to repair the damage done to any shaft, level, drive or excavation by the removal referred to in Subsection (1),

and in default of compliance with the order, to pay to the State such sum as the court assesses for damages.

52. Protection of abandoned shafts.

(1) Every abandoned or disused shaft or dangerous surface excavation in or about any mine shall be safely and securely fenced or covered or filled in and its position shall be indicated by erecting on the surface a permanent and conspicuous mark in the form of a post or a cairn carrying a warning notice.

(2) The owner, agent and manager of the mine shall—

(a) ensure compliance with the provisions of Subsection (1); and

(b) continue to be responsible until the compliance has been certified in writing by an inspector to be complete.

53. Removal of props and timber from adjoining mine.

Where one mine adjoins another the owner, agent or manager of the one shall not—

(a) without notice to the owner, agent or manager of the other; and

(b) without the consent of an inspector,

remove, or permit the removal of, any props, timber or stone wall in or on the mine where the removal may render unsafe or inaccessible any portion of either mine.

54. Notice of opening or re-opening a shaft, etc.

Where in a mine—

(a) a working is commenced for the purpose of opening a new shaft, vein, lode or seam; or

(b) the working is recommenced on a shaft, vein, lode or seam that has been abandoned or discontinued for a period exceeding two months,

the owner, agent or manager shall, within seven days immediately after that commencement or recommencement, give to the Chief Inspector written notice of the commencement or recommencement, as the case may be.

Division 7.—Accidents.

55. Accident to be reported.

Where an accident occurs in or about a mine or works it is the duty of every person employed there, as soon as he becomes aware of the accident, to report it to the person in charge of the mine or works.

56. Negligence causing injury.

Every person who is guilty of negligence in or about a mine or works by which a person is injured or killed is guilty of an offence.

57. Notification of certain accidents.

(1) The owner, agent or manager of a mine or works in or about which an accident occurs shall, as soon as he becomes aware of the accident, report it to the nearest inspector, if the accident—

- (a) causes, to a person—
 - (i) loss of life; or
 - (ii) fracture of the skull or of a limb, or other serious bodily injury; or
- (b) causes, to a person employed there, such bodily injury as is likely to render him unfit to return to his ordinary work for a period of 14 days; or
- (c) whether causing bodily injury or not to a person, arises from, or consists in—
 - (i) the explosion of coal dust, gas or an explosive or an explosion due to electricity; or
 - (ii) the fracture of—
 - (A) an essential part of a winding engine, crank shaft, couplings, bearings, gearing, clutch, drum or drum shaft; or
 - (B) a winding rope or attachment of a winding rope to a skip, cage or drum; or
 - (C) a pithead sheave or an axle or bearing of a pithead sheave; or
 - (iii) the failure of—
 - (A) a brake; or
 - (B) a safety catch or an overwinding prevention device, to act or to remain out of action when required respectively to act or to remain out of action; or
 - (C) a depth indicator; or
 - (iv) the derailment of a skip or cage in motion, where it appears to the manager that the derailment might have been caused by the motion exerting an overstrain on the winding rope; or
 - (v) a serious jamming of a skip or cage in a shaft; or
 - (vi) an engine running out of control; or
 - (vii) an overwind; or
 - (viii) an extensive caving or subsidence in any part of the ground or workings; or
 - (ix) a flooding of any portion of the workings; or
 - (x) an outbreak or occurrence of fire or an indication of spontaneous combustion in the workings; or
 - (xi) any happening the Minister may, by notice in the National Gazette, declare to be a notifiable accident.

(2) The report of the accident shall be—

- (a) in writing and contain a full account of its nature and extent and, so far as they are known, of the causes; and
- (b) where loss of life or serious bodily injury results from the accident, and it is practicable—by telegraph advising the principal facts.

(3) Where loss of life results from the accident, the manager shall immediately notify a coroner.

(4) Where loss of life or serious bodily injury has immediately resulted from an accident, the site of the accident shall be allowed to remain undisturbed until an inspector or, where there is no inspector available, a coroner has an opportunity to visit and view it, unless the manager has reason to believe that further danger will result from so doing.

58. Inspector to make report after accident.

Immediately after the view referred to in Section 57, the inspector or coroner shall make a report of the facts and of any action taken by him to the Chief Inspector who shall take such action as appears to him to be necessary to secure immediately the safety of the mine or works.

59. Inspector to hold inquiry.

(1) Where loss of life or serious bodily injury results from an accident in or about any mine or works, an inspector appointed by the Chief Inspector for the purpose shall hold an inquiry into the causes of the accident and shall, when holding the inquiry, have all the powers referred to in Section 15(2).

(2) The inspector shall appoint a time and place for the holding of the inquiry and shall give at least seven days' written notice of the time and place to the owner or agent or the manager of the mine or works in which the accident occurred, and the person to whom the notice is given shall on receipt of the notice post a copy of it in a conspicuous position at the mine or works.

(3) The manager shall be entitled, and the inspector may in his discretion, allow any other person to appear or to be represented at the inquiry.

(4) The inquiry may be adjourned from time to time and from place to place, as the inspector thinks fit.

60. Evidence at inquiry to be transmitted to Minister.

The inspector shall forward to the Chief Inspector for transmission to the Minister—

- (a) a copy of the transcript of the evidence taken at the inquiry; and
- (b) his findings as to the cause of the accident the subject of the inquiry; and
- (c) any recommendations that he thinks fit to make.

61. Suspension or cancellation of certificate of competency.

(1) If, in the course of an inquiry into an accident, it appears to the inspector that the accident was the result of the negligence or incompetency of a person holding a certificate or permit under this Act, he may call on the person to appear before him and show cause why his certificate should not be suspended or cancelled.

(2) Where the person, called under Subsection (1), is found to be negligent or incompetent, the inspector—

- (a) may order the cancellation or the suspension for the period named in the order, of his certificate or permit; and
- (b) shall forward a copy of the order to the Chief Inspector.

62. Inquest on death resulting from accident.

(1) Where at an inquest of death it appears in the course of the inquest that—

- (a) the death might be the result of some accident, whether by explosion or otherwise, occurring in or about a mine or works; and
- (b) no inspector is present at the inquest,

the coroner shall, if in his opinion it is necessary and can be conveniently done, summon an inspector to attend the inquest.

(2) Where, in the absence of an inspector, evidence has been taken that points to the probability of the accident having been due to—

- (a) any negligence on the part of a person having control of, or employed in or about, a mine or part of a mine or works; or
- (b) any defect in or about the mine or works,

the coroner shall notify the Chief Inspector.

63. Inspector may examine witness at inquest.

An inspector present at an inquest concerning a death that is the result of an accident occurring in or about a mine or works, may examine and cross-examine any witnesses giving evidence at the inquest and address the coroner on the evidence.

64. Compensation for injuries.

(1) Subject to Section 65, if a person employed in or about a mine or works suffers bodily injury or is killed—

- (a) as the result of the negligence of the owner, contractor or tributer of the mine or works, or his agent or agents; or
- (b) owing to the non-observance in the mine or works of any of the provisions of this Act, such non-observance not being solely due to the negligence of the person so injured or killed,

the person injured, or his personal representatives, or the personal representatives of the person so killed, may recover from the owner, contractor or tributer of the mine or works, compensation by way of damages as for a tort committed by the owner, contractor or tributer.

(2) In estimating the damages under Subsection (1), regard shall be had to the extent (if any) to which the person injured or killed contributed by any negligence on his own part to the injury or death.

(3) This section does not take away from a person any right to take proceedings in respect of a claim for compensation for injury or death by accident which he may have under any law, but the owner, contractor or tributer shall not be liable to pay compensation independently of and also under this Act.

(4) The National Court shall have jurisdiction to hear and determine all claims for compensation under this section, and a Warden's Court shall have jurisdiction to hear and determine claims for compensation under this section not exceeding the sum of K1 000.00.

65. Limitation on proceedings for compensation.

(1) Subject to Subsection (2), an action for the recovery of compensation under Section 64 shall not be maintained unless—

- (a) written notice of the injury is given in the prescribed manner to the owner, contractor or tributer within one month immediately after its occurrence; and
- (b) the action is commenced within 12 months immediately after the occurrence of the injury.

(2) The want of, or any defect or inaccuracy in, a notice shall not be a bar to the maintenance of the action in a case in which the Court is satisfied that the owner, contractor or tributer against whom the claim is made has not been prejudiced by the want, defect or inaccuracy where the want, defect or inaccuracy arose from mistake or absence from the country or from any other cause which the Court thinks reasonable.

(3) The notice referred to in Subsection (1) shall be in the prescribed form.

(4) The notice referred to in Subsection (1) shall be served on the owner, contractor or tributer personally or by sending it by post as a registered letter addressed to him at his last known place of abode.

Division 8.—Separate Working of Parts of Mines.

66. Parts of a mine worked separately to be notified.

Where any two or more parts of a mine are worked separately—

- (a) the owner, agent or manager shall immediately give written notice of the fact to the Chief Inspector; and
- (b) the parts shall be treated for the purposes of this Act as separate and distinct mines.

67. Separate working parts may be prohibited.

Where the Chief Inspector is of the opinion that the separate working of any parts of a mine—

- (a) is conducive to the evasion of the provisions of this Act; or
- (b) may hamper the administration of this Act,

he may, by written notice served on the owner, agent or manager of the mine, require that the separate working shall be discontinued and the owner, agent or manager on whom the notice is served shall discontinue the separate working accordingly.

Division 9.—Means of Ingress and Egress.

68. Means of ingress and egress.

Subject to Sections 69 and 70, the owner, agent or manager of a mine shall not employ a person in any mine that does not provide—

- (a) two shafts, tunnels or outlets, whether appurtenant to the same mine or not, that—
 - (i) afford communication with every vein, lode or seam at any time being worked and a separate means of ingress to and egress from the mine; and
 - (ii) are not at any point less than 46m distant from each other; and

- (b) a cage operating in guides established and maintained at every shaft or outlet mentioned in Paragraph (a) where the shaft or outlet has a depth exceeding 46m; and
- (c) in the case of any such shaft or outlet having a depth not exceeding 46m and not being provided with the cage mentioned in Paragraph (b)—a ladder which shall be fixed in the shaft or outlet in the prescribed manner.

69. Restrictions as to employment not to apply in certain cases.

Section 68 does not apply to—

- (a) a newly opened mine so far as relates to the employment of not more than 20 persons underground for the purpose of—
 - (i) making a communication between two or more shafts, tunnels or outlets in any new working; or
 - (ii) searching for or proving minerals in any working; or
- (b) a mine during—
 - (i) the making of a shaft, tunnel or outlet; or
 - (ii) the interruption of ingress or egress or of communication within the workings as the result of an accident.

70. Chief Inspector may grant exemption from provisions relating to shafts, etc.

(1) Subject to Subsection (2), the Chief Inspector may by order, and on such conditions as are specified in the order, exempt a proved mine from the provisions of Section 68 where—

- (a) the quantity and value of the mineral proved is not sufficient to defray the cost of making more than one shaft, tunnel or outlet or, where more than one shaft, tunnel or outlet has been made, of re-establishing any communication that formerly existed with one or other of the shafts, tunnels or outlets; or
- (b) the workings in a seam having reached the boundary of the mining tenement, it is expedient to remove the safety pillars already formed in the workings in the ordinary course.

(2) No safety pillars shall be removed that will cause interruption of the communication between two or more outlets.

PART IV.—MISCELLANEOUS.

71. Contract in conflict with Act.

(1) A person shall not by a contract made, before or after the commencement date, be precluded or excused from compliance with the provisions of this Act or of an order made under this Act.

(2) A person shall not, by reason of an act or omission required under the provisions of this Act to be done or omitted by him, be liable to a penalty, damages or forfeiture for a breach of a contract.

72. Notice of change of name, ownership or management of mine.

(1) Where the name of a mine is changed, the owner, agent or manager of that mine shall, as soon as practicable after that change, give to the Chief Inspector written notice of the change.

(2) Where the ownership of a mine is changed or a different agent or manager is appointed, the new owner or agent or manager, as the case may be, shall, as soon as practicable after the change or appointment, give to the Chief Inspector written notice of the change or appointment.

73. Defence available in prosecution for offence.

Where a person who is charged before a court with a breach of a provision of this Act satisfies the court that compliance with the particular provision was not reasonably practicable, the court shall discharge the person.

74. General penalty.

(1) A person who contravenes a provision of this Act or an order made under this Act is guilty of an offence.

(2) A person who commits an offence against this Act shall, where no other penalty is provided, be liable in respect of the offence to a fine not exceeding K1 000.00 or imprisonment for a term not exceeding three months or both, and, where the offence is a continuing offence, to a fine not exceeding K100.00 for every day during which the offence continues.

75. Limitations on proceedings for offences.

A prosecution shall not be commenced against a person for an offence against this Act unless it is commenced within six months after the commission of the offence complained of, or, in the case of a continuing offence, within six months after the offence has ceased.

76. Special rules.

(1) An inspector may by written notice require the owner, agent or manager of a mine or works to draw up and submit to the Chief Inspector special rules for the conduct and guidance of persons who are in control of, or employed in or about, the mine or works as under the conditions affecting the mine or works seem best calculated to—

(a) prevent accidents; and

(b) provide for the safety, convenience and proper discipline of the persons employed in or about the mine or works.

(2) The Chief Inspector may approve of the special rules either as a whole or in part or with such amendments as to him seem proper, and they shall come into operation as the special rules for the mine or works on the date on which they are so approved.

77. Special exemption from regulations.

Where an inspector regards the observance of the regulations or any of them as impracticable in a particular mine, he shall make such recommendations to the Chief Inspector as he thinks necessary and the Chief Inspector may, by notice in the National Gazette, exempt the mine from the observance of the regulations, or any of them, for such time and on such conditions as are specified in the notice.

78. Regulations.

The Head of State, acting on advice, may make regulations, not inconsistent with this Act, prescribing all matters that are necessary or convenient to be prescribed for carrying

out or giving effect to this Act, and, in particular, prescribing matters providing for and in relation to—

- (a) the qualifications required of inspectors and regulating the examinations and test to which they shall be subject before and after appointment; and
- (b) the powers and duties of inspectors; and
- (c) the examinations, tests or other conditions on which certificates of competency or permits of employment may be granted to—
 - (i) alluvial miners; and
 - (ii) boiler inspectors; and
 - (iii) dredge masters; and
 - (iv) dredge winchmen; and
 - (v) engine drivers, including drivers of steam, gas, oil or hydraulic engines and of electric motors or electric converters; and
 - (vi) machinery attendants; and
 - (vii) managers generally, or particularly in relation to metalliferous mines, collieries or works; and
 - (viii) mine electricians; and
 - (ix) mine surveyors; and
 - (x) underground miners; and
 - (xi) such other classes of persons employed in or about a mine or works who, in the opinion of the Chief Inspector, should be the holders of certificates of competency or permits of employment; and
- (d) the issue, registration, suspension and cancellation of certificates of competency or of permits of employment and inquiries preliminary to their suspension or cancellation; and
- (e) the appointment and remuneration of persons who are engaged to examine and test the qualifications of a person for a certificate of competency or permit of employment; and
- (f) the registration of agents and managers including deputy managers; and
- (g) the procedure of inquiries into accidents; and
- (h) the prevention of accidents; and
- (i) the bailing of water from mines, so as to prevent injury from water being caused to any workings; and
- (j) the protection from injury, destruction and unlawful removal of machinery, and of races, channels, drains or dams and the water contained in them, and from obstruction of any race, channel, drain, dam, creek or river; and
- (k) the construction and maintenance of suitable bridges or other crossings over races, channels or drains that intersect roads or thoroughfares, and the making of proper approaches to the bridges or other crossings, and the width of the bridges or crossings and approaches; and
- (l) the maintenance of order and discipline; and
- (m) the manner in which—
 - (i) surveys of underground or surface workings of mines shall be made; and

- (ii) plans and sections of the workings shall be made and kept and copies furnished to the Chief Inspector; and
- (n) the details to be furnished in plans and specifications relating to the construction, alteration or enlargement of dams; and
- (o) the minimum provision to be made in all, or any particular class of, mines for—
 - (i) the supply and maintenance of appliances for use in ambulance and rescue work; and
 - (ii) the formation of rescue brigades and the training of employees in ambulance and rescue work; and
- (p) the mode of construction and prescribing materials and strength of the embankments of dams; and
- (q) the treatment to which dams shall be subjected before being abandoned or temporarily left; and
- (r) the mode of construction of waste dumps and the stability of the high wall of any excavation; and
- (s) the minimum provisions for ventilation of mines, including requisites as to—
 - (i) standards of purity, temperature and humidity of the air; and
 - (ii) quantity of air which should be made to circulate in the mine or airways; and
 - (iii) methods of testing the air in relation to the quantity, purity, temperature, humidity and efficiency of circulation; and
 - (iv) recording the state of ventilation in every part of the mine and showing on plans the positions of all airdoors and ventilating devices and appliances and the direction of the air currents; and
 - (v) the conditions under which disused portions of the mine may or shall be shut off from the ventilation system, and when and in what manner they shall be ventilated; and
 - (vi) the conditions under which the use of mechanical appliances to assist ventilation shall be compulsory; and
 - (vii) the use of compressed air; and
 - (viii) the conditions under which tailings from cyanide or other chemical or metallurgical processes may be used for the filling of stopes; and
 - (ix) the prevention of the escape of deleterious gases and fumes from chemical or metallurgical process; and
- (t) the connexion to be made between workings for the purposes of ventilation including—
 - (i) the making of other excavations concurrently with shaft sinking; and
 - (ii) the connexion of adjoining mines; and
 - (iii) the connexion of workings in the same mine; and
 - (iv) any other matter relating to the ventilation of mines; and
- (u) the provisions for winding or raising and lowering of persons and minerals and other materials in a mine, and the testing of the efficiency of ropes, chains, brakes, machines and all winding appliances and gear used in a mine; and

- (v) the removal from any mine of machinery or other appliances used for raising or lowering men in the mine; and
- (w) the provisions to be made for facilitating ingress to and egress from, any mine; and
- (x) the distance at which shafts and other mine workings shall be kept from public and private roads, ways and passages and from private land, dwellings and other buildings; and
- (y) the conditions to be observed in and about mines or works for the preservation of health and the maintenance of sanitation including provision to be made for—
 - (i) the prevention of the accumulation of, and the removal to some convenient place of, sludge, tailings and other waste and refuse matter oozing or flowing from, or connected with, a mining tenement, and of waste water, and the making of channels necessary for the prevention or removal and for otherwise regulating the oozing and flowing, with or without any condition for payment of money or otherwise; and
 - (ii) the prevention and laying of dust, the prevention of the escape of poisonous or deleterious gases and fumes from a chemical or metallurgical process in use in mines or works, and the use of water sprays, atomizers and other damping appliances; and
 - (iii) the use of apparatus for collecting, filtering and preventing the inhalation of dust; and
 - (iv) the prevention of nuisances; and
 - (v) the cleansing and keeping clean of the mine or works; and
 - (vi) the construction and position of all sanitary conveniences and the condition in which they shall be kept; and
 - (vii) change houses and their accommodation, baths, washing appliances, the destruction of old clothes and the drying of clothes and the supply of pure water; and
 - (viii) examination and exclusion of persons infected or suspected to be infected with infectious or transmissible diseases; and
- (z) the protection of persons from injury arising from the handling of dangerous materials and especially in relation to hot furnace products; and
- (za) regulating or prescribing in relation to explosives in or about a mine—
 - (i) the construction of magazines; and
 - (ii) the method and conditions of storage, handling and transportation; and
 - (iii) the testing of explosives before use; and
 - (iv) the strength of detonators; and
 - (v) the charging and firing of shots; and
 - (vi) the interval of time to be observed between the firing or misfiring of a shot and the return of employees to the place where the shot was charged; and
 - (vii) the use of fuse; and
 - (viii) the removal or destruction, by mechanical or other artificial means, of fumes caused by the firing of shots; and

- (zb) the employment and the periodical medical examination of persons placed in control of winding engines or machinery; and
- (zc) the continuity or intermittency of attendance on electrical motors or other machinery of persons placed in control of them and the terms and conditions on which the attendance will be exempted and on which an exemption from attendance may be suspended or cancelled; and
- (zd) the measures to be taken and the precautions to be observed in relation to the use of electricity and the operation of electrical apparatus and machinery; and
- (ze) the fees to be paid in respect of—
 - (i) applications for certificates of competency and permits of employment; and
 - (ii) examinations and tests, educational or physical, to be made for certificates of competency and permits of employment; and
 - (iii) the filing of documents required to be filed; and
 - (iv) the issue and registration of certificates of competency and permits of employment; and
 - (v) the issue of duplicates of certificates and permits that have been lost; and
 - (vi) the issue of certificates of registration; and
 - (vii) the testing of ropes or other winding gear; and
 - (viii) the testing of boilers; and
 - (ix) the registration of managers and agents; and
- (zf) the employment of labour in mines or works; and
- (zg) the duration of the shifts to be worked in a mine and the intervals between and during the shifts; and
- (zh) the maximum hours of, and intervals in, the continuous employment of—
 - (i) persons in charge of engines the motive power of which is water, steam, air, gas, oil or electricity and that are used in or about a mine or works or for the treatment of the products of a mine; and
 - (ii) a person employed in or about any mine in any other case, subject to exemptions for a case of emergency or for any service which is necessarily continuous; and
- (zi) the safe working of dredges and other excavating devices and of the machinery installed on dredges and such other devices and regulating dredging operations generally; and
- (zj) the form of any application, notice, return, certificate, permit or other document required to be made, given, granted, issued, lodged or filed under the provisions of this Act; and
- (zk) the matters or things which are to be shown in any return required to be made; and
- (zl) the imposition of penalties of fines not exceeding K1 000.00 or imprisonment for terms not exceeding six months for offences against the regulations; and
- (zm) all other matters relating to the regulation or working of mines or works not expressly provided for by this Act.

(2) Regulations made under this Act may be of general application or may be limited to a particular area or restricted in their operation to a specified class of mine or works.

PART V.—TRANSITIONAL.

79. Transitional provisions.

(1) In this section, a reference to an Act includes a reference to a regulation made under that Act.

(2) The purpose of this section is to substitute rights, liabilities, functions and duties under this Act for the rights, liabilities, functions and duties that existed under the repealed Act immediately before the commencement date.

(3) Unless the contrary intention appears in this Act, all things and circumstances created, made, done, issued, given, granted or continued under the repealed Act and existing immediately before the commencement date shall be deemed, subject to Subsection 4, to be the corresponding thing or circumstance under this Act.

(4) Any thing or circumstance deemed to be under this Act by virtue of Subsection (3)—

(a) shall be subject, to the extent to which it is consistent with this Act, to the same vested, contingent and accrued rights, liabilities and incidents (if any) that applied immediately before the commencement date in relation to or attached to that thing or circumstance under or by virtue of the repealed Act; and

(b) shall, where it had a term under the repealed Act which was still current at the commencement date, expire on the date it would have expired under the repealed Act had this Act not been made.

80. Saving and adaptation of regulations under the repealed Act.

(1) Subject to Subsection (2), all regulations in force under the repealed Act (as in force immediately before the commencement date) immediately before the commencement date shall, except in so far as they are inconsistent with this Act, be deemed to have been made under this Act.

(2) At any time after this Act is certified, the Minister may take whatever action is necessary or desirable to adapt any regulations to which Subsection (1) applies to make them comply with the provisions of this Act.

(3) Any action taken before the commencement date under Subsection (2) takes effect on the commencement date, unless a later date is provided for.

INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 195A.

Mining (Safety) Regulation.

ARRANGEMENT OF SECTIONS.

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1. Interpretation—
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 - "bulled hole"
 - "circuit"
 - "conductor"
 - "drive"
 - "earthed"
 - "electric line"
 - "extra-high pressure"
 - "high explosive"
 - "high pressure"
 - "live"
 - "low pressure"
 - "main haulage road"
 - "medium pressure"
 - "mine"
 - "mine electrician"
 - "mine surveyor"
 - "missed fire"
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 - "pressure"
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INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 195A.

Mining (Safety) Regulations.

MADE under the *Mining (Safety) Act.*

PART 1.—PRELIMINARY.

1. Interpretation.

In this Regulation, unless the contrary intention appears—

- “apparatus”, in relation to the supply or use of electricity, means electrical apparatus;
- “approved” means approved by an inspector in writing or, in relation to any type, make or class of appliance or thing, means specified in a notice by the Head of State, acting on advice, approving of the type, make, or class;
- “authorized pressure”, in relation to a boiler, means the maximum working pressure as specified in a boiler certificate relating to the boiler and issued by a boiler inspector in accordance with this Regulation;
- “boiler inspector” means a person holding a certificate of competency issued under this Regulation in respect of the occupation of a boiler inspector and includes an inspector;
- “bulled hole” means a drill-hole in which a small charge of explosive has been fired for the purpose of enlarging the bottom of the drill-hole;
- “circuit”, in relation to the supply or use of electricity, means an electrical circuit forming a system or branch of a system;
- “conductor”, in relation to the supply or use of electricity, means an electrical conductor arranged to be electrically connected to a system;
- “drive” means any passage in a mine in any direction or in any angle other than a shaft and the term may, if necessary, include an extension or continuation of a shaft;
- “earthed”, in relation to the supply or use of electricity, means connected to the general mass of earth in such a manner as will ensure at all times an immediate discharge of electrical energy without danger;
- “electric line” means a wire, conductor or other medium used for conveying, transmitting or distributing electricity, with any casing, coating, tube, pipe, post or insulator enclosing, surrounding or supporting the wire, conductor or other medium, or any part of it, or any apparatus connected with the wire, conductor or other medium;
- “extra-high pressure”, in relation to the supply of electricity, means a pressure which may at any time exceed 3 000 volts;
- “high explosive” means an explosive compound which, by the transmission of an initial shock, is capable of conversion into gas in so short a period that the conversion is practically instantaneous;
- “high pressure”, in relation to the supply of electricity, means a pressure which may at any time exceed 650 volts but cannot exceed 3 000 volts;

- "live", in relation to an electrical installation, means electrically charged;
- "low pressure", in relation to the supply of electricity, means a pressure which cannot exceed 250 volts;
- "main haulage road" means a road which has been or for the time being is in use for removing skips by steam or other mechanical power;
- "medium pressure", in relation to the supply of electricity, means a pressure which may at any time exceed 250 volts but cannot exceed 650 volts;
- "mine" means a place, pit, shaft, drive, level or other excavation, drift, gutter, vein, lode or reef in which or by which an operation for or in connexion with, mining purposes is or shall be carried on;
- "mine electrician" means a person holding a certificate of competency issued under this Regulation in respect of the occupation of mine electrician;
- "mine surveyor" means a person holding a certificate of competency issued under this Regulation in respect of the occupation of mine surveyor;
- "missed fire", in relation to a charge of explosive, means that the explosive has either partially or completely failed to explode;
- "open sparking" means sparking which, owing to the lack in any apparatus of adequate provision for preventing the ignition of inflammable gas external to the apparatus, would ignite the gas;
- "pressure" in relation to the supply of electricity, means the difference of electrical potential between any two conductors through which the supply is given, or between any part of either conductor and earth as read by a hot wire or electrostatic voltmeter;
- "recognized testing station" means a laboratory, workshop, or authority declared, by the Head of State, acting on advice, by notice, to be a recognized testing station;
- "rock drill" means a machine worked by mechanical or electrical power, that is used for the purpose of drilling holes in a mine;
- "safety lamp" means an oil, gas, or electric lamp of a type approved by the Warden for use in inflammable atmosphere;
- "satisfactory" means that which is, in the opinion of an inspector, satisfactory;
- "socket" means a hole or part of a hole remaining after a charge has been exploded in it;
- "system" means an electrical system in which all conductors and apparatus are electrically connected to a common source of electromotive force.

PART II—MINES GENERALLY.

Division 1.—Plans and Surveys.

2. Scale of plans and sections.

(1) Subject to Subsection (2) plans and sections required to be made and kept under Division III.4. of the Act shall be drawn to a scale of not less than 1 in 500.

(2) A scale other than that specified in Subsection (1) may be used in any particular mine where the written consent of the Warden has been previously obtained.

3. Bearings and traverse lines.

(1) The bearings and the lengths of the traverse lines shall be shown on the drawings by means of lines and figures and all traverses shall be reduced.

(2) The true bearings shall be carried from the surface of a mine into the underground workings by accurate method.

(3) Where practicable, the surveys of different levels of a mine shall be connected by direct bearings and measurements through winzes or by traverses through stopes.

(4) Where a closed traverse cannot be obtained otherwise, every traverse which consists of more than one line shall be checked by returning over the same ground with a different set of survey stations.

4. Instruments for taking bearings.

(1) Where practicable, the instrument used in taking bearings shall be a theodolite and bearings shall be carried into the mine without the use of the magnetic needle.

(2) Where the use of a theodolite is rendered impracticable by the conditions existing in any mine or part of a mine a circumferentor or dial or other form of compass may be used.

(3) Where a circumferentor or dial or other form of compass is used in taking bearings, both back and fore sight shall be taken along each line of the traverses, and corrections shall be made for local magnetic attractions.

(4) Where an instrument referred to in Subsection (3) is used, a checking traverse shall be made unless a complete check of the accuracy of the work can be otherwise shown.

(5) The description of the instrument used in taking the bearings shall be noted on the plan or section.

5. Measuring instruments.

(1) Subject to Subsection (2), the measurements of—

- (a) the depths of shafts; and
- (b) the distances between levels; and
- (c) winzes and rises,

shall be made accurately with steel measuring bands or metal wires.

(2) Any winze or rise less than 30.5 m in length may be measured with non-metallic tapes.

6. Field notes.

(1) Where the Warden so requires, a copy of the field notes of the survey on which the plans and sections are based and the signature and date specified in Subsection (7) shall be certified and signed by the manager of the mine or the person making the survey and sent by the owner, agent, or manager of the mine to the Warden.

(2) The copy of the field notes shall be accompanied by a copy of the calculations made in the reduction of traverses.

(3) Every line measured shall be entered in the field notes as a separate item with the number of the survey station at the commencement and at the end of each line corresponding to that given on the plan of survey.

(4) The bearings given in the field notes shall be those from which the plan or section is plotted and shall be—

- (a) deduced from the instrumental measurements; and
- (b) read to the nearest minute; and
- (c) referred to the meridian of the datum line.

(5) The field notes, the copy of the calculations which accompanies the field notes, and the plans or sections founded on the field notes shall show the relation between the bearings on which the notes, calculations, plans, or sections are based and the true meridian.

(6) Survey stations shall be numbered consecutively in the field notes throughout the survey.

(7) The field notes shall be—

- (a) signed by the person making the survey; and
- (b) dated with the date on which the survey was made.

7. Plans and sections of extensions.

All copies of plans and sections of extensions of workings shall show enough of the previously surveyed portions to allow of them being readily related, and affixed, to the plans and sections of the previously surveyed portions.

8. Datum line in survey.

One of the boundary lines of the mining tenement in which the mine is situated shall be taken as the datum line for the commencement of the survey on which the plans and sections are based.

9. Taking of levels.

Accurate levels shall be taken from the plats in every shaft and from the entrance to every adit or tunnel into the face of every drive and crosscut in a mine.

10. Tracings of overlying levels.

Where the levels or other workings of a mine overlie one another in such a way that, when traced on a single sheet, the information prescribed to be furnished cannot be plainly marked on the sheet, in addition to a general or skeleton plan, the plans and sections of the different levels or other workings shall be made and furnished separately as the Warden may direct.

11. Incorrect plans.

Where the Warden believes that any copy of a plan or section of the workings of any mine furnished under the Act is incorrect, he shall notify the person who furnished the copy.

12. Authentication of plans.

The plans and sections shall—

- (a) be signed by the person who made the survey on which they are based; and
- (b) bear the date when the survey was made.

13. Material of copy plans.

All copies of plans and sections furnished in accordance with the Act or this Regulation shall be—

- (a) tracings on tracing linen or sun prints on good linen; and
- (b) executed in a draughtsmanlike manner; and
- (c) for the purpose of transmission—wrapped round a roller, but not creased or folded.

*Division 2.—Ventilation.***14. Quantity of air.**

(1) Subject to Subsection (2) such a quantity of pure air as an inspector deems adequate shall be caused to enter every mine and to circulate around the working places and stopes.

(2) In all cases the quantity of pure air shall not be less than—

- (a) for each person underground— 2.75m^3 per minute; and
- (b) for each animal underground— 11m^3 per minute.

15. Presence of gas.

The air to which persons in any mine are exposed or likely to be exposed shall not contain—

- (a) more carbon dioxide than 0.25% by volume; or
- (b) any detectable traces of—
 - (i) the oxides of nitrogen; or
 - (ii) sulphureted hydrogen.

16. Temperature of air.

(1) Subject to Subsection (3), the maximum temperature of the air in any working place shall not exceed—

- (a) 26.7°C^1 measured by a wet-bulb thermometer; or
- (b) 29.4°C^2 measured by a dry-bulb thermometer.

(2) Where the temperature as measured by a wet-bulb thermometer is 23.9°C^3 there shall be a difference of at least -16.7°C^4 between it and the temperature as measured by the dry-bulb thermometer, and for every -17.2°C^5 above 23.9°C^3 as measured by the wet-bulb and dry-bulb thermometers shall be increased by -17.2°C^5 until the maximum temperature specified in Subsection (1) in respect of the dry-bulb thermometer has been reached.

(3) Where an inspector is satisfied that the air currents in any mine have sufficient velocity to render unnecessary the maintenance of the standards of temperature prescribed by this section he may issue a certificate, in Form 1, exempting the mine from the maintenance of the standards.

¹Metricated editorially. The original temperature was 80°F.

²Metricated editorially. The original temperature was 85°F.

³Metricated editorially. The original temperature was 75°F.

⁴Metricated editorially. The original temperature was 2°F.

⁵Metricated editorially. The original temperature was 1°F.

17. Auxiliary ventilation.

Where, in the opinion of an inspector—

- (a) the ventilation of any part of a mine is unsuitable or inadequate; and
- (b) there is no immediate prospect of improvement in the quality or quantity of the ventilation,

he may, by notice in Form 2, require that, within the time limited in the notice, the additional or auxiliary ventilating appliances specified in the notice be installed and worked.

18. Records of ventilation.

Where required by an inspector, the owner, agent, or manager of a mine shall cause—

- (a) the quantity and quality of the air circulating in the various parts of the mine to be, at least once in every three months, determined and recorded in the prescribed Mine Register; and
- (b) the direction and force of all air currents and the position of doors, stoppings, and all ventilating appliances to be marked on the plans required to be kept under the Act.

19. Source of air for ventilating machines, etc.

The supply of air for ventilating machines or air compressors shall be drawn from the purest source available.

20. Cleaning air mains, etc.

(1) Except where a special installation is provided to allay any nuisance arising from dust, all air mains from air compressors shall be furnished with sufficient traps to remove accumulations of water, and water shall not be allowed to blow through to working faces in the mine.

(2) All air receivers and the pipes connecting them with the air compressors shall be cleaned as often as necessary to prevent any accumulation of oil or carbonised material in them.

21. Air currents from inlet to outlet.

The air currents in the ventilation of any mine shall be regulated so that the air passes through the workings from inlet to outlet without local circulations, that is, no air shall be allowed to return to any place in the mine before leaving the mine at the outlet.

22. Disused and shut-off parts of mine.

(1) Where any part of a mine has ceased to be used it may be shut off from the ventilating system in operation in the mine by securely closing it from the parts of the mine in use and the preceding provisions of this Division cease to apply to the part so shut off.

(2) A part shut off under Subsection (1) shall be noted in the prescribed Mine Register.

23. Exemption from ventilation requirements, etc.

(1) Notwithstanding anything to the contrary in this Regulation, an inspector may—

- (a) on an application, in Form 3, made by the owner, agent, or manager of any mine; and

(b) on a statutory declaration by the applicant that specified mining operations of a temporary nature are contemplated and are necessary—

- (i) to improve the ventilation or temperature of the mine; or
- (ii) to open up ground otherwise inaccessible,

issue a certificate of exemption, in Form 4, allowing specified mining operations temporarily to be carried on in working places—

- (c) at temperatures higher than 26.7°C^1 , as measured by a wet-bulb thermometer, and 29.4°C^2 , as measured by a dry-bulb thermometer; or
- (d) where the conditions prescribed in this Division as to the circulation of air or otherwise are not complied with.

(2) Any certificate granted under Subsection (1)—

- (a) shall be subject to such restrictions as to hours, or other conditions, of work as the inspector may impose; and
- (b) may at any time be withdrawn or cancelled at the discretion of the inspector.

24. Connexions between different mines.

(1) Where it comes to the knowledge of an inspector that the underground workings of different mines are separated by a distance of not more than 91.5m, the inspector shall, without delay, inform the Warden of the fact and report to him the circumstances of the case.

(2) In the report under Subsection (1) the inspector shall recommend the adoption of such measures, in regard to connexion between the workings of the different mines, as appear to him to be requisite for the proper ventilation of, or for escape from, either mine.

(3) The Warden may, on consideration of the report, order the owner, agent, or manager of the respective mines to execute, within the time limited by the order and within his particular mining tenement, such work as may be necessary to complete the requisite connexion between the mines.

(4) Where he is of the opinion that the connexion intended to be effected between the mines is for the benefit of the owner of one of them, the Warden may order the owner, agent, or manager of the one to execute, within the time limited in the order, the necessary work outside his particular mining tenement.

(5) Subject to Subsection (6), where the owner, agent, or manager fails within the time limited in the order referred to in Subsection (4) to execute the work, the Warden may order the owner to make such payments as he directs, to defray the cost of the work executed by another owner for the benefit of the first-mentioned owner.

(6) The owner, agent, or manager first mentioned in Subsection (5) may, within the time limited for the execution of the work by him, lodge at the Warden's office a written objection setting out the grounds of the objection.

(7) An objection under Subsection (6) shall be heard and determined in the Warden's Court.

¹Metricated editorially. The original temperature was 80°F.

²Metricated editorially. The original temperature was 85°F.

Division 3.—Precautions Against Fire.

25. Adequate measures against fire.

The owner, agent, or manager of every mine shall take adequate measures, both underground and on the surface, against the outbreak of fire and for the suppression of any fire which may break out.

26. Warning to persons underground.

In the event of any outbreak of fire occurring underground, immediate warning shall be given to all persons underground and every practicable measure shall be taken to ensure their being brought to the surface without delay.

27. Measures subject to approval, and orders, of inspector.

All measures taken under Sections 25 and 26 shall be subject to the approval of an inspector, who may, if he considers them inadequate, order that such further measures shall be taken as appear to him necessary.

28. Unprotected lights.

A person shall not leave any unprotected light close to any timber in any part of a mine.

29. Warming food.

Proper and safe provision for warming food and drink underground shall be made where an inspector thinks it necessary and in such manner as he directs.

30. Fireproof chambers for machinery.

Where any machinery is placed in chambers underground, the chambers shall be made fireproof.

31. Waste.

All waste used, or for use, in cleaning machinery underground shall be kept in a securely covered metal vessel.

32. Inflammable materials, etc.

Wood chips, shavings, paper, or other inflammable waste material shall not be permitted to lie about or accumulate in any part of a mine or be thrown into passes.

Division 4.—Health and Sanitation.

33. Prevention of dust where rock drills used.

In or about every underground place where rock drills are in operation there shall at all times be used such jets or sprays of water or such other means as in the opinion of an inspector will effectually keep the air free from, and prevent the accumulation of, dust.

34. Dry materials to be damped.

In dry roads or other workings if the material broken from the working face is dry and dusty it shall not be removed until it has been effectually damped.

35. Dust or fumes to be removed by sprays, etc.

Where, in any portion of the workings in which miners are at work, dust and fumes mingle with the air to such an extent as to create in the opinion of an inspector, a nuisance detrimental to the health of the miners or other persons who are, either temporarily or otherwise, exposed to the nuisance, the inspector shall require the manager of the mine to remove the nuisance by spraying or such other measures as the inspector deems effectual.

36. Persons not to work where air is bad.

(1) Subject to Subsection (2) a person shall not work or remain, or be permitted to work or remain, in any place in a mine where the air is not free from dust, smoke, or fumes detectable by sight, smell, or other sense.

(2) A person using such appliances as are adequate to protect him from the dust, smoke, or fumes may enter the place for the purpose of carrying out, and there carry out, any rescue work.

37. Damaging sanitary appliances.

A person who damages, or misuses, or fails to use when necessary, any appliance provided by the owner, agent, or manager of the mine for the prevention of dust, fumes, or smoke, or for any other sanitary purpose is guilty of an offence.

Penalty: A fine not exceeding K10.00.

38. Testing dust.

(1) Where required by an inspector by notice in Form 5 the owner, agent, or manager of a mine shall cause—

- (a) tests to be made of the quantity of dust present in the air in the working places, travelling ways, and crib places of the mine; and
- (b) the results of the tests referred to in Paragraph (a) to be recorded in the prescribed Mine Register.

(2) The method of, and the time limited for, making the tests shall be specified in the notice referred to in Subsection (1).

39. Material to be used in filling.

Any debris, refuse, or other material which is likely to be detrimental to the health of persons working in a mine shall not, for the purpose of filling up excavations or for any other purpose, be sent down the mine whether the mine has been abandoned or not.

40. Changing rooms.

(1) Where at any time more than three persons are ordinarily employed underground in one shift, a changing room, sufficient accommodation and facilities for the purpose of enabling them to change and dry their clothes must be provided aboveground near the principal entrance to the mine.

(2) The engine-house or boiler room must not be used for the purpose referred to in Subsection (1), unless—

- (a) the number of persons employed does not exceed six; and
- (b) there is no direct access to the boiler or engine from the place where the changing and drying is done; and
- (c) the written consent of an inspector is first obtained.

- (3) Clothes must not be changed or dried on a boiler.
- (4) In the changing room there must be provided—
 - (a) an ample supply of fresh hot water; and
 - (b) one washing basin to every three persons employed underground in any one shift; and
 - (c) where there is a good supply of fresh water available, one shower bath, properly screened from observation, to every 10 persons employed underground in any one shift.
- (5) Adequate provision must be made for the proper drainage of the waste water from the basins and shower baths in the changing room.
- (6) Where required by the Warden or an inspector, a covered way must be provided from the principal entrance of the mine to the changing room.
- (7) The miner under whose control persons have been working underground must ensure that—
 - (a) the persons go direct from the mine to the changing room and wash and change their clothes; and
 - (b) the clothes that have been divested remain in the changing room until thoroughly dry.

Penalty: A fine not exceeding K20.00.

41. Heating and lighting of changing room.

Every changing room provided under this Regulation shall—

- (a) contain a fire or other satisfactory heating arrangements for the drying of clothes; and
- (b) be reasonably comfortable; and
- (c) be sufficiently lighted after dark; and
- (d) be available for a reasonable time after every shift for which it is required.

42. Conveniences for employees above ground.

Where an inspector requires it in writing, the owner, agent, or manager of a mine shall provide for the use of persons employed aboveground at or about the mine such conveniences and facilities for the changing and drying of clothes as the inspector specifies.

43. Latrines in mines.

In and about every mine and its underground workings, the owner, agent, or manager of the mine shall—

- (a) provide such latrine accommodation and disinfectants; and
- (b) take such other measures for the purpose of sanitation and the prevention of nuisances,

as the inspector directs.

44. Sanitary pans underground.

(1) In every mine where the circumstances do not permit persons who are underground coming to the surface for the purpose of defecating, sanitary pans with disinfectants shall, at convenient places underground, be provided for the purpose, on the double service system.

(2) A person shall not defecate underground otherwise than in the pans provided under this section.

(3) Arrangements, approved by an inspector, shall be made for bringing the pans to the surface and emptying them there, and human or other animal excreta shall not be deposited in any of the workings of a mine without the consent of the Warden previously obtained and the Warden may at any time modify or withdraw the consent so obtained.

45. Animal droppings.

Where horses or other animals are employed underground, the levels and workings shall be kept free of their droppings.

46. Underground stables.

Every underground stable shall be placed in a return airway and shall be maintained in a thoroughly clean condition.

47. Stagnant water.

(1) Stagnant water shall not be permitted to remain on, but shall be drained off, the floor of levels which are in use.

(2) Where any accumulation of stagnant water is being drained from a winze, every precaution shall be taken to prevent the pollution of the mine atmosphere by noxious gases given off by the water.

48. Drinking water.

(1) In and about every mine a supply of pure drinking water, adequate for the consumption of the persons employed there, shall be provided unless there is a natural and continuous supply conveniently available.

(2) Every provision shall be made that, in the opinion of an inspector, is necessary for preventing the drinking water from being polluted or rendered unwholesome.

49. Place for eating meals.

(1) Where required by an inspector, there shall be provided, in or about a mine—

(a) accommodation and conveniences for the use of employees when eating their meals; and

(b) in or adjacent to the accommodation, an impervious metal receptacle sufficient to hold all waste food, paper, and other refuse discarded by the employees.

(2) The accommodation, conveniences, and receptacle referred to in Subsection (1) shall be subject to the approval of the inspector and shall be maintained in a thoroughly clean and sanitary condition.

(3) The contents of the receptacle referred to in Subsection (1) shall be destroyed daily in an incinerator aboveground.

(4) Any person who, in discarding waste food, paper, or refuse, neglects to use the receptacle provided is guilty of an offence.

50. Diseased persons.

(1) The owner, agent, or manager of a mine shall not employ underground any person whom he knows to be suffering from tuberculosis of the respiratory organs, plumbism, or

any other disease which the Minister by notice declares to be a disease to which this section applies.

(2) Any person who knows that he is suffering from any disease referred to in Subsection (1) shall not enter any underground working in a mine.

Division 5.—Explosives.

51. Storage of explosives, etc.

Gunpowder or any other explosive or inflammable substance shall not be used or kept in or about any mine except on the following conditions:—

- (a) it shall be stored in such a magazine and in such quantities as may be approved; and
- (b) detonators shall be kept in a separate and approved magazine; and
- (c) apart from the approved magazine a quantity reasonably sufficient for use during six working days may be stored in the mine in a drive or chamber enclosed by an approved door; and
- (d) the manager of the mine, or some person who is appointed by the manager and whose appointment is evidenced by an entry in the prescribed Mine Register, shall—
 - (i) be responsible for the safe custody of all high explosives; and
 - (ii) not issue a quantity in excess of that which is reasonably sufficient for use in the mine during the six days immediately following the date of the issue; and
 - (iii) immediately on the abandonment of any face or workings, retake possession of all high explosives issued but unused; and
 - (iv) not negligently permit any other person to retain, remove, or dispose of any explosives contrary to this paragraph; and
- (e) an employee, other than the manager or the person appointed under Paragraph (d), shall not have in his possession at any one time a greater quantity of explosives than is required for use on the shift in which he is employed; and
- (f) all explosives in the mine shall, except when being used for the purpose of charging, be placed in a position which will ensure that they are not struck by any material thrown out from the working face.

52. Removal into mine from surface, etc.

(1) When explosives are taken into the mine from the magazine, or other place of storage, on the surface they shall be conveyed direct—

- (a) to the underground magazine or chamber; or
- (b) if required for immediate use—to the place in the workings where required.

(2) Unless otherwise approved, explosives shall not be taken to the underground faces of the mine except in a securely covered case or canister, of an approved type and make, containing not more than 9.072kg¹ of explosive.

¹Metricated editorially. The original weight was 20 lbs.

(3) There shall not be open at any one place at any one time, more than one case or canister which, unless actually in use for charging, shall be returned to the magazine or chamber provided on the surface or underground.

53. Distribution underground.

Where explosives are kept in any magazine or chamber underground in any quantity exceeding 9.072kg¹ their distribution shall be supervised by a person authorized by the manager, or by a person appointed under Section 51(d).

54. Naked light prohibited in magazine.

(1) A person with a naked light shall not enter any magazine or chamber or other place provided for the storage of any explosive or other inflammable substance.

(2) Where the magazine or chamber or other place is not provided with internal lighting, the manager shall provide suitable movable and covered lights for the use of persons whose duty it is to enter the magazine, chamber, or other place.

55. Storage of detonators.

(1) Except as otherwise provided in this section, detonators for blasting shall be kept at the surface and in a covered box, but shall not be kept in the same magazine with any nitroglycerine compound.

(2) Subject to Subsection (3), where approved, a supply of detonators in number not exceeding 100, may be kept in any one level or working face in a mine at any one time.

(3) Detonators shall be—

(a) kept at least 9m distant from other explosives in a covered box and in an approved magazine; and

(b) taken out in quantities not greater than required for immediate use.

56. Conditions affecting detonators.

(1) Cartridges shall not be primed with detonators except for immediate use.

(2) Detonators shall not be—

(a) placed in any travelling road, pass, or working face; or

(b) fixed to the fuse except by means of pincers provided for the purpose by the manager.

57. Tools for blasting, tamping, and ramming.

(1) There shall not be used in any mine—

(a) an iron or steel pricker for blasting; or

(b) an iron or steel tool for tamping or ramming.

(2) An iron or steel pricker or an iron or steel tamping-bar shall not be taken into any mine.

(3) Where nitroglycerine explosives are used, only wooden rammers shall be used in charging.

¹Metricated editorially. The original weight was 20 lbs.

58. Age restriction in charge and firing.

A person shall not charge a hole with any explosive nor fire any hole so charged unless he is of the age of 18 years.

59. Charging and firing.

(1) A hole shall not be charged with explosive unless it is intended immediately to fire the charge.

(2) All persons charging and firing explosives in any mine shall be jointly and severally responsible for the proper handling and firing of the explosives.

(3) A person about to fire a charge shall—

(a) give clear and definite warning to all persons in the vicinity who are likely to be injured by the firing, and advise them of the location and number of all charges about to be fired by him; and

(b) ensure that all gangways, ladder-ways, and other means of access or ingress to the workings where the charge is about to be fired, are effectually blocked against traffic by a written notice or by some other person conveniently posted and instructed by him.

(4) A charge shall not be fired inside, or in contact with, any piece of timber underground without the previous consent of the manager of the mine or of an inspector, and if the consent is given by the manager he shall immediately notify the inspector in writing.

(5) Where two or more parties working in proximity to one another have any firing to do at or about the same time, the persons in charge of them shall arrange the order in which each party shall do its firing in such a manner as to avoid, as far as practicable, confusion in counting the explosions resulting from the firing in the face where each party is working.

(6) More holes than are intended to be fired in one round shall not be charged in any one face of the workings.

(7) Except as otherwise provided in Subsection (8), (9) and (10), all firing underground shall be done at "crib-time" or at the end of a shift.

(8) Where any charge has missed fire and the ground in the vicinity of the charge is for that or any other reason dangerous to human life, the firing may be done at any convenient time with the permission of the manager and after warning given as prescribed by this section.

(9) The permission given under Subsection (8) shall be recorded by the manager in the prescribed Mine Register together with a statement of the conditions under which the firing was permitted.

(10) An inspector may, on application made to him by the owner, agent, or manager of a mine, exempt any mine or part of a mine from the requirements of Subsections (7), (8) and (9) where it is represented and appears to him that the working or workings, at which firings are proposed to be done otherwise than in accordance with Subsection (7)—

(a) is or are isolated from other workings; and

(b) has or have adequate ventilation directly connected with the surface,

and that hardship would be imposed by the enforcement of the requirements.

(11) Any exemption granted under Subsection (10) shall be—

- (a) subject to such conditions as the inspector may impose and to revocation at any time; and
- (b) in Form 6.

60. Entry after firing.

(1) A person shall not enter any working place after firing has taken place until the fumes arising from the explosions have been effectually dispersed.

(2) Subject to Subsection (3) the period between the firing and entry by any person to the working place shall not, in any case, be less than 10 minutes unless the person so entering is using a respirator, or other breathing apparatus, of an approved type.

(3) A period longer than that specified in Subsection (2) may, subject to alteration by him at any time, be imposed by an inspector as he deems necessary after making any tests of the dust, fumes, and ventilation present at the working place.

61. Charges which have missed fire.

(1) A charge of gunpowder that has missed fire may be drawn by a copper pricker, but in no case shall an iron or steel tool be used for the purpose of drawing or drilling out such charge.

(2) A charge consisting of any nitroglycerine compound shall not, under any circumstances, be drawn from a hole or, except as provided in Subsection (3), have its tamping removed.

(3) In the case of any charge consisting of any nitroglycerine compound having missed fire it shall not be drawn, but the tamping shall be carefully removed to a depth that is distant not more than 30.5cm and not less than 15.25 cm from the outer end of the charge and there shall be inserted for the purpose of exploding the original charge a fresh charge or charges until the original charge has been exploded.

(4) A new hole shall not be bored in the neighbourhood of, and for the purpose of exploding, an unexploded charge.

(5) Subject to Subsection (6), a charge of any explosive which has hung fire or is supposed to have missed fire shall not be visited until 45 minutes have elapsed from the time of lighting the fuse.

(6) Subsection (5) does not apply to charges fired by an electric current where the conducting wires are first disconnected.

(7) Where any charge hangs fire or there is any doubt as to its having missed fire, the person laying the charge shall report the fact to—

- (a) the person under whose immediate control he is working or the manager; and
- (b) the person (if any) who relieves him.

(8) Where any hole has been charged and for any reason the charge has not been fired it shall be treated as if it has missed fire.

(9) When owing to simultaneous explosions there is a doubt as to the number of consequent reports heard or as to the number of the explosions, a charge shall be deemed to have missed fire.

(10) Where the bottom of any hole in which a charge has been exploded remains in any working place—

(a) unless and until it can be seen clearly by two persons that no explosive remains unexploded in the bottom, no work, whether of boring, barring down (except so far as may be absolutely necessary in order to make it safe to approach the bottom), picking, or otherwise, shall be done in the working place until the bottom has been broken away and completely exposed by a further charge inserted in the hole; and

(b) for the purpose of inspection the bottom shall be carefully cleared out, with the free use of water, before it is deemed to contain no explosive.

(11) Subsection (10) applies to all "old bottoms" wherever found.

(12) After the last charge has been fired in any working place in any open cut, and before the party working at the time it was fired has been relieved, the person who fired the shot, or a competent person who is a member of the party which fired the shot and entrusted by the other members of the party with the duty of inspecting the working place, shall, except in the case of a charge having missed fire or hung fire, carefully inspect the face of the working place.

(13) If, on inspection under Subsection (12), there appears to be danger of any kind whether of a charge missing fire or hanging fire, or otherwise, the fact shall be reported to the relieving party before it comes to the face of the working place.

(14) Each of the members of the relieved party, where there has been a failure to make the inspection required by this section is guilty of an offence notwithstanding that the failure was due to the wrongful act or omission of any particular member or members of the party to whom the other members entrusted the duty of making the inspection and the report referred to in Subsections (12) and (13).

62. Restriction on boring of drill-holes.

A drill-hole shall not be bored in any remaining portion of a hole in which a charge of explosive has been previously exploded.

63. Use of nitroglycerine compounds.

(1) Nitroglycerine compounds which are in a frozen or hard state shall not be used until they have been thoroughly thawed or softened in a dry vessel heated by warm water of a temperature not higher than 54.4°C.¹

(2) Where fumes arising after and from the explosion of any nitroglycerine compound cannot be dispersed effectively by ventilation or by a spray of water, the fumes shall, before any person is allowed to approach the site, be neutralised or rendered innocuous by the person who supervised the blasting operation in which the explosion occurred, by spraying the site of the blasting with a solution of sulphate of iron.

(3) Every person supervising the explosion of any nitroglycerine compound in any place where it is likely to freeze shall be supplied with the proper and safe means of thawing the compound and of spraying the site of the explosion.

(4) Subject to Subsection (5) a person shall not use any nitroglycerine or other high explosive compound for the purpose of igniting any fuse underground.

¹Metricated editorially. The original temperature was 130°F.

(5) A person engaged in blasting operations may, for the purpose of "spitting" a fuse, use a small piece of gelignite or blasting gelatine if it is carefully and securely inserted at the extremity of the fuse.

64. Bulled holes.

(1) A bulled hole shall not be loaded with a further bulling charge unless and until it is thoroughly washed or swabbed out with water.

(2) A bulled hole shall not be loaded with the main firing charge unless—

(a) it has been thoroughly cooled by being filled with water; or

(b) a copper tamping rod which—

(i) was inserted in the hole not sooner than 30 minutes after it had been bulled; and

(ii) has been allowed to remain there for not less than five minutes,
is found to be nowhere hot to the touch.

65. Blasting operations where injury likely.

A person shall not carry out any blasting operations in or about any mine in circumstances in which injury to any person is likely to occur.

66. Removing explosives.

A person shall not remove any explosive from any mine without the written consent of the manager, a note of which shall be entered in the prescribed Mine Register by the manager.

67. Safety fuses, rates of burning.

(1) A safety fuse of which the length is less than .914m¹ and of which the rate of burning is less than 80 seconds or more than 100 seconds per .914m¹ shall not be used in any mine.

(2) The manager of the mine shall—

(a) ascertain the rates of burning of the fuses used in the mine; and

(b) ensure that the rates so ascertained are made known to all persons who are required to use the fuses.

68. Defective fuses, detonators, and explosives.

Any fuse, detonator, or explosive found by an inspector to be defective or in any degree unsafe shall not afterwards be used but shall be destroyed immediately.

Division 6.—Ladders and Travelling Ways.

69. Ladders required in certain cases.

In every shaft or winze which has an inclination of 35° or more from the horizontal and is used by persons for the purpose of ascending or descending, and notwithstanding the use there of machinery for either purpose, there shall be fixed ladders which an inspector deems satisfactory for the purpose.

¹Metricated editorially. The original measurement was 1 yard.

70. Ascent or descent by ladders.

Except in a safety-cage, or as otherwise provided by this Regulation, a person shall not ascend or descend in a shaft or winze having the inclination referred to in Section 69, except for the purpose of making repairs or in a case of pressing necessity.

71. Ascent and descent by bucket.

(1) Subject to Subsection (2), persons employed in sinking any shafts may ascend from, or descend into, the shaft for a distance not exceeding 61m by means of the bucket used for hoisting material from the shaft.

(2) Where the material is hoisted direct to the surface the persons may, with the written permission of an inspector and on such conditions as he may express in the permission, so ascend or descend for any greater distance if a "monkey" or other approved safety device is used on the bucket.

72. Footways, guiding ropes etc.

In every shaft or winze which has an inclination of less than 35° from the horizontal there shall be provided a sufficient footway, guiding rope, or chain, but where an inspector so directs a ladder shall be fixed.

73. Fixing of ladders.

(1) Any ladder permanently and habitually used shall not, except—

(a) in the pump compartment of any shaft; or

(b) in a winze or rise giving access to a stope actually being worked; or

(c) in special circumstances and with the written consent of an inspector,

be fixed at an inclination of more than 80° from the horizontal.

(2) Every ladder in a shaft shall be fixed so as to project at least 1m from the mouth of the shaft.

(3) Ladders shall be so placed—

(a) as to cover the manholes of the platforms or resting-places referred to in this Regulation; or

(b) as an inspector directs.

(4) In every shaft or outlet to which Section 68(c) of the Act applies a ladder shall be securely fastened to the timbering or wall of the shaft or outlet.

74. Platforms to be guarded in certain cases.

(1) Subject to Subsection (2) every ladder (even a ladder fixed in a pump-shaft not used exclusively for pumping), where the ladder-way—

(a) exceeds 18.25m in depth; and

(b) has an inclination of more than 70° from the horizontal,

shall have, at intervals of not more than 9m platforms or resting-places which in the opinion of an inspector are adequate for the protection of persons using the ladder.

(2) Platforms and resting-places shall be installed where the inclination of the ladder-way is less than 70° from the horizontal and the inspector directs.

(3) At every platform and resting-place there shall be fixed above every ladder some suitable hand-grip for the use of persons ascending or descending the ladder.

75. Construction of ladders.

- (1) Every ladder used in a mine shall be—
 - (a) of strong construction; and
 - (b) securely fastened to the timbering or wall of the shaft in such a manner as the inspector approves; and
 - (c) maintained in good repair.
- (2) The spaces between the rungs of every ladder shall not exceed 30.5cm.
- (3) The rungs of every ladder fixed in any mine shall be—
 - (a) not less than 12.5cm distant from the wall against which the ladder is placed; and
 - (b) kept clear of everything which might interfere with the foothold.

76. Special ladders during sinking operations.

(1) Subject to Subsection (2), during sinking operations in any shaft and for the purpose of—

- (a) preventing injury to the fixed ladder arising from blasting operations; and
- (b) securing a safe means of exit,

chain or rope ladders shall be installed so as to extend from the lower end of the fixed ladder down to the bottom of the shaft.

(2) Chain or rope ladders shall not be used over a greater length of the shaft than 6m without the written consent of an inspector.

77. Ladders in rises, winzes, etc.

(1) A ladder or, where in the opinion of an inspector it is necessary, a ladder with convenient platforms or suitable footways, shall be provided in each rise, winze, jump-up, or passage giving access to a stope or to a working at a higher or lower level or place in the mine and, where stages are used, means for ascending them safely shall be provided.

(2) Each ladder, platform, footway, and stage as well as the rises, winzes, jump-ups, and passages in which they are provided shall be subject to the approval of an inspector.

78. Places of refuge.

Places of refuge shall be opened in rises at such points as may be required by an inspector.

Division 7.—Winding and Signals.

79. Means of signalling.

Every working shaft in which a cage or skip is used by which persons are lowered or hoisted, and every shaft in which appliances worked by steam or other machinery are used, shall be provided with guides, and effective means of communicating distinct and definite signals—

- (a) from the bottom of the shaft, and from every entrance for the time being in work between the top and the bottom of the shaft, to the top and thence to the engine-room; and

- (b) if required by an inspector, from the engine-room and top to the bottom of the shaft and to and between every entrance for the time being in work between the top and bottom of the shaft.

80. When platman to have charge of cage.

In every working shaft in which a cage or skip is used and in which more than one level is being worked at the same time a platman shall be placed in charge of the cage or skip.

81. No pipes, cables, etc., in winding compartments.

(1) Subject to Subsection (2), a pipe for pumping or for the conveyance of air or steam, an electric power cable, and any other thing which may cause obstruction shall not be fixed in any winding compartment.

(2) An inspector may grant written permission, subject to such conditions as he thinks fit, for a knocker line and for the temporary installation of pipes in the winding compartments of a flooded shaft for the purpose of unwatering the shaft.

82. Safety-cages to be provided.

Safety-cages shall be provided, maintained, and used for the purpose of lowering or hoisting persons in every shaft, where an inspector so directs.

83. Cage covers.

A cage used for lowering or hoisting persons in any shaft shall have an overhead cover which shall be—

- (a) complete; and
- (b) not less than 1.981m¹ above the floor of the cage; and
- (c) constructed of—
 - (i) iron not less than 6.35mm² thick; or
 - (ii) steel not less than 4.763mm³ thick; or
 - (iii) such other metal and of such thickness as may be approved by an inspector; and
- (d) fitted with sloping sides hung on hinges so as to be readily lifted upwards by persons within the cage.

84. Cages to be numbered.

Every cage used in a mine shall have a distinguishing number which shall be plainly painted or marked on the cage in accordance with the directions of an inspector.

85. Number of persons which cage may carry.

The number of persons lowered or hoisted in a cage at any one time shall not exceed the number which an inspector, in writing, authorizes in any case, having regard to the size and construction of the cage and the strength of the gear and machinery involved in the lowering and hoisting of the cage.

86. Entering or leaving a moving cage.

A person shall not enter or leave a cage while it is in motion.

¹Metricated editorially. The original measurement was 6ft.6ins.

²Metricated editorially. The original measurement was ¼ in.

³Metricated editorially. The original measurement was 3/16 in.

87. Lowering materials, etc.

(1) Subject to this section, any truck, tool, iron, timber, rail, or other material (except material for the repair of the shaft) and any explosive shall not be lowered or hoisted in the same cage, bucket, or other carriage or receptacle as that in which any person is being lowered or hoisted.

(2) A person having the actual custody of any explosive may be lowered or hoisted in a cage together with the explosive.

(3) A mine surveyor or sampler, or other person authorized by the manager, may be lowered or hoisted in a cage together with his instruments and material.

88. Securing material.

Any truck, tool, iron, timber, rail, or other material shall not be lowered or hoisted in any shaft unless it has been secured to a rope by means of a shackle or securely fastened in a cage or bucket.

89. Persons lowered or hoisted otherwise than inside cage.

(1) Where in any shaft, in which a cage is not available or in use, a person is about to be lowered or hoisted—

(a) by means of a rope; or

(b) where the person's duty renders it necessary—on the top of a cage-cover,

he may require to be securely stayed to the rope or the top of the cage-cover, as the case may be, by a strap or other fastening passed round the body and under the arms of the person.

(2) The straps or other fastenings referred to in Subsection (1) shall be provided and made readily available at every mine.

90. Hook to be used with bucket.

An open hook shall not be used with a bucket in lowering or hoisting, but only such type of hook or shackle as may be authorized, in writing, by an inspector.

91. Single-linked chains.

(1) A single-linked chain, other than the short coupling chain attached to the cage or load, shall not be used for lowering or hoisting any person in any working shaft or plane.

(2) When chains are used as couplings to cages, two single-linked chains of uniform size shall be used to each coupling.

92. Appliances to prevent drums slipping.

There shall be on the drum of every machine for winding the rope used in lowering or hoisting any person in a mine—

(a) such flanges or horns; and

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

as are sufficient to prevent the rope from slipping.

93. Brake.

(1) Subject to this section, where any machine, driven by steam, water, oil, gas, electricity, air, or other force or power, is used in the lowering or hoisting of any person in a shaft, an adequate brake or other sufficient appliance, in addition to that on the fly-wheel,

shall be fitted to every winding-drum or gear in such a manner as enables the engine driver to apply it without leaving the starting handle of the engine.

(2) Where the depth of the shaft does not exceed 61m a single brake fitted to one of the winding-drums may be used where the written permission of the inspector is first obtained.

(3) Where the depth of the shaft exceeds 305m and the inspector so orders the brake shall be worked with steam, air, electricity, or water.

(4) A brake shall not be permitted on any fly wheel except with the written permission of an inspector.

94. Dial or indicator on hoisting machine.

In addition to any mark shown on the rope used in any mine for the purpose of lowering or hoisting persons or material, a dial or indicator—

- (a) shall (except in the case of a winch, petrol friction hoist, small prospecting hoist, or an electric or air hoist, used in sinking from an underground level) be attached to the machine which winds or unwinds the rope; and
- (b) shall be so placed that the position of each cage or load in the shaft is visible at whatever level, chamber, or place of refuge it is at any time to the person who works the machine.

95. Rope cleaners.

In every mine, where any iron or steel wire rope of not less than 38.1mm¹ in circumference is in use for hauling, a proper machine approved by an inspector shall be used for cleaning and oiling the rope.

96. Spliced ropes.

Any rope which has been spliced shall not be used for the purpose of winding.

97. Re-shoeing of winding rope.

(1) Every winding rope shall be re-shod or re-capped at intervals of not more than three months.

(2) At the time of re-shoeing or re-capping the rope, a portion of the rope not less than half the circumference of the drum and not less than 1.828m², measured from the lower end, shall be cut off.

98. Defective ropes to be discarded.

As soon as any rope becomes defective it shall be withdrawn from use in the transport of persons in any mine, unless the defective portion is at the end of the rope and has been cut off.

99. History of rope.

Where, in or about any mine, there is any rope which has been previously used in any place outside the control of the manager of the mine, the rope shall not be used for lowering or hoisting any person unless—

- (a) the manager obtains a full history of the rope; and
- (b) an inspector is satisfied that it may be used with safety.

¹Metricated editorially. The original measurement was 1½ins.

²Metricated editorially. The original measurement was 6ft.

100. Catches, etc., affixed to skids, etc.

(1) A spring catch, or automatic door or tumbler, of a suitable kind shall, when practicable, be affixed to every cage, skid guide, or framing, below the poppet-head of every shaft in which a cage is used, to prevent the fall of the cage down the shaft in the event of the cage being detached from the rope or chain by overwinding.

(2) The automatic door or tumbler shall be surrounded by a proper platform and hand-railing, and at every plat or level where trucks are moved on or off the cage while in the shaft, the shaft shall be fitted—

- (a) with bearers, not being loose wooden bearers, securely and strongly hinged to the sole-piece of the plat set; or
- (b) with other similar appliances approved by an inspector.

101. Gates used in shafts.

Gates not less than 1.25m in height shall be used in every shaft where hauling is done with a cage.

102. Speed of lowering, etc., buckets.

Where persons are being lowered or hoisted with a bucket the speed attained by the bucket shall, except in the case of any apprehended danger, not exceed—

- (a) 61m per minute, when the bucket is less than 30.5m from the surface; or
- (b) 152m per minute, when the bucket is 30.5m or more from the surface.

103. Starting and stopping of winding engine.

The driver of the winding engine shall avoid all sudden movement in starting and stopping the engine, so as to preclude all unnecessary shock to any cage, bucket, or other means of conveyance which shall be gently started from, and brought to rest at, the proper stopping place.

104. Lowering and hoisting persons in special cases.

(1) An ungeared drum, or a single drum with brake or friction gear, shall not be used in a mine for the purpose of lowering any person, except a person who is in charge of, and must travel with, the cage, bucket, or skip, on occasions where double winding is to be commenced from another plat.

(2) An electrically-operated hoist shall not be used to lower or hoist persons engaged in the firing of charges in any shaft or winze unless the charges are fired electrically from a safe distance and by the person who placed the charge.

105. Doors to cages.

At every mine employing persons below ground a door, or other similar appliance approved by an inspector, shall, during the lowering or hoisting of any person at any change of shift, be affixed to every cage entrance.

106. Safety catches, etc., on cages.

(1) Every cage used in a mine shall be fitted with—

- (a) special and suitable appliances to prevent its sudden fall down the shaft; and
- (b) a safety hook—

- (i) with suitable detaching appliances fixed to the poppet-head to prevent it coming into contact with the poppet-head; and

(ii) capable of suspending, at the poppet-head, the cage when detached from the rope used in lowering or hoisting it in the shaft.

(2) The detaching and suspending hooks shall, at least once in every month, be taken to pieces, examined, cleaned and oiled by a competent person appointed for the purpose by the manager, and the person shall record the fact in the prescribed Mine Register.

(3) There shall be at least 4.5m of clearance between the detaching hooks and the point of detachment when the cages are at the landing.

107. Testing of cages.

(1) A safety cage shall not be used at any time unless and until it has been tested by the manager and, where an inspector is available, in the presence of an inspector, and found to be furnished with proper appliances and to be in good working order and condition.

(2) The manager, or engineer in charge of the mine, shall, at intervals of not more than one month, test every cage from the drum and record the result of the test in the prescribed Mine Register.

(3) The test referred to in Subsection (2) shall, when required by an inspector, at intervals of not less than six months, be conducted in his presence, and the inspector shall give to the manager 24 hours' notice, in Form 7, that he requires the test to be so conducted.

108. Chairs.

(1) Chairs or some other appliance approved by an inspector shall be used in all shafts where haulage is done with cages.

(2) The chairs shall be secured to the sole plates of the plat sets so that they can be easily placed over the shaft and raised without trouble, and shall be fixed to the satisfaction of the inspector.

109. Use of whip.

A whip shall not be used for sinking shafts or lowering or hoisting persons unless two-thirds of the shaft is covered by a penthouse.

110. Signal and knocker lines.

Any signal or knocker line used shall be accessible to any part of the shaft and be so balanced as to be easily worked by hand without the aid of a lever, unless the signalling appliances are operated by electricity, in which case the appliances shall be approved by the inspector.

111. Verbal signals.

A verbal signal or communication shall not be made up or down a shaft, exceeding 15.25m in depth, in which a cage is used, except through speaking tubes or telephones, which shall whenever practicable be placed in the pump compartment of the shaft.

112. Instructions regarding methods of signalling.

(1) All instructions regarding the methods of signalling in mines to indicate that persons or materials are to be lowered or hoisted in a shaft shall—

- (a) accord with the code and rules prescribed for signalling; and
- (b) be clear and distinct; and
- (c) be posted, and kept posted, in clearly legible form on framed boards.

(2) Of the framed boards referred to in Subsection (1), there shall be placed—

- (a) one in each chamber or entrance to the shaft; and
- (b) one at the brace or near the top of the shaft; and
- (c) one in view of the person in charge of the machine used for lowering or hoisting persons or materials in the shaft.

(3) Every person employed in a mine shall make himself acquainted with the instructions.

113. Methods of signalling.

(1) The methods of signalling in any mine shall be as set out in the code and rules in this section in which—

- (a) "knock" includes "ring"; and
- (b) "pause" means the space of time required for making two knocks or rings.

(2) General signals:—

- 1 knock: Stop when in motion: hold fast when stationary.
- 2 knocks: Lower.
- 3 knocks: Hoist.
- 4 knocks: Men on. To be followed by the signal to designate the destination of the cage.
- 6 knocks: Firing warning.
- 7 knocks: Change tanks or cages.
- 8 knocks: Change to hoist from a different level.
- 10 knocks: Accident occurred. (To be followed by signal of level.)

(3) Level signals:—

- 1 knock, pause, 1 knock: No. 1 Level.
- 1 knock, pause, 2 knocks: No. 2 Level.
- 1 knock, pause, 3 knocks: No. 3 Level.
- 1 knock, pause, 4 knocks: No. 4 Level.
- 1 knock, pause, 5 knocks: No. 5 Level.
- 2 knocks, pause, 1 knock: No. 6 Level.
- 2 knocks, pause, 2 knocks: No. 7 Level.
- 2 knocks, pause, 3 knocks: No. 8 Level.
- 2 knocks, pause, 4 knocks: No. 9 Level.
- 2 knocks, pause, 5 knocks: No. 10 Level.
- 3 knocks, pause, 1 knock: No. 11 Level.
- and so on in series.

} Lower or hoist
(as the case may be).

(4) Sinking signals for use in all cases where—

- (a) a shaft is being sunk and winding is taking place from the bottom of the shaft—
 - (i) directly to the top of the shaft, by means of the main winding engine; or
 - (ii) to a station underground, by means of the main winding engine or of an auxiliary winding engine; or

(b) firing is in close proximity to the shaft and the firing is likely to cause injury to the cage passing:—

1 knock: Men on, hoist,

6 knocks: Firing warning,

and on receiving the firing warning, the engine driver of the winding engine shall hoist the bucket or cage at least a distance represented by one revolution of the engine, lower it again for the same distance and stand by ready until he receives the signal to hoist, when he shall hoist carefully.

(5) Signals when repairing or timbering shafts—where persons are engaged in repairing or timbering work in any shaft:—

(a) special notice of the fact shall be given by the person in charge of the repairing or timbering work to every engine driver who comes on duty; and

(b) the signal to lower (2 knocks) or to hoist (3 knocks) shall be taken, respectively, as meaning that persons are to be lowered or hoisted, and the winding shall be done slowly and with care.

(6) Signals when lowering or hoisting persons:—

(a) before signalling the level to which persons are about to be lowered, the bracman shall notify the engine driver by special signal that the persons are on the cage; and

(b) a person shall not attempt to get on any cage, or to put on or take off any tools or materials from, or otherwise use, any cage left or suspended at or opposite any level without first ascertaining, by signals sent and received, that the engine driver is in control of the engine; and

(c) a person using a cage in any shaft shall, immediately on leaving the cage and before leaving the plat, notify the engine driver that the cage is at liberty by signalling "lower" or "hoist", and the engine driver shall not move the cage until he receives the signal that it is at liberty.

(7) The engine driver shall not move the cage or other attachment after receiving any signal except that of the firing warning mentioned in this section under the heading "Sinking signals" for at least—

(a) two pauses, when lowering or hoisting materials; or

(b) six seconds, when lowering or hoisting persons.

114. Danger signals.

(1) In every working shaft, and in each winding compartment of a mine, except where electrical signalling is used, a line or some other appliance approved by an inspector shall be provided to enable danger signals to be communicated from any portion of the shaft or compartment to the engine driver or person in charge of the machinery.

(2) Where electrical signalling is used in any mine and if an inspector requires, a knocker line or some other means of auxiliary communication shall be provided.

115. Engine driver's view of shaft.

Unless an inspector considers it impracticable, a clear view shall be presented to the engine driver from his station to the shaft at the surface brace.

116. Signals for lower drives, etc.

Where underground work is being done in a mine at a greater distance than 61m from the shaft or, in the case of an adit mine, from the entrance to the adit level, and the inspector requires, means satisfactory to him shall be provided for communicating signals—

- (a) along the lower drives of the mine—
 - (i) to and from the plat at the bottom of the shaft; and
 - (ii) to and from places in which work is being done; and
- (b) along the adit levels and drives of the mine.

Division 8.—Machinery.

117. Certificate or permit required to drive winding engine, etc.

The prescribed certificate or permit for the purposes of Section 30 of the Act shall be a certificate or permit granted under this Regulation.

118. Constant control of machines.

A person who is in charge of any machine which, for the security of life or limb, requires constant control shall not, for any reason during the period for which he is in charge, absent himself from, or cease his constant control over, the machine unless he is replaced by some other person qualified to control the machine.

119. Fences and guards for machinery.

(1) All exposed machinery which when in motion may be dangerous to any person shall be securely fenced off.

(2) All electrical machinery and conductors shall be placed and fenced, or guarded, so that any person cannot be injured by inadvertent contact with any part of the machinery or conductors.

(3) An effective guard, which shall not be removed while the machinery is in motion, shall be provided for every part of the machinery and conductors which, without the guard, may be a source of danger to any person.

120. Hydraulic monitors with deflection nozzles.

All hydraulic monitors fitted with deflection nozzles and working under pressures in excess of 275.6kPa¹ or 27.432m² of vertical head shall be fitted with a device which will restrict the nozzle deflection to the satisfaction of an inspector.

121. Certain clothing not to be worn near machinery.

(1) A person employed in close proximity to any moving machinery shall not wear, or be permitted to wear, any loose outer clothing.

(2) Whenever required by an inspector, the owner, agent, or manager of a mine shall issue to every person employed in or about any machinery, and cause him to wear, short trousers instead of a lava-lava.

(3) A person having the charge of any moving machinery or a person supervising any work in the vicinity of the machinery shall not permit any other person engaged on work in close proximity to the machinery to wear any loose outer clothing.

¹Metricated editorially. The original pressure was 40 lbs per square inch.

²Metricated editorially. The original measurement was 90 feet.

122. Repairing, etc., of machinery in motion.

(1) Where there is any risk of personal injury, the repairing, adjusting, cleaning, or lubricating of any machinery in motion shall be undertaken, or be required or permitted to be undertaken, only—

- (a) by a skilled person; and
- (b) when it is impracticable to stop the machinery.

(2) Automatic devices for lubricating machinery in motion shall be employed wherever practicable.

123. Handling of driving belts.

(1) Where any machinery is belt-driven and it is necessary to stop or start the machinery without interfering with the speed of the prime-mover, the machinery shall be permanently fitted with a satisfactory mechanical appliance for the purpose.

(2) The shipping and unshipping of driving belts whilst the machinery is in motion is prohibited except in the customary shifting of light belts on the coned pulleys of machine tools for the purpose of alterations in the working speed.

124. Entering places where machinery erected.

(1) A person shall not, without the authority of the manager or of the person having charge of any machinery or boiler, enter any place where the machinery or boiler is erected.

(2) The manager shall cause a notice to be posted at the entrance of any place referred to in Subsection (1) to the effect that authority to enter is required.

125. Air for air compressors.

The supply of air for air compressors shall be drawn from the purest and coolest source available.

126. Winding machinery to be kept ready.

Where the usual means of egress from the underground workings of any mine is by means of machinery worked by power other than hand or animal power the machinery shall be ready for immediate use and the person in charge shall be in constant attendance.

127. Special conditions affecting employment of bracemen.

At every shaft where machinery is used for winding purposes, a braceman shall be kept in constant attendance on miners during such time as the miners are engaged in sinking, or repairing, the shaft.

128. Unlawful use or removal of machinery fittings, etc.

A person shall not—

- (a) wilfully damage; or
- (b) use, remove, or render useless,

any machinery, appliance, gear, fitting, timber, material, or other thing provided in or about any mine.

129. Standard requirements of winding engines.

Every winding engine, except the class of winding engine defined in a notice by the Minister in relation to this section, shall be—

- (a) capable of hoisting to the surface the maximum unbalanced load from the greatest depth required, with the crank in the worst starting position; and
- (b) fitted with the following:—
 - (i) Subject to Clause (A) and (B), an efficient depth indicator, approved by an inspector and fitted to his satisfaction to each drum, with marks spaced in such a manner as will show the engine driver when the cage or skip is within one revolution of the drum from the desired stopping place, but—
 - (A) where the engine has one fixed drum and one loose drum, not used for winding, one indicator on the fixed drum shall suffice; and
 - (B) any winding engine, operating from one level only, need not, if an inspector certifies it to be unnecessary, be fitted with the indicator; and
 - (ii) a brake fitted to each drum and capable of holding, without any stop, double the maximum gross load when persons are being carried; and
 - (iii) a post brake, in every case where the cylinders of the engine exceed 203.2mm¹ in diameter; and
 - (iv) an automatically operated magnetically controlled brake or a gravity brake so arranged that it can be released by the engine driver by the application of steam, air, or electricity and that it will automatically apply in the event of total or partial failure of the motive power of the winding engine, but this fitting shall be required only in the case of winding engines operating to a depth greater than 305m; and
 - (v) a foot brake so fitted and adjusted that there is at all times ample clearance between the end of the foot lever of the brake and the platform or floor, the lever being provided with a satisfactory device, operated by the engine driver's foot only, to ensure that the lever will be retained in position when the brake is fully applied and the engine driver's foot removed; and
 - (vi) a starting valve (or, in the case of a winding-drum operated by electricity, a starting switch) of any efficient type, where the winding engine is used for lowering or hoisting persons; and
 - (vii) a locking gear so acting on the operating gear of the clutch of the drum as to prevent the inadvertent withdrawal of the clutch.

130. Steam or compressed air brakes.

Brakes applied or released by steam or compressed air shall be so adjusted as to preclude contact between the piston and the cylinder end, and ample clearance shall be provided in the cylinder to allow for normal wear of the brake.

¹Metricated editorially. The original measurement was 8 ins.

131. Manipulation of brakes.

Every brake shall be so arranged that whether the engine is at work or at rest, it can be easily and safely manipulated by the engine driver while standing at the levers which control the engine.

132. Brakes at change of shift.

(1) Every engine driver shall, at the time of finishing any shift, see that the brakes of his engine are in proper working adjustment before handing the engine over to his successor on the next shift.

(2) The successor shall, on taking over the engine, satisfy himself that the brakes are in proper working adjustment.

133. Testing of brakes.

The brakes on every winding engine shall be tested by an inspector at intervals of not more than one year in order to determine whether they conform to the standard required, namely, that they shall be capable of holding, without slip, twice the maximum gross load when persons are being carried, one person being reckoned as 67.582 kg¹ in the computation of the load.

134. Retardation of winding engine.

(1) The cut-off of every winding engine shall be arranged so as to retard effectively the engine's maximum descending load.

(2) The cut-off may be made variable as the speed of the engine increases, but shall be so governed that in any emergency the cut-off shall be immediately available.

135. Unclutching of drums.

The driver of a winding engine shall not—

- (a) unclutch a drum from which persons may be suspended; or
- (b) lower persons or material from an unclutched drum.

136. Trial of engine after repairs.

Where any winding engine has been stopped for ordinary maintenance repairs that might affect its safe running, it shall not be used for lowering or hoisting any person until the engine driver has tried the engine and found it to be efficient.

137. Testing of winding engines.

(1) Every manager of a mine, or some other competent person appointed by him for the purpose, whose appointment has been entered in the prescribed Mine Register, shall, at intervals of not more than one week, carefully examine every winding engine at the mine and all appliances which are appurtenant to the engine.

(2) The manager or other person shall, in the prescribed Mine Register, enter and attest with his signature—

- (a) a statement of the condition in which he found the appliances; and
- (b) the fact and particulars of any repairs or adjustments made; and
- (c) the date on which the examination was made.

¹Metricated editorially. The original weight was 145 lbs.

138. Bolts, pins, etc. to be made secure.

Every bolt, pin, or other fitting of any drum, brake, or clutch that might be a source of danger in the event of its becoming loose shall be rendered secure by means of a suitable locking device.

139. Winding gear to be kept clean.

All winding gear shall, to the satisfaction of an inspector, be kept clean.

140. Overwind, accident, etc., to be reported.

Every overwind and every accident including any—

- (a) engine running out of control; and
- (b) fracture of any part of the engine or winding gear; and
- (c) failure of—
 - (i) motive power; or
 - (ii) brake efficiency; or
 - (iii) overwinding prevention device; or
 - (iv) depth indicator,

shall be promptly recorded by the manager, or caused by him to be recorded, in the prescribed Mine Register and be reported in writing by him to an inspector within 24 hours of the overwind or accident occurring.

141. Copy of regulation to be posted.

A printed copy of the sections dealing with winding engines shall be posted in a conspicuous position in the engine room of every winding engine used for lowering or hoisting persons in a mine.

Division 9.—Boilers.

142. Particulars of boiler to be notified.

Every owner, agent, or manager who intends to install or erect any boiler at a mine shall before so installing or erecting the boiler—

- (a) forward to an inspector a notice, in Form 8, containing particulars of—
 - (i) the name and address of the mine; and
 - (ii) the name and address of the owner of the boiler; and
 - (iii) the type and description of the boiler; and
 - (iv) the grate bar area of the boiler; and
 - (v) the purpose for which it is intended to be used; and
- (b) receive a certificate, in Form 9, issued and signed by a boiler inspector—
 - (i) stating that the boiler has been examined and found to be in good condition and fit for the purpose intended; and
 - (ii) specifying the maximum working pressure of the boiler.

143. Cleaning and testing of boilers, etc.

(1) Where a boiler inspector deems it necessary, and at intervals of not more than six months, every boiler shall be thoroughly cleaned.

(2) At intervals of not more than 12 months every boiler, and at intervals of not more than 24 months every air receiver, shall be examined by a boiler inspector and subsequently be subjected by him to hydraulic test.

144. Precautions when cleaning and repairing boilers.

(1) While a boiler is being—

- (a) emptied and opened for any purpose; or
- (b) cleaned or repaired,

every precaution shall be taken to ensure the safety of persons in attendance on, or in the vicinity of, the boiler.

(2) Before any person is allowed to enter the boiler or any of its flues the person having charge of the boiler shall satisfy himself that—

- (a) the boiler or flue is safe for persons to enter; and
- (b) the steam-stop, feed, blow-off, and all other valves or cocks which may be a source of danger are closed and securely locked or lashed in position, and are so closed and locked or lashed during the whole of the period when the boiler is being cleaned or repaired.

(3) The person having charge of the boiler shall not permit water to be thrown on any hot flue-dust or ashes in any confined space or in any other place where danger may arise.

(4) The owner, agent, or manager of the mine where the boiler is situated, and the person having charge of the boiler, shall ensure the observance of this section.

(5) The name of the person having charge of the boiler during the whole period of cleaning or repairing shall be entered in the prescribed Mine Register.

145. Fittings on boilers, etc.

Every boiler or steam-jacketed vessel installed, erected, or re-erected after 30 June 1936, being the date on which the *Mines and Works Regulations* 1935 of the former Territory of New Guinea came into operation,¹ must have the following fittings and mountings—

(a) one steam pressure gauge—

- (i) capable of registering, in Kilopascals² a pressure up to one and one half times the authorized working pressure; and
- (ii) fitted with a cock to enable it to be disconnected for testing while the boiler is under steam; and

(b) one feed check valve, with non-corrodible plugs, discs, and seats; and

(c) one stop-cock or valve, with non-corrodible plugs, discs, and seats, fitted to the boiler between the check valve and the boiler; and

(d) one stop valve, with non-corrodible valve fittings and seating, fitted between the steam pipe and the boiler; and

(e) one blow-off cock, with non-corrodible fittings; and

(f) one suitable pump or injector or other approved boiler feed apparatus; and

(g) one fusible plug, of approved design, in the crown of the fire-box or such other position as is prescribed by the Standards Association of Australia

¹These Regulations were adopted by the *Mines (Safety) Act*, Section 80.

²Metric term substituted editorially. The original term was "pounds per square inch".

Boiler Code, but this fitting shall be required only in the case of a boiler which is not a water-tube boiler; and

- (b) two safety valves each of the area prescribed by the Standards Association of Australia Boiler Code, but one of the valves shall be encased and of an approved lock-up design; and
- (i) two glass water gauges, with blow-off and drain cocks complete and, except in any case in which a boiler inspector grants exemption, with protectors of an approved design but in the case of a boiler of less than 4.474 kW¹ (nominal) not more than one glass water gauge is required where it is supplemented by two drain cocks; and
- (j) one 12.7 mm² gas thread cock, with female end suitable for connexion with an approved test pump, the cock being fitted in such a position as a boiler inspector deems most convenient; and
- (k) one intermediate stop-valve or one isolating valve approved by a boiler inspector, but where two or more boilers are connected together the valve must be fitted—
 - (i) on the branch pipe leading to the main steam pipe; or
 - (ii) in such other position as the boiler inspector requires,
 but so as to be between the main stop-valve on one boiler and any other connected boiler or steam pipe under pressure.

Penalty: A fine not exceeding K40.00.

146. Fittings on air receivers and vacuum receivers.

Every air receiver, unfired pressure vessel, or vacuum receiver installed, erected, or re-erected after 30 June 1936, being the date on which the *Mines and Works Regulation 1935* of the former Territory of New Guinea came into operation³ must have the following fittings:—

- (a) one pressure or vacuum gauge capable of registering the pressure prescribed for a steam pressure gauge under Section 145 and fitted in the manner provided by that section; and
- (b) one safety valve of the area prescribed by the Standards Association of Australia Boiler Code; and
- (c) one stop-valve; and
- (d) one blow-off or drain cock; and
- (e) one 12.7mm⁴ cock of the type referred to in Section 145(j).

Penalty: A fine not exceeding K40.00.

147. Quality of fittings and mountings.

The fittings and mountings referred to in Sections 145 and 146 must be—

- (a) of a quality suitable for the authorized working pressure; and
- (b) flange-jointed unless otherwise satisfactory to a boiler inspector.

Penalty: A fine not exceeding K40.00.

¹Metricated editorially. The original power was six horse-power (nominal).

²Metricated editorially. The original size was half inch.

³See footnote to Section 145.

⁴Metricated editorially. The original size was half inch.

148. Boilers, etc., previously installed or erected.

Every boiler installed or erected before 30 June 1936, being the date on which the *Mines and Works Regulations* 1935,¹ of the former Territory of New Guinea came into operation must comply with the provisions of Section 145(a)-(j).

Penalty: A fine not exceeding K40.00.

149. Maintenance and adjustment of safety valve.

The key of every encased safety valve of a lock-up design must be kept in the possession of the owner, agent, or manager of the mine, who shall be responsible for the maintenance and proper adjustment of the valves to ensure relief at the authorized pressure within the limits laid down in this Regulation.

Penalty: A fine not exceeding K40.00.

150. Safety valves to relieve at certain maximum pressure.

(1) Except as otherwise provided in this Regulation, a boiler must not be worked unless fitted with two safety valves each of sufficient area to relieve the boiler at a pressure not greater than 10% above the authorized pressure.

(2) The valves may be fitted on one boiler seat if the area of the opening to the boiler is not less than one and one-half times the area of one of the valves.

Penalty: A fine not exceeding K100.00.

151. Setting of boilers.

Every boiler set in brickwork or other material erected after 30 June 1936 being the date on which the *Mines and Works Regulation*, 1935 came into operation¹ shall be provided with such flues, and doors of such sizes, as to a boiler inspector appear necessary.

152. Inspection of boilers.

(1) Every boiler shall be inspected by a boiler inspector at intervals of not more than 12 months.

(2) The inspection may be made at any reasonable hour in the day time, subject to at least seven days' notice, in Form 10, to the manager of the mine at which the boiler is installed or erected.

(3) The manager shall for the purpose of the inspection cause—

- (a) every boiler to be emptied, cooled, and dried; and
- (b) every manhole door and mud-hole door to be taken off; and
- (c) every furnace bar and brick or stone bridge to be taken out; and
- (d) the interior of the boiler to be freed from encrustation; and
- (e) when required by the boiler inspector, all brickwork or other material in which the boiler is set and of which the removal is necessary for inspection, to be taken down; and
- (f) every furnace, flue, and uptake, connected with the boiler, to be swept clean; and
- (g) every safety valve to be taken to pieces.

(4) The manager shall render such assistance as the boiler inspector requires for the inspection.

¹See footnote to Section 145.

153. Record of boiler inspection.

Every boiler inspector shall make a record, in Form 11, of each boiler inspection made by him under this Regulation and shall file it in such manner and at such place as the Warden directs.

154. Testing of boilers.

(1) A boiler inspector may, for the purpose of inspecting a boiler, test the boiler by hydraulic pressure if he considers it necessary to do so.

(2) The manager of the mine where the boiler inspector requires a test referred to Subsection (1) shall, for the purpose, cause—

- (a) the boiler to be completely filled with water; and
- (b) every valve and joint to be so adjusted and secured that it will be able to withstand, in the case of a boiler installed or erected after 30 June 1936, being the date on which the *Mines and Works Regulation 1935* of the former Territory of New Guinea¹ came into operation, a pressure of 50% or, in the case of any other boiler, a pressure of 25%, in excess of the authorized working pressure.

(3) The boiler inspector shall record, in the prescribed Mine Register, the results of the test and report them to the Warden.

155. Use of dangerous boilers.

(1) Where, on any inspection or test made under this Regulation, it appears to a boiler inspector that any boiler is in such a condition that its continued use in that condition would be dangerous to human life, limb, or property he shall serve personally on the owner, agent, or manager of the mine where the inspection was made, a written notice in Form 12, requiring him to desist from working or using the boiler—

- (a) at all; or
- (b) until the repairs or alterations specified in the notice have been effected; or
- (c) at a pressure greater than that specified in the notice; or
- (d) at a pressure greater than that specified in the notice, until the repairs or alterations specified in the notice have been effected.

(2) A person who fails to observe the requirements of a notice under Subsection (1) is guilty of an offence.

Penalty: A fine not exceeding K100.00.

156. Working pressure where boilers coupled.

Where two or more boilers are coupled together and the authorized working pressures of the boilers are not the same, the actual working pressure of the boiler having the higher or highest authorized working pressure shall not exceed the actual working pressure of the boiler having the lower or lowest authorized working pressure unless a reducing valve is fitted to the satisfaction of a boiler inspector.

¹See footnote to Section 145.

157. Proposed repairs or alterations.

(1) The owner, agent, or manager, who, in respect of any boiler, proposes to—

- (a) effect any repairs; or
- (b) alter the main structure; or
- (c) add or take away any fitting or appliance; or
- (d) alter, in any manner, its construction,

shall, in Form 13, notify an inspector of the proposed repairs, alterations, or additions.

(2) The person who actually effects the repairs, alterations, or additions shall furnish to the inspector a report giving full particulars of what he has effected and such further particulars as the inspector may require.

(3) The notice referred to in this section shall not be given where the repairs, alterations, or additions have been required by a boiler inspector under this Regulation.

158. Persons increasing excessive pressure or tampering with fittings.

(1) Every person who—

- (a) by any means knowingly does anything to increase, or anything that tends to increase, the pressure at which any boiler works above—
 - (i) the authorized working pressure of the boiler; or
 - (ii) the pressure specified in any notice issued under Section 155; or
- (b) aids, abets, or procures any act increasing or tending to increase the pressure at which any boiler works to the extent indicated in Paragraph (a); or
- (c) tampers with any fitting or valve in any manner that interferes with its proper and efficient working; or
- (d) knowingly conceals from a boiler inspector any defective fitting of which he is aware,

is guilty of an offence.

Penalty: A fine not exceeding K100.00 or imprisonment for a term not exceeding six months.

(2) A person who is found to be in charge of a boiler which is working above the pressure indicated in Subsection (1)(a)(i) or (ii) shall be deemed prima facie guilty of an offence under that subsection.

159. Transfer of boiler.

When a boiler, steam engine, or other motor at any time used in, or installed or erected for the purpose of, operating any machinery at a mine has been transferred to a person or to any other mine, the owner, agent, or manager of the firstmentioned mine shall, within 14 days of the transfer, give written notice to an inspector of the name, occupation, and address of the person or the name and address of the other mine.

160. Boiler to exhibit maker's name, etc.

Every boiler installed or erected after 30 June 1936, being the date on which the *Mines and Works Regulations* 1935 of the former Territory of New Guinea came into operation¹ shall be provided with a plate on which there shall be legibly cast or stamped—

- (a) the name of its maker;

¹See footnote to Section 145.

- (b) its shop number; and
- (c) the date of its construction.

161. Particulars of boiler to be furnished.

In addition to particulars set out under Section 160 the owner, agent, or manager of the mine shall, in respect of every boiler installed or erected after 30 June 1936, being the date on which the *Mines and Works Regulations* 1935 of the former Territory of New Guinea came into operation¹, produce to any boiler inspector on demand—

- (a) the maker's test certificate specifying—
 - (i) the maximum working pressure for which the boiler was designed; and
 - (ii) the pressure to which the boiler was hydraulically tested; and
 - (iii) the brand and the tensile strength of the plates used in the making of the boiler; and
 - (iv) the date of the test on which the certificate is based; and
- (b) a print of a drawing of the boiler showing—
 - (i) all the principal dimensions; and
 - (ii) the thickness of the plates; and
 - (iii) the size and particulars of riveting; and
 - (iv) such other particulars as are necessary for computing the strength of the boiler.

162. Accident to boiler to be reported.

(1) Every accident which is of such a nature as to necessitate structural alterations or extensive repairs to a boiler must, within 24 hours of the accident, be reported to an inspector by the owner, agent, or manager of the mine where the accident occurred and the owner, agent, or manager shall enter, in the prescribed Mine Register, the particulars of the accident.

(2) The report referred to in Subsection (1) must give particulars of the accident and, if possible, assign its cause and must specify the probable repairs or alterations necessary.

Penalty: A fine not exceeding K100.00.

163. Application of Standards Association of Australia Boiler Code.

(1) The Standards Association of Australia Boiler Code, so far as it relates to the design, construction, inspection, and operation of boilers and is not inconsistent with this Regulation, applies to all boilers installed or erected at any mine.

(2) The Boiler Code referred to in Subsection (1) means the Boiler Code as amended from time to time and available at the office of the Warden.

Division 10.—Installation and Use of Electricity.

164. Notice of installation.

The owner, agent, or manager of every mine shall send to the Warden—

- (a) before effecting any major electrical installation—particulars of the major installation proposed to be effected; and

¹See footnote to Section 145.

- (b) before effecting any major alteration or major addition to any existing or future installation—particulars of the alteration or addition proposed to be effected.

165. Electrical installations, repairs, etc.

All electrical installations, repairs, alterations, extensions, or other electrical work in a mine or works shall be done or effected by or under the supervision of a mine electrician.

166. Supervision of electrical apparatus while in use.

(1) Subject to Subsection (2) the owner or manager of every mine or works where electricity is used for power or lighting purposes shall—

- (a) appoint a mine electrician to superintend, subject to the authority of the manager, the operation of the whole electrical installation in the mine or works; and
- (b) record his name in the Register prescribed by Section 365.

(2) An inspector may, in his discretion and on receipt of a written application, exempt in writing any mine or works from the provisions of Subsection (1).

(3) Where an inspector deems it necessary to have electrical apparatus in any underground working of a mine or works specially supervised, he may notify the owner or manager, who shall appoint another mine electrician to supervise such electrical apparatus.

(4) A mine electrician appointed under this section shall remain on duty and in continual supervision of the electrical installation or apparatus to which he is appointed while it is in use.

167. Persons operating electrical apparatus.

A person, notwithstanding that he is the holder of the appropriate certificate of competency or permit of employment, shall not, nor shall he be required to, operate any electrical apparatus at any mine until he has been thoroughly instructed by a mine electrician in his duties in relation to the apparatus.

168. Telephone to surface.

In every mine where electricity is used for power purposes, direct telephonic, or other equally satisfactory means of, communication shall be provided between the surface and the main distributing centre underground.

169. Treatment for electric shock.

(1) In every generating transformer and motor house in or about, and at every principal entrance to, any mine where electrical apparatus is in use, there shall be posted legible directions as to the method of restoring persons suffering from electric shock.

(2) Every person who is required to perform any duty at or about any electrical apparatus is required to make himself thoroughly acquainted with the directions.

170. Fire buckets.

In every electrical machine room at least one fire bucket filled with clean, dry sand shall be kept ready for the purpose of extinguishing any fire that might break out.

171. Accident affecting persons.

(1) Every accident arising out of the operation of any electrical apparatus and causing bodily injury (including shock or burn) to any person shall be reported promptly to the manager of the mine by the injured or any other person having knowledge of the accident.

(2) The owner, agent, or manager, or some person appointed by him for the purpose, shall without delay—

(a) record in the prescribed Mine Register; and

(b) report to the nearest inspector or Warden, in Form 14,

the facts and date of the accident reported under Subsection (1).

172. Breakdown, etc., of electrical apparatus underground.

Where, underground in any mine—

(a) any breakdown, damage, or overheating occurs to any electrical apparatus; or

(b) any portion of the electrical apparatus (not being a proper part of the electrical circuit) becomes alive,

any person having knowledge of the facts shall report them promptly to the manager of the mine, who shall record them in the prescribed Mine Register and sign the record.

173. Failure of electric light.

In every machine room and every other place underground—

(a) which is illuminated by electricity; and

(b) where any failure of electric light is likely to cause danger,

proper lamps or other lighting devices approved by an inspector shall be kept ready for use in the event of the failure.

174. Authorized persons only to enter machine room.

A person shall not, unless he is authorized by the manager, enter any machine room or motor room.

175. Damaging or removing apparatus.

A person shall not—

(a) wilfully damage or interfere with; or

(b) without authority, remove or render useless,

any part of any apparatus, electric line, or machine used in connection with the supply or use of electricity.

176. Pressure permitted.

(1) Any electrical pressure higher than a medium pressure shall not be used underground except for the purpose of transmission.

(2) Where any higher pressure is used in accordance with Subsection (1) it shall be used subject to the provisions of Sections 224 and 225.

177. Switch for cutting off supply.

(1) In every case in which the generating station under the control of the owner, agent, or manager of the mine to which it supplies electricity is situated not less than 366m from the principal entrance to the mine, a switch or switches contained in a switch-box or

switch-house, secured with a lock, shall be provided at or near the principal entrance to the mine.

(2) Every generator shall be provided with a switch on each pole, between the generator and the bus-bars.

178. Requirements regarding switchboards.

(1) In front of every switchboard in a generating station or machine room there shall be provided a passageway not less than 2m wide.

(2) Where there are any connections at the back of any switchboard no portion of the switchboard or any of its attachments shall be less than 750mm from any wall.

(3) The space between the switchboard and any wall—

(a) shall be—

(i) firmly and even floored; and

(ii) except in the case of a low-pressure switchboard—accessible from each end through a door secured with such a lock as may be opened inside without the use of a key; and

(b) shall not be—

(i) used as a storeroom or lumber room; or

(ii) obstructed in any way by resistance frames or meters, or otherwise; or

(iii) crossed by any cable, except below the floor, or at a height above the floor of not less than 2.25m.

179. Measuring instruments.

(1) Suitable instruments shall be provided for measuring the current and the pressure of each generator.

(2) When the total power supplied by any feeder exceeds 50 kW, the feeder connected with the bus-bars in the generating station shall be furnished with an ammeter on the main switchboard or in some other suitable position.

180. Earthing of generators and transformers.

The frames and bedplates of generators and transformers shall be efficiently earthed if the pressure at the terminals exceeds the limits of low pressure.

181. Earth and fault detectors.

In every completely insulated circuit,—

(a) earth or fault detectors shall be kept connected up in every generating and transforming station so as to disclose immediately any defect in the insulation of the system; and

(b) the detectors shall be inspected daily by a competent person.

182. Arrangement of circuit breakers.

Circuit breakers shall be arranged so that when the contact levers open outwards no danger exists of their striking any person attending to them.

183. Live metal work on main switchboard.

Where the supply of electricity is at a pressure exceeding the limits of medium pressure, there shall be no live metal work on the front of the main switchboard within

2.5m of the floor or platform and the space provided under Section 178(3) shall not be less than 2.25m in the clear.

184. Insulating floors or mats.

Insulating floors or mats shall be provided for switchboards where medium or any higher pressure is used.

185. Insulating material for switches, etc.

(1) Every switch, circuit breaker, and fuse shall have an incombustible base of marble, slate, or porcelain, or other suitable incombustible insulating material.

(2) Every live part of a switch, circuit breaker, or fuse, not being in a machine room or in a compartment specially arranged for the purpose, shall be covered with incombustible material, either non-conducting or of rigid metal, clear of all internal mechanism.

186. Main and distribution switchboards, etc.

Every main and distribution switchboard and fuse board shall—

- (a) be made of incombustible insulating material, such as marble or slate free from metallic veins; and
- (b) be fixed in as dry a position as practicable.

187. Fuses and automatic circuit breakers.

Every fuse and every automatic circuit breaker shall be so constructed as effectually to interrupt the current—

- (a) when a short circuit occurs; or
- (b) when the current passing through the fuse or circuit-breaker exceeds by—
 - (i) 200% the working current of the motors; or
 - (ii) 100% the maximum current of the cables permitted under Section 195, which the fuse or automatic circuit-breaker protects.

188. Fuses to be stamped, etc.

(1) Every fuse shall be stamped, marked, or labelled so as to indicate the current at which it is intended to fuse.

(2) Where fuse wire is used each coil shall be so stamped, marked, or labelled.

(3) A fuse shall not be adjusted or replaced except by some competent person authorized by a mine electrician.

(4) In a colliery, only an enclosed fuse shall be used.

189. Opening of circuit breaker or fuse to be recorded.

Every opening of a generator circuit breaker or generator fuse shall be recorded by the person in charge of the generator station or machine room where it occurs by entering the fact, date, and time of the occurrence in the prescribed Mine Register and signing the entry.

190. Terminals, etc., to be insulated.

All terminals and any live metal on machines underground shall, where practicable, be protected with insulating covers or metal covers connected to earth.

191. No major repairs or cleaning when current on.

(1) Subject to Subsection (2), any major repair, or cleaning, of any live part of any switch or other electrical apparatus shall not be done when the current is turned on but this prohibition does not extend to mere adjustment, wiping, or oiling.

(2) Where handling for the purpose of adjustment, wiping, or oiling is necessary in the case of any switch or other electrical apparatus working at a pressure higher than the limit of low pressure, the person so handling shall use gloves, mats, or shoes made of indiarubber or other non-conducting material.

192. General requirements as to conductors, etc.

Subject to this Regulation, every electrical conductor or other electrical apparatus shall be—

- (a) adequate in size and power for the work it may be required to perform; and
- (b) efficiently covered or safeguarded; and
- (c) so installed, worked, and maintained as to reduce to the minimum any danger from accidental shock or fire or over-heating; and
- (d) so constructed and worked as to ensure that the rise in temperature due to ordinary working will not injure any insulating material employed in its construction or installation.

193. Size and insulation of conductors.

The size of any copper conductor used (except overhead wires used on the surface) shall have relation to—

- (a) the maximum current of electricity which it is required to transmit; and
- (b) the class of insulation which it possesses, that is to say either "Class A" or "Class B" as defined in Section 194; and
- (c) the dimensions set out in Schedule 2.

194. Classes of insulation defined.

In Sections 193, 195 and Schedule 2—

"Class A" means a dielectric (which term does not include the braiding or taping) which is impervious to moisture and only needs mechanical protection, such as vulcanized rubber or bitumen;

"Class B" means a dielectric, such as impregnated paper or fibre, which, to be effective, must be kept perfectly dry and, for that reason, needs to be encased in a waterproof sheath of some soft metal, such as lead, drawn closely over the dielectric.

195. Maximum current.

(1) The maximum current of electricity which may be transmitted by a conductor having any dimension of gauge and section set out in Column 1 and Column 2 of Schedule 2 shall be in the number of amperes shown, immediately opposite the dimension, in Column 3 or Column 4 of that schedule according to whether the conductor has a "Class A" or "Class B" insulation respectively but Column 4 may be applied in the case of conductors underground having a "Class A" insulation.

(2) For the purpose of applying Schedule 2 the current in the conductor shall be taken as equal to that required for the maximum number of motors or other current-using apparatus that are at any time used simultaneously on the circuit.

(3) Notwithstanding anything in this section, where the written consent of an inspector has been previously obtained the maximum current which may be transmitted by a conductor shall be as specified in the Standards Association of Australia Wiring Rules as amended from time to time.

196. Metal coverings to be continuous and earthed.

In any case in which the pressure at the terminals where the electricity is used exceeds the limit of low pressure, all metal coverings and armourings of cables shall be electrically continuous throughout and efficiently earthed.

197. Insulation for conductors inside mine.

(1) All conductors inside a mine, except as otherwise provided in this Regulation, shall be continuously covered with insulating material.

(2) A continuously insulated cable shall be so constructed that when a piece of it has been tested by immersion in water for 24 hours it will, while still immersed, withstand, in the case of a cable intended for a low or medium pressure, 2,000V for 10 minutes between the conductor and the water and between cores if there are more than one in the cable.

(3) Prior to the test referred to in Subsection (2) the piece shall be bent six times (three times in one direction and three times in the opposite direction) round a cylindrical surface not more than 12 times the diameter (or the shorter axis, where the section is not circular) of the finished cable.

(4) Where the cable is intended for a high or extra-high pressure twice the working pressure shall be taken for the test referred to in Subsection (2).

198. Certain conductors to be specially encased and fixed.

Where a medium pressure supply is used for—

- (a) power purposes; or
- (b) arc or incandescent lamps in series,

the conductors, other than trailing cables, which—

- (c) form the connexions to motors, transformers, or lamps; or
- (d) are otherwise used in connexion with the supply,

shall be completely enclosed in strong armouring or metal casing efficiently connected with earth or be fixed at such a distance apart, or in such a manner, as to ensure that any danger from fire or shock shall be reduced to a minimum.

199. Conductors to be insulated from earth.

(1) Subject to this section, every conductor shall be maintained completely insulated from earth.

(2) The concentric system with earthed outer conductor may be used if arrangements are made to ensure that any danger from fire or shock is reduced to a minimum.

(3) The neutral point of a polyphase system, and the middle wire of a three-wire continuous-current system, may be earthed at one point.

200. Additional protection for certain conductors.

Unless fixed so as to be out of reach of injury every conductor, other than an armoured cable, which is intended for a higher pressure than low pressure shall be protected with a suitable covering in addition to the proper insulation.

201. Exposed ends of cables to be protected, etc.

The exposed ends of cables where they enter the terminals of switches, fuses, or other appliances shall be so protected and finished off that—

- (a) moisture cannot creep along the insulating material within the waterproof sheath; and
- (b) the insulating material, if of an oily nature, cannot leak out of the cable.

202. Fixing small wires for lighting circuits.

(1) Small wires for lighting circuits shall—

- (a) be enclosed in pipes or casings; or
- (b) without touching any timbers or metal work—
 - (i) be suspended from porcelain insulators; or
 - (ii) be tied to porcelain insulators with some non-conducting material which will not cut the covering of the wires.

(2) Where metallic pipes are used they shall be electrically continuous and earthed.

(3) Where separate uncased wires are used they shall be kept at least 5 cm apart and not be brought together except at lamps, switches, or other fittings.

(4) Staples shall not be used for the purpose of suspending or fixing the wires.

203. Insulating and fixing of cables in shafts.

(1) Every cable used in a shaft shall be—

- (a) highly insulated and substantially fixed; and
- (b) where it is not capable of sustaining its own weight—properly supported at intervals varying according to the weight of the cable.

(2) Where the cable is not completely boxed in and protected from any falling material, it shall be so placed as to leave such space between it and the side of the shaft as will enable it to yield to, and lessen, the impact of the falling material.

(3) A cable in a shaft shall not be fixed in a winding compartment.

204. Protection and fixing of cables in drives, etc.

(1) Where any cable in a drive, or road, along which any material is conveyed cannot be kept at least 30.5 cm from any part of a truck or tram it shall be specially protected.

(2) Where separate cables are used they shall be fixed—

- (a) not less than 15.25cm apart; and
- (b) not vertically one above the other.

(3) The cables and any wires, unless provided with metallic coverings, shall not be fixed to walls or timbers by means of metallic fastenings.

(4) Where repairs are being carried out or blasting is being done in the drive or road, suitable timbering protection shall be provided for the protection of any cable in the drive or road.

205. Overhead bare wires.

Every overhead bare wire on the surface shall—

- (a) be properly secured to insulators; and
- (b) except in the case of a wire carrying a less pressure than medium pressure—be provided with efficient lightning arrestors; and
- (c) be clear of all traffic, with a minimum ground clearance to be approved by an inspector but not less than 5.5 m.

206. Lightning arrestors on transmission lines.

If any transmission line from the generating station to the shaft or mine entrance is overhead, efficient lightning arrestors shall be provided in connexion with it.

207. Efficiency of insulation in collieries, etc.

(1) In all collieries and in such other mines as the Warden directs, the standard of efficiency required to be maintained in respect of the insulation of every complete lighting and power circuit, including all machinery apparatus and devices in connexion with, or forming part of, the circuit, shall be such as ensures that the leakage of current does not exceed one-thousandth part of the maximum supply current.

(2) In the event of the leakage being greater than the limit specified in Subsection (1), every proper measure shall be taken to immediately locate and remedy the leakage.

208. Tests of insulation of circuits, etc.

The insulation, in all underground workings and in all wet places, of every complete lighting and power circuit used for the purposes of any mine, shall be tested at intervals of not more than 14 days by the mine electrician, who shall enter in the prescribed Mine Register the result of the test.

209. Fuses, etc., to be installed.

(1) Every sub-circuit shall be protected by a fuse on each pole but in the case of the earthed middle wire of three-wire system the fuses may be on the outers only.

(2) Every circuit having a current of more than 5A at any pressure up to 125V, or 3A at any pressure above 125V, shall be protected by—

- (a) an automatic maximum current circuit breaker on each pole; or
- (b) a detachable fuse on each pole constructed in such a manner as enables it to be removed from a live circuit with a minimum risk of shock.

210. Joints of cables.

(1) Every joint made in any cable shall be mechanically and electrically efficient, and, where reasonably practicable, shall be suitably soldered.

(2) Where the joint is not soldered it shall be made by means of a metal screw clamp or connector of a kind approved by an inspector.

(3) The joint shall be insulated and, where the joint is in any armoured cable, it shall be made in a joint-box approved by an inspector.

211. Special requirements in respect of trailing cables.

(1) Subject to Subsection (12) every trailing cable for a portable machine shall be—

- (a) specially flexible; and

- (b) heavily insulated and protected with extra stout braiding, hose pipe, or other equally effective covering,

but metal armouring shall not be used on any trailing cable which carries a current at a pressure exceeding the limit of low pressure.

(2) Where any joint is made in a trailing cable, it shall be soldered and a clamp of any kind shall not be used for this purpose.

(3) The two cables of a twin trailing cable shall be divided at the motor end only for such a length as is necessary for the making of connexion to the motor.

(4) A twin cable with its outer covering complete shall be held securely by a suitable clamp on the motor frame in such a manner as—

- (a) to protect the trailing cable from injury; and
- (b) to prevent any mechanical strain being borne by the single ends making electrical connexion with the motor.

(5) Subject to Subsection (12) a fixed terminal box shall be provided at every point where a flexible conductor is joined to the main cable, and the terminal box shall—

- (a) have, fitted in it, a switch and fuse capable of entirely cutting off the supply from the trailing cable; and
- (b) be so constructed that neither the plug attached to the flexible cable can be inverted or withdrawn nor the box be opened, while the switch is closed.

(6) Subject to Subsection (12) every trailing cable in use in any colliery, or in any other mine in which an inspector considers it necessary, shall be—

- (a) examined daily for abrasions and other defects, by a mine electrician and a record of the result of the examination entered daily and signed by him in the prescribed Mine Register; and
- (b) observed carefully, by the person in charge of the machine to which the trailing cable is connected, with the view to the discovery of any defect and he shall, promptly on discovery, notify a mine electrician.

(7) The trailing cable shall be kept disconnected from any machine which is being loaded on to, or unloaded from, any power truck unless the construction of the machine is such as to make the electric power necessary for its loading or unloading.

(8) Subject to Subsection (12) the trailing cable shall have a distinguishing number which shall be clearly indicated on a suitable label securely attached to the cable.

(9) Subject to Subsection (12) the insulation-resistance of every conductor of any trailing cable in any colliery, or in any other mine in which an inspector considers it necessary, shall be measured by a mine electrician at intervals of not more than 14 days, the resistance being taken between the conductor and the surrounding water after the whole cable, with the exception of the ends, has been immersed for at least six hours.

(10) Subject to Subsection (12) the measurement referred to in Subsection (9) shall be made by means of an instrument suitable for measuring resistance up to $5M\Omega$, and the resistance measured shall be entered in the prescribed Mine Register, and the entry signed, by the person taking the measurement.

(11) Subject to Subsection (12) a trailing cable shall not be put into service unless the insulation-resistance of each conductor measures at least $1M\Omega$ after immersion.

(12) Subsections (1), (5), (6), (8), (9), (10) and (11) do not apply to portable tools with a low pressure above ground.

212. Trolley wires underground.

(1) Every trolley wire in any underground road or track shall be placed not less than 2.25m above the level of the road or track, unless—

- (a) it is sufficiently guarded; or
- (b) the pressure is cut off from the wire at all times where the road or track is used for travelling on foot.

(2) A trolley wire will be deemed to be sufficiently guarded if it is protected on each side by continuous boards placed not more than 10.25 cm from the wire and extending not less than 10.25 cm below the wire.

(3) The hours during which the pressure shall be cut off and travelling on foot is permitted in the road or track shall be clearly indicated by notices and signals placed in a conspicuous position at each end of, and every entrance to, the road or track.

(4) Except during the hours referred to in Subsection (3) a person, unless authorized by the manager, shall not travel on foot along any road or track which is not protected in the manner specified in Subsection (2).

213. Pressures at which trolley wires may be used.

(1) A trolley wire shall not be used to carry current at any pressure exceeding low pressure unless the wire is—

- (a) above ground, and nowhere less than 2.25m above the road or track; or
- (b) underground, and protected in the manner specified in Section 212(2); or
- (c) fixed in a place—
 - (i) where persons are not required to work in proximity to it; and
 - (ii) where travelling on foot, at any time, is permitted only to a person authorized by the manager to travel there for the purpose of inspection and of effecting repairs.

(2) Where the trolley wire is such that it conforms with any of the types specified in Subsection (1) a pressure not exceeding medium pressure may be used.

(3) Where medium pressure is used, every trolley wire above ground in all places where persons are required to work in proximity to the wire shall be specially protected to the satisfaction of an inspector.

214. Returns for electric locomotives.

In connexion with the use of electric locomotives either insulated returns or uninsulated metallic returns of low resistance may be employed.

215. Current for trolley system.

Except where—

- (a) low pressure is employed; or
- (b) the concentric system, with earthed outer conductor, is used,

the current supplied for the use of any trolley system, when the return is uninsulated, shall be generated by a separate machine and shall not be taken from, or be in connexion with, any electric line otherwise completely insulated from earth.

216. Contact between shot-firing and lighting or power cables.

(1) When shot-firing cables or wires are used in the vicinity of power or lighting cables, every precaution shall be taken to prevent the shot-firing cables or wires from coming into contact with the lighting or power cables.

(2) Electricity from lighting or power cables shall not be used for firing shots.

217. Contact of signal and telephone lines with other conductors.

Every precaution shall be taken to prevent electric signal and telephone wires from coming into contact with other electric conductors, whether insulated or not.

218. Plan of installation.

(1) The owner, agent, or manager of every mine shall cause to be kept at the mine a plan showing the position of all permanent electrical machinery and fixed cables at the mine.

(2) The plan referred to in Subsection (1) shall—

(a) be, in respect of the general lay-out, on a scale not smaller than 1 in 10,000; and

(b) be, as far as practicable, up to date; and

(c) be, in no circumstances, more than three months in arrears; and

(d) be otherwise subject to the same conditions as are prescribed in respect of plans by or under Section 35 of the Act.

(3) The Warden or an inspector may require a plan, on a scale larger than that specified in Subsection (2) showing any particular part of the machinery or fixed cables.

219. Construction and arrangement of motors.

(1) Every motor together with its starting resistance shall be protected by—

(a) a fuse constructed in accordance with Section 187; and

(b) switches capable of entirely cutting off the pressure and fixed in a convenient position near the motor.

(2) Every motor of 18.643 kW¹ or over in a machine room underground shall be provided with a suitable ammeter to indicate the load on the machine.

(3) If the pressure at the terminals where the electricity is used exceeds the limit of low pressure, the frames and bedplates of the motors other than portable motors shall be efficiently earthed.

(4) Where any unarmoured cable or wire passes through any metal frame or into any box or motor-casing, the aperture in the frame, box, or motor-casing shall be substantially bushed with insulating collars and, where necessary, with gas-tight bushings which cannot readily become displaced.

(5) Every terminal box of a portable motor shall be securely attached to the machine or form part of it.

220. Attention etc., to portable electric machines in operation.

(1) The person in charge of a coal-cutter, drilling machine, or other portable and electrically operated machine—

(a) shall not leave the machine while it is working; and

¹Metricated editorially. The original power was 25 brake horse-power.

(b) shall, before leaving the working place, satisfy himself that the pressure is cut off from the trailing cable, which shall not be dragged along by the machine.

(2) A person shall not effect any repair to a portable machine until the pressure has been cut off from the trailing cable.

221. Damp insulation on motors to be dried.

When the insulation of a motor is found to have become damp during any stoppage, the person in charge of the motor shall cause the insulation to be thoroughly dried before putting the motor into operation again.

222. Motor to be stopped if electric sparking occurs.

Where any electric sparking or arc is produced outside a coal-cutting, drilling, or other portable motor or about the cables or rails connected with it, the motor shall be stopped until the defect responsible for the sparking or arc is remedied and the occurrence shall be reported immediately to a mine electrician.

223. Motors, switches, etc., to be cleaned and examined regularly.

(1) A mine electrician shall, at intervals of not more than seven days, open and examine—

- (a) the casing or inspection doors; and
- (b) the casings of the switches and other appliances,

of all portable motors used underground.

(2) The parts of the motors, switches, or other appliances disclosed by the opening and examination referred to in Subsection (1) shall be cleaned before the casings or other coverings are replaced.

(3) Where special circumstances make it necessary to run any motor continuously for a period longer than seven days, the examination of the motor shall be made at the end of the run.

(4) A report of every examination shall be entered in the prescribed Mine Register and the entry signed by the person making the examination.

224. Restrictions on use of high pressure.

(1) The limitations and restrictions imposed by Section 176 on the use underground of a pressure higher than medium pressure shall not apply to transformers and induction motors in which the whole of the high pressure circuit is stationary.

(2) The high pressure conductors (other than overhead lines above ground) which form the connexions of the transformers or motors or are otherwise used in connexion with the supply shall be—

- (a) completely enclosed in a strong armouring or metal casing sufficiently connected to earth; or
- (b) fixed at such a distance apart, or in such a manner, as reduces to a minimum any danger from fire or shot.

(3) For work underground, when furnished with current at a pressure higher than medium pressure a transformer shall not be of less normal rating than 10 kW nor shall a motor be of less normal rating than 14.914 kW¹.

¹Metricated editorially. The original power was 20 brake horse-power.

225. High pressure apparatus to be indicated.

(1) All the high pressure machines, apparatus, and lines shall be indicated by such use, at frequent intervals, of—

- (a) the word "DANGER"; or
- (b) red paint properly renewed when necessary; or
- (c) some other conspicuous method,

to clearly show that they are of high pressure.

(2) All terminals and live metal on machines over medium pressure above ground shall, where practicable, be protected by insulating covers or metal covers connected to earth.

226. Maximum pressure for portable machines.

Portable machines shall not be used at a pressure higher than a medium pressure.

227. Duplicate trailing cable.

(1) Where electric coal-cutting machines are in use a duplicate trailing cable shall be kept in each section of the mine.

(2) Where any trailing cable in service—

- (a) breaks down; or
- (b) is damaged in any way; or
- (c) inflicts a shock on any person,

it shall be at once put out of service and the duplicate cable shall be substituted for it.

(3) The cable put out of service under Subsection (2) shall not be used again until after it has been repaired and tested at the surface of the mine and passed by a mine electrician.

228. Horse traffic to be suspended near trailing cable, etc.

(1) All horse traffic shall be suspended on the part of every road along which a trailing cable is extended for the purpose of fitting a machine.

(2) A trailing cable shall at all times be supported clear of rails and traffic except when fitting.

229. Roof of coal-cutter.

The manager shall cause—

- (a) the roof of every coal-cutter motor to be carefully examined after such intervals of continuous work as an inspector approves; and
- (b) the motor to be stopped for the examination.

230. Use of arc lamps.

Arc lamps shall—

- (a) be so guarded as to prevent pieces of heated carbon falling from them; and
- (b) not be used in situations where there is likely to be danger from the presence of coal dust; and
- (c) be so screened as to prevent risk of contact with any person.

231. Precautions when safety lamps used.

In any place or part of a mine where safety lamps are used the following rules shall apply:—

- (a) a higher pressure than the medium pressure shall not be transmitted beyond the inbye ends of the main airways, and all motors, transformers, and other apparatus connected with the higher pressure supply shall be placed in suitable chambers ventilated by intake air;
- (b) the pressure employed for the purpose of signalling shall not, in any one circuit, exceed 15V in an intake airway, or 10V elsewhere, and bare wires shall not be used for the purpose except in haulage roads; and
- (c) the main cables shall be taken into the mine by way only of an intake airway unless it is more expedient for safety to use a return airway; and
- (d) the covering of all electrical apparatus and conductors shall be so constructed as to eliminate all danger of firing gas by any sparking or flashing which may occur during the normal or abnormal working of the apparatus or conductors; and
- (e) electric haulage by locomotives on the trolley-wire system shall not be permitted; and
- (f) if storage battery locomotives are used, the rules under this section which apply to motors shall be deemed to apply also to the boxes containing cells of the storage battery; and
- (g) motors, unless placed in rooms which are separately ventilated with intake air, shall have all their current-cutting parts and their switches, starters, terminals, and connections completely enclosed in flame-tight enclosures—
 - (i) made of incombustible material; and
 - (ii) of sufficient strength to escape damage in the event of any explosion of fire damp occurring in the interior; and
 - (iii) opened only by a person authorized by a mine electrician and only when the current is switched off; and
- (h) switches, except as provided under Paragraph (g), circuit breakers, and fuses shall not be of the open type but shall—
 - (i) be enclosed in gas-tight boxes; or
 - (ii) be enclosed in oil-tight boxes and break under oil; and
- (i) Subject to Paragraphs (j) and (k), where any joint is made in any conductor other than a trailing cable, a suitable joint box with an approved method of gas-tight sealing shall be used, and the conductor shall be connected by means of metal screw-clamps or connectors, but some other equally safe construction may be adopted if it is approved by an inspector; and
- (j) in any place or part of a mine where a shot may be fired the joint may be soldered by, or in the presence of, a person authorized for the purpose by the manager, subject to—
 - (i) the observance of the same precautions in regard to examination and to removal of workmen with respect to the use of explosives in coal mines; and

- (ii) where the place is dry and dusty—the same precautions as to watering, as are prescribed by this Regulation; and
- (k) wires other than blasting wires or cables shall not be joined by merely twisting them together; and
- (l) the person in charge of an electrical stationary machine shall—
 - (i) be provided with, and shall use when working, a safety lamp or other suitable apparatus for the detection of fire damp; and
 - (ii) where the presence of fire damp is indicated—
 - (A) immediately stop the machine; and
 - (B) cut off the current at the nearest switch; and
 - (C) report the fact of the presence of fire damp to a mine electrician; and
- (m) before a coal-cutting machine is brought within 18.25m of the working face, and on each occasion immediately before a cut is started or restarted, an examination for gas in the place where the machine is intended to work shall be made by the machine man about to operate the starting switch of the machine, unless the examination is then made by some other competent person authorized by the manager, or appointed by him for the purpose, and, where either person discovers any inflammable gas, he shall—
 - (i) immediately switch off the current from the machine and disconnect the trailing cable at the junction box; and
 - (ii) prevent the machine from being brought by any person into the place where the gas is discovered; and
 - (iii) immediately erect a danger fence to warn persons against entering the place; and
 - (iv) cause the trailing and duplicate cable (if any) in the immediate vicinity to be entirely removed from the place; and
 - (v) prevent—
 - (A) the cable from being brought back to the place; and
 - (B) the machine from being again started in the place, until the manager or deputy machine man has examined the place and pronounced it free from gas and has removed the danger fence; and
 - (vi) immediately report the fact to the manager; and
 - (vii) at the end of the shift, make and sign an entry of the facts in the prescribed Mine Register; and
- (n) the machine man—
 - (i) shall not allow a coal-cutting machine to continue in operation for a longer period than half an hour without making the examination specified in Paragraph (m); and
 - (ii) shall, where gas is discovered on the examination, take all the steps required by Paragraph (m); and
- (o) where—
 - (i) the coal-cutting machines are fitted by electric power; or

- (ii) the machine men are paid at tonnage rates, a deputy machine man shall be employed; and
- (p) in addition to the examinations required to be made under Paragraph (m), the deputy machine man shall—
 - (i) at least once in every shift, make an examination for gas in each place in which an electric coal-cutter is, or is intended to be, employed during the shift; and
 - (ii) enter, and sign, in the prescribed Mine Register the report of the examination; and
- (q) where electric power is used for fitting a machine, the machine man—
 - (i) before the fitting, shall give notice to the deputy machine man of any intended fitting; and
 - (ii) shall not fit, or permit to be fitted, any machine except in the presence, and under the supervision of the deputy machine man; and
- (r) all electric lamps which are installed shall—
 - (i) be of the vacuum or enclosed type; and
 - (ii) except on the main intake airways and mechanical haulage roads, being also on the outbye side of relighting stations—be protected by gastight fittings of strong glass; and
 - (iii) have no flexible cord connexions; and
- (s) electric lamps shall be replaced only—
 - (i) by a competent person authorized by a mine electrician; and
 - (ii) while the current is switched off.

232. Application of the Standards Association of Australia Wiring Rules.

Except where there is any provision to the contrary contained in this Regulation, the Standards Association of Australia Wiring Rules, as amended from time to time, which are available at the office of the Warden, shall—

- (a) so far as they are applicable—apply to the installation and use of electricity in every mine; and
- (b) be enforceable as if the Rules had been incorporated in this Regulation.

Division 11.—Safety and Protection.

233. Manholes where self-acting or engine planes.

Sufficient manholes for places of refuge at intervals of not more than 18.25m shall be provided in those portions of every mine where any underground plane, whether self-acting or operated by an engine, windlass, whim, whip, or gin, is used to convey persons.

234. Places of refuge in certain roads.

(1) Spaces in sufficient number and of adequate length, width, and depth for places of refuge shall be provided in any mine at intervals of not more than 91.5m along any road over which, or any part of which, the produce of the mine is borne—

- (a) by electric or animal traction; and
- (b) at a rate of more than 8t in any one hour.

(2) Where the road is used by persons employed in the mine, to go to and from their work, the haulage or transport of any truck, mineral or other material shall not be carried out over the road during any change of shift, if, in the opinion of an inspector, the haulage or transport is likely to cause injury to the persons using the road.

235. Manholes in shaft.

(1) Where a shaft is being sunk, or a rise is being put up in rock-formation, and blasting is necessary—

- (a) manholes, pent-houses, or short cross-drives, of such dimensions as are approved by an inspector shall be formed throughout the shaft or rise for places of refuge; and
- (b) suitable and convenient means of access to the places of refuge shall be provided from the bottom of the shaft and the top of the rise.

(2) Subject to Subsection (3), manholes, pent-houses, or cross-drives referred to in Subsection (1) shall not be more than 30.5m apart, nor shall more than 30.5m intervene between the top or bottom of the shaft or rise and the nearest manhole, pent-house, or cross-drive.

(3) Where a shaft is sunk with the use of a winding engine for lowering or hoisting persons, the manholes, pent-houses, or cross-drives shall not be more than 61m apart and the distance between the nearest of any of them and the top or bottom of the shaft shall not be more than 61m.

236. Dimensions, etc., manholes and places of refuge.

(1) Every manhole and space for a place of refuge shall, to the satisfaction of an inspector,—

- (a) be of adequate dimensions; and
- (b) have its approach whitened or in some other way made conspicuous; and
- (c) be kept constantly clear of everything likely to interfere with access.

(2) A person shall not do anything which shall in any way interfere with the use of, or hamper access to, any manhole or space for a place of refuge.

237. Protection for engine drivers, etc.

The owner, agent, or manager of every mine shall provide for the drivers of stationary engines, stokers, and bracedmen, while on duty, such protection from inclement weather as approved by an inspector.

238. Protection of persons working in shafts.

Wherever practicable, all persons in shafts shall be protected overhead from material falling down the shaft by means of a roof or other device which to an inspector seems sufficient.

239. Fencing tramways and machinery.

Every tramway other than a tramway drawn by a rope constructed on an elevated platform, and every fly wheel, and every exposed and dangerous part of any machinery which is in or about any mine, shall be securely and safely fenced.

240. Fencing of ash pits, etc.

Every ash pit or ash heap shall be securely and safely fenced.

241. Fencing off dangerous places.

All dangerous places in a mine, including elevated platforms, pits, trap holes, belt drivers, and the like shall be fenced off so as to effectively safeguard from injury any person required or authorized to work or to be in the vicinity of any of the places.

242. Fencing of abandoned entrances, shafts, etc.

(1) Subject to Subsection (2), the owner, agent, or manager of every mine shall cause—

- (a) every entrance between the bottom of any working or pumping shaft and the poppet-head sheaves; and
- (b) every abandoned or disused shaft or dangerous excavation,

to be safely and securely fenced, railed, or covered.

(2) A fence, or gate in a fence, or a rail or cover may be temporarily removed for the purpose of ordinary mining operations where precautions are taken to preclude any danger arising from the temporary removal.

(3) The position of every disused or abandoned shaft which has been covered shall be indicated by a notice affixed to a post on the surface.

243. Protection where fencing removed.

Where any fence or any gate in a fence or any rail or cover is temporarily removed, for the purpose of ordinary mining operations, from any entrance to a shaft, a strong horizontal bar shall be securely fixed across the entrance not less than 1m or more than 1.25m, from the floor of the brace, chamber, or drive where the entrance is.

244. Doors to be fixed to plats.

At every plat where any hoisting operations are carried on, a door or some other appliance approved by an inspector shall be fixed, and, where a door is so fixed, a lever or handle shall be attached by which the door can be safely lowered, or raised, into position.

245. Division of shaft.

Where in any shaft one portion is used for the descent or ascent of persons by ladders and another portion for lowering or hoisting material, the former portion shall be cased, or otherwise securely divided off, from the latter.

246. Skidding of certain shafts.

Every shaft which has a depth of more than 30.5m and in which a bucket is used for lowering or hoisting material, shall be skidded and provided with such means as shall, in the opinion of an inspector, be sufficient to steady the bucket.

247. Entering winding compartment.

(1) Except for the purpose of descending or ascending or for the purpose of effecting repairs, a person shall not enter or cross the winding compartment of any shaft.

(2) Before commencing any repairs referred to in Subsection (1), the persons supervising the repairs shall inform the engine driver.

248. Shafts to be made secure.

Every working or pumping shaft in every mine shall be effectively cased, lined, or otherwise made secure and a supply of timber sufficient for the purpose shall be kept available on the surface in a place convenient to the shaft.

249. Drives and excavations to be made safe.

Every drive and every excavation made in any mine, whether in the course of construction, or in use, or otherwise, shall be securely protected and made, and kept safe for all persons employed in, or entitled to enter, the mine.

250. Connexions between levels and surface.

As soon as practicable after the opening of every level in a mine it shall, as a means of exit, be connected with every level previously opened and with the surface, by means of passageways independent of, and separate from, the main shaft or other principal entrance to the mine.

251. Exits to be notified.

The position of all auxiliary exits shall be brought to the knowledge of all persons employed underground in any mine and the word "ESCAPE" shall, in letters of such dimensions as render them conspicuous and easily legible, be painted and kept painted, or otherwise clearly marked out, at every entrance to a level, rise, or passageway which is used or intended to be used as an exit.

252. Ladders as means of egress.

The manager of every mine shall cause ladders to be fitted and maintained in a state of efficiency as means of egress in all passageways which are used or intended to be used as means of egress.

253. Protection during shaft sinking.

(1) While any person is at work in the bottom of any shaft where sinking operations are in progress, there shall not be permitted in the same shaft—

- (a) any other operation to be carried on; or
- (b) any tool, mineral, or other material to be lowered or hoisted from, or to, any one place to, or from, any other place,

unless a winding compartment, which is used for the purpose of the other operation, or for the lowering or hoisting, is protected to its full width below the place—

- (c) where the other operation is being carried on; or
- (d) within which the lowering or hoisting is being done,

by a securely constructed pent-house.

(2) The pent-house, or any other protection which an inspector considers necessary in the circumstances, shall be constructed or provided in such a manner as the inspector requires.

254. Boring rods to be kept in certain places.

In every working in the proximity of any part of a mine which is likely to contain a dangerous accumulation of water or any noxious or inflammable gas, boring rods shall be kept and used for the purpose of perforating the ground of, or near, or at any angle from, the working to a distance in advance of—

- (a) 6m, in the case of an alluvial mine; or
- (b) 3m, in the case of a lode or coal mine.

255. Drives, etc., near water or gas.

A drive, gallery, or other excavation in any mine shall not be made within such a distance from any dangerous accumulation of water or gas as will involve any risk to a person employed in the mine.

256. Lighting provisions.

(1) In every mine satisfactory lights, effectually protected from draughts of air, shall—

- (a) be provided for the use of persons in each working plat in every main drive and at such other places as an inspector may require; and
- (b) be kept constantly burning and be so fixed as to illuminate the upper entrances of all winzes, rises, and jump-ups.

(2) Every person employed in any mine in any place where there is reason to suspect the presence of inflammable gas shall, whilst he is so employed, be provided with a safety lamp.

257. Means of escape in mines liable to inundation.

(1) In every mine which, in the opinion of an inspector, is liable to any inundation of water, there shall be constructed such rises, chambers, drives, and other workings as the inspector deems necessary—

- (a) to ensure the safety of; or
- (b) to provide a means of escape from the lower workings for,

all persons employed in the mine during the inundation.

(2) At the foot of every rise, jump-up, or passageway, or other working which is available for the purpose of escape, a notice clearly indicating the means of escape available shall be conspicuously posted and maintained.

258. Additional connexions with surface.

Where an inspector is of the opinion that in any mine the existing connexions with the surface, whether by shaft, rise, or adit, do not provide adequate means of escape, he shall report the facts to the Warden who may, after investigation, order the owner, agent, or manager of the mine to construct such additional shaft, rise, or adit, as to the Warden appears necessary.

259. Riding in trucks, etc, on inclined planes.

A person shall not—

- (a) on any inclined plane above ground, of which the inclination is greater than 10° from the horizontal; or
- (b) on any aerial ropeway, aerial tramway, flying fox, or other device of a similar nature,

ride or be permitted to ride on or in any truck, skip, waggon, bucket, or other conveyance.

260. Angle of batter in open-cut.

The batter of any open-cut shall be at such an angle as, in the opinion of an inspector taking into consideration the surrounding conditions, is safe.

261. Height, etc., of open-cut.

An inspector may, in the interests of safety, limit the height of any open-cut face, and may order the construction of benches where they appear to him to be necessary.

262. Working beneath open-cut.

(1) Where operations are being carried on in any open-cut, any stoping shall not be done within a distance of—

- (a) 30.5m below the level of the bottom of the open-cut; or
- (b) 61m horizontally in any direction from the open-cut,

but an inspector may in writing, and subject to such conditions as he deems necessary, permit stoping to be done within such lesser distance as he considers safe.

(2) When operations in any open-cut have been completed, mining operations may be carried on under the open-cut.

263. Working open-cut over dangerous ground.

(1) Subject to Subsection (2), the face of an open-cut shall not be worked over any ground which an inspector considers dangerous, except with his written permission and subject to such conditions as he may impose.

(2) This section does not preclude the sinking of any pass or passageway in the floor of any open-cut for the purpose of filling up any underground stope.

264. Blasting in surface working.

Where any blasting operations are being carried out in any open-cut or other surface working—

- (a) places of refuge approved by an inspector shall be provided; and
- (b) before any charge of explosive is fired—a warning shall be given with bell and flag; and
- (c) after any danger arising from the explosion, or missfire of the charge is over, a signal shall be given to indicate that the conditions are safe.

265. Acknowledgement of blasting signals.

(1) Where, at one or both of two mines in close proximity to one another, blasting is being done on the surface no charge of explosive shall be fired at either of them until the warning given under Section 264(b) has been answered by an intimation signalled from the other of them that every person there is in a place of refuge.

(2) After all danger is over the signal given under Section 264(c) shall be acknowledged from the other mine.

266. Working in dangerous ground with rock drills.

A person shall not be permitted in any mine, underground or on the surface—

- (a) to work alone in or on any ground which is heavy or dangerous; or
- (b) to operate a rock drill, working on a bar, unless some other person is within easy hearing distance.

267. First aid, ambulances, etc.

(1) At every mine—

- (a) where more than four persons are ordinarily employed, there shall be made available for the immediate use and benefit of the persons, a box containing antiseptics, splints, bandages and other first aid requisites; and
- (b) where more than 20 persons are ordinarily employed, there shall be made available, in addition, a casualty room and ambulances or stretchers.

(2) The articles, requisites, and room made available under Subsection (1) shall, as regards the number, quantity, quality, and size, be subject to the approval of an inspector.

(3) Every person shall, on leaving the mine after each shift—

- (a) be examined for cuts and other external injuries by some responsible person appointed by the manager; and
- (b) receive the usual first aid treatment for such injuries found on examination.

268. Jamming in ore passes or chutes.

(1) Where in any mine any ore, mullock, or other material in any pass or chute refuses to run, or "hangs up", or becomes jammed—

- (a) a person shall not enter the pass or the chute without the permission of an inspector or the manager; and
- (b) the person whose duty it is to ensure the free running of the pass or chute shall report the fact to the person under whose immediate supervision he is working; and
- (c) where the pass or chute becomes so jammed as to require special effort to free it, not less than two persons shall be employed for the purpose of freeing it.

(2) The Warden may, by written notice, require the owner, agent, or manager of any mine where a pass or chute is being, or may subsequently be, constructed for the purpose of conveying ore, mullock, or other material, to provide alongside the pass or the chute a man-way which in the opinion of an inspector is proper and safe.

Division 12.—Tests and Inspections.

269. Breaking strain of ropes.

(1) Before any rope, including any capstan rope, is used for winding in a mine, the owner, agent, or manager shall obtain from the manufacturer a certificate of the breaking strain of the rope and shall make the certificate available at the mine for the perusal of any inspector.

(2) Where—

- (a) the certificate issued under Subsection (1) is not available; or
- (b) the inspector is not satisfied that the certificate submitted for his perusal is authentic and that it refers to any rope to which it is alleged to refer,

he may require that, before the rope is used, a certificate as to its breaking strain shall be obtained from a recognized testing station after a test applied to a sample not less than 1m in length and cut off from the cage end of the rope.

270. Loads on ropes and chains.

(1) A rope or chain shall not be used in the shaft of any mine until it has been tested and proved to be capable of carrying a load which is one and one-half times the weight of the ordinary load which shall consist of—

- (a) the cage, truck, or buckets and contents; and
- (b) the weight of the rope or chain from the bottom of the shaft to the pit-head pulley or windlass.

(2) The working load in any mine shall not exceed one-eighth of the breaking strain of the rope or chain when new.

(3) In any mine where persons are lowered or hoisted in any shaft or winze any rope or chain used for the purpose shall, whenever the inspector requires, be tested and proved to be capable of carrying a load which is one and one-half times the weight of the original load.

(4) The result of every test made under this section shall be entered and signed in the prescribed Mine Register by the person making the test.

271. Particulars of winding and haulage appliances, etc., to be recorded.

At every mine at which winding or hauling appliances are in use the manager, or some competent person appointed by him, shall record in the prescribed Mine Register—

- (a) the following particulars in regard to all winding and haulage ropes:—
 - (i) designation of shaft, or haulage, where used; and
 - (ii) compartments, or tracks, where used; and
 - (iii) name and address of manufacturer; and
 - (iv) date of manufacture; and
 - (v) date of purchase; and
 - (vi) date when put in; and
 - (vii) length in metres; and
 - (viii) date of shortening; and
 - (ix) dates of tests after shortening; and
 - (x) breaking stress of wires at tests after shortening; and
 - (xi) dates of recapping; and
 - (xii) date of turning end for end; and
 - (xiii) diameter and circumference, or, in the case of flat ropes, the width and thickness, in centimetres; and
 - (xiv) weight per metre in kilogrammes; and
 - (xv) construction; and
 - (xvi) number of strands; and
 - (xvii) diameter of wires expressed in centimetres; and
 - (xviii) class of core; and
 - (xix) class of steel used in construction; and
 - (xx) breaking stress of steel of which wire made, expressed in tonnes; and
 - (xxi) breaking load of rope, expressed in tonnes; and
 - (xxii) date when rope taken off; and

- (b) after an inspection, which shall be made each day, particulars in regard to the condition of—
 - (i) all winding and haulage ropes and their attachments to cages; and
 - (ii) the brakes, depth indicators, cages, safety catches, and pulley wheels; and
 - (iii) every other external part of the winding and haulage appliances on the proper working of which the safety of life depends; and
- (c) after an inspection which shall be made at least once a week, particulars regarding the condition generally of—
 - (i) the guides and winding compartments; and
 - (ii) the signalling arrangements; and
 - (iii) the external parts of the winding engine and of the haulage system; and
- (d) after an inspection, which shall be made at least once a week, of the structure of all winding and haulage ropes, for which inspection the ropes shall be thoroughly cleaned at selected places not more than 30.5m apart, to determine the extent of their deterioration—the following particulars :—
 - (i) the condition externally and, as far as possible, internally; and
 - (ii) the reduction in diameter; and
 - (iii) the internal corrosion; and
 - (iv) the estimated reduction in strength due to wear or other causes; and
- (e) after an inspection which shall be made at least once a year—the particulars in regard to the working and the condition of the internal parts of every winding and hauling engine.

272. Examination before resumption.

- (1) Where any mine ceases operations for a period exceeding six months, the owner, agent or manager shall, before work is resumed, give to an inspector a notice in Form 15.
- (2) Within three days of the receipt of the notice under Subsection (1) the inspector shall—
 - (a) examine the appliances and workings of the mine; and
 - (b) make an entry in the prescribed Mine Register indicating whether or not operations may be resumed with safety to the persons employed in the mine.
- (3) Any mining operation shall not be resumed unless and until the entry under Subsection (2) indicates that operations may be resumed.

273. Testing of safety cage.

- (1) Before any safety cage is, for the first time, used for lowering or hoisting persons in a mine it shall be tested in the presence of an inspector in order to ascertain whether or not the safety cage together with all its appliances is in fact safe.
- (2) Subject to Subsection (3), the safety cage shall not be used unless and until the inspector certifies by an entry in the prescribed Mine Register that the cage and all its appliances are in a safe working order and condition.

(3) Where an inspector is not available to make the test under Subsection (1) the safety cage may be used after a satisfactory test made by the manager who—

- (a) shall enter in the prescribed Mine Register the date and details of the test made by him; and
- (b) immediately forward a copy of the entry to the inspector.

(4) The inspector, as soon as practicable, after receiving the copy of the entry referred to in Subsection (3), shall—

- (a) proceed to the mine and require a test to be made in his presence; and
- (b) according to the results of the test—enter in the prescribed Mine Register his certificate of safety or otherwise.

(5) At intervals of not more than two months, the manager shall—

- (a) personally test, or cause some other competent person to test, each safety cage and all its appliances; and
- (b) enter, or cause the other person to enter, in the prescribed Mine Register, the date and details of the test; and
- (c) sign, or cause the other person to sign, the entry.

(6) Every test required to be made under this section shall be made with full and empty trucks and, according to the inspector's direction shall be made either from the shackle or from the drums.

274. Manager to inform himself of condition of appliances.

The manager of every mine, or some other competent person assigned by the manager for the purpose, shall—

- (a) keep himself constantly informed of the state of all ropes, or other safety appliances, or gear used in connexion with the cages or shafts of the mine; and
- (b) at intervals of not more than one week—
 - (i) carefully examine the condition of the mine and all buildings, machinery, ropes, and other safety appliances, gear, shafts, levels, planes, and other places used in the working of the mine; and
 - (ii) make and sign an entry in the prescribed Mine Register setting out the date and fact of the examination, his opinion of the condition, and of the need for alterations or repairs, having regard to the safety of persons employed in the mine.

275. Condemnation of appliances or gear.

Every rope or other safety appliance or gear which is at any time after examination by an inspector condemned by him shall immediately be removed or, where, in the opinion of an inspector, it is capable of being so repaired as to make it safe to use, it shall be repaired to the satisfaction of the inspector before being further used.

276. Testing of winding rope before use.

(1) Every winding rope installed at any shaft in a mine and every connecting attachment between the rope and the cage, skip, or other conveyance, shall—

- (a) before being used for the first time; and

(b) before being used again after an interval of non-use exceeding one month, be carefully examined and thoroughly tested for strength by the manager of the mine or some other competent person assigned by the manager for the purpose.

(2) After the examination and test referred to in Subsection (1), the winding rope and attachment shall be further tested before being used for the transport of any person in the shaft by being run for two complete trips up and down the working portion of the shaft with cage, skip, and other appliances loaded to the full extent authorized.

(3) The date and results of the examination and tests under this section shall be entered in the prescribed Mine Register by the manager, or the other person assigned, who shall sign the entry.

277. Defect in winding appliances.

(1) Where, as the result of an examination or test, any weakness or defect is discovered in any winding rope or other winding appliance in any mine which involves any danger to the life or limb of any person, the weakness or defect shall be immediately reported to the manager and remedied by him.

(2) A person shall not be lowered or hoisted in the mine by means of the rope or other appliance unless the weakness or defect has been remedied.

278. Testing of winding appliances.

(1) An inspector may require—

- (a) any winding rope or other winding appliance in or about any mine to be examined and tested at a recognized testing station, or in his presence, tested at the mine by the manager or other competent person assigned by the manager for the purpose; and
- (b) such methods to be employed in the examination and test as appear to him desirable.

(2) The manager of the mine shall afford every facility for the examination and tests in accordance with the methods required.

279. Method of testing ropes at mine.

(1) Where any winding rope is required to be tested at a mine, the following method shall, subject to this Regulation be adopted—

- (a) the breaking strain of every separate wire contained in each strand of a sample cut off from the cage end of the rope shall be ascertained, but—
 - (i) no account shall be taken of the strength of any wire in the sample, which is broken or is less than one-half the average strength of the wires of the same sort in the sample or which fails to pass the bending test prescribed by this section; and
 - (ii) the breaking strain of the whole sample shall be deemed to be five-sixths of the sum of the breaking strains of all the individual wires except those of which no account has been taken under Subparagraph (1); and
- (b) the bending test referred to in Paragraph (a) shall be made by holding each wire of the sample in a vice of which the upper edge of each jaw is rounded to a quarter circle of 10.16mm¹ diameter and bending it backwards and

¹Metricated editorially. The original diameter was 2/5 in.

forwards, through an angle of 180 degrees until it either breaks or withstands the following number of bends:—

- (i) in the case of a wire having a diameter not exceeding .08 in¹—8 bends; or
- (ii) in the case of a wire having a diameter exceeding .08 in¹ but not exceeding .09 in¹—7 bends; or
- (iii) in the case of a wire having a diameter exceeding .09 in¹ but not exceeding 0.1 in¹—6 bends; or
- (iv) in the case of a wire having a diameter exceeding 0.1 in¹—5 bends.

(2) Any rope which fails to withstand the number of bends specified, in Subsection (1)(b), in relation to its diameter shall fail to pass the test.

280. Conflict between tests.

Where a test of rope by sample has been made both at a recognized testing station and at a mine, and the results are at variance, a test made of the whole rope at a recognized testing station, or, where a recognized testing station is not available, at the mine, shall finally determine its breaking strain.

Division 13.—Miscellaneous.

281. Weekly inspection by manager.

The manager of every mine shall at least once a week—

- (a) make a thorough inspection of every part of the mine; and
- (b) make and sign an entry in the prescribed Mine Register—
 - (i) recording the facts which, at the time of the inspection, he finds existing generally in the mine in regard to safety and ventilation; and
 - (ii) in regard to any other matter which is, by this Regulation, or by an inspector in writing, required to be the subject of record.

282. Stopping.

Except in the case of timber stopes and such other stopes as an inspector in writing may exempt, where any stopping is carried out by any method in which any excavation is filled with waste rock, sand, earth, or broken ore, as the support of any person engaged in working the stope, the filling shall at all times be maintained—

- (a) within a mean distance, from the back or roof of the excavation of 3m measured at right angles from the surface of the filling; or
- (b) at such greater distance as an inspector permits and defines in an entry in the prescribed Mine Register.

283. Box method of rising.

In every rise in which compressed air is not being used and which is intended to be more than 9m in height above the recognized back—

- (a) the box method of rising, or other approved means of dividing, or ventilating the rise, shall be adopted in any case required by an inspector; and

¹Metrication of wire sizes has not been attempted.

- (b) the method or means actually adopted shall be notified to the inspector without delay.

284. Wilful damage.

A person shall not wilfully damage or, without proper authority, remove or render useless, any fencing, covering, casing, lining, guide, means of signalling, signal-cover, rope, chain, flange, brake, indicator, ladder platform, steam-gauge, water-gauge, safety-valve, or other appliance, gear, or thing in or about any mine.

285. Copy of Act, etc., to be available.

A copy of the Act and of this Regulation shall—

- (a) be kept at the mine, or if there is no office there, at some convenient place near the mine; and
(b) be available, at all reasonable times, for examination by the Warden or an inspector or by any person employed in the mine.

286. Plans and specifications of dams.

(1) The plans and specifications required to be lodged with the Warden under Section 42 of the Act shall show the following details:—

- (a) in the case of a dam intended to be constructed—
- (i) a contour plan and cross-section of the locality and site of the dam together with the fullest particulars of the strata in or on which each retaining-wall or weir of the dam is to be constructed; and
 - (ii) the longitudinal section showing the slope of the bed of the river or stream or other surface, rock, or strata on which the retaining-wall or weir is to be constructed; and
 - (iii) plans of vertical end and mid-section of the retaining-walls or weirs showing the position, size, and details of all sluices, gates, and spillways; and
 - (iv) details of the anchorage of the base and ends of the retaining-walls or weirs at, or to, the natural rock or other strata; and
 - (v) details and nature of the materials proposed to be used in the construction, and particulars of the method of placing the materials in the formation of the retaining-walls or weirs, and, where concrete is proposed to be used, particulars of the nature and proportion of the rock, spalls, screenings, gravel, and cement used; and
 - (vi) particulars of—
 - (A) the factors allowed in the strength of the retaining-walls or weirs; and
 - (B) the estimated capacity of the dam; and
 - (C) the estimated area of the catchment, or maximum known flood capacity of the river or stream on which the dam is to be constructed; and
 - (D) the average and maximum known rainfall; and
 - (E) the estimated discharge capacity of sluices, gates, and spillways; and

- (vii) particulars of the course of overflow waters indicating whether it is through, or adjacent to, any populated area or locality; and
- (viii) details of the measures to be adopted in order to ensure safety in the event of an unprecedented rainfall, or of the bursting of the dam or the flooding of areas exterior to any natural channel or water-course by an uncontrolled escape of water from the dam; and
- (ix) details of the measures to be taken to prevent damage to the retaining-walls or weirs arising from logs, timber, or other materials carried into the dam by streams, storm waters, or other means; or
- (b) in the case of a dam already constructed, but intended to be enlarged or altered—
 - (i) plans, sections, details, and particulars of the existing dam and the retaining walls or weirs, and such other details and information as are required by Paragraph (a) in connexion with the construction of the dam; and
 - (ii) plans and sections of the intended enlargement or alteration of the dam and details of the anchorage to, and of any enlargement or alteration of, existing retaining-walls or weirs; and
 - (iii) particulars of any alteration in the capacity of the dam.

(2) The plans and sections shall be drawn to scale and all essential measurements shall be plotted on them.

287. Plans and specifications.

(1) Where, for the purpose of working any mine, it is proposed to construct any roadway, tramway, power transmission line, aerial ropeway, or pipe line, or other works over, on, across, or through any land, whether any authority has or has not been already granted under Part XII. of the *Mining Act*, the owner, agent, or manager of the mine shall forward to the Warden, for his approval, copies, in duplicate, of the plans and specifications of the proposed construction.

(2) Any works to which the plans and specifications relate—

- (a) shall not be commenced until the Warden has signified his approval in writing; and
- (b) shall not be carried out otherwise than in accordance with the approval which shall be subject to such modifications of the plans and specifications, and such other conditions, as the Warden may impose.

288. Applications for approval for construction, etc., of dams.

Where the approval of the Chief Inspector is required under the provisions of Section 42 of the Act, for the construction, alteration, or enlargement of a dam, application shall be made in Form 16 which shall be lodged with the Warden together with the prescribed plans and specifications.

289. Notice to repair dangerous dams.

Where the Warden or inspector requires that any dam, to which Section 43 of the Act applies, shall be emptied, or discontinued to be used, and reconstructed or repaired, he shall serve on the owner, or person in charge, of the dam a notice in Form 17.

290. Abandonment of dams.

Before any dam used for mining purposes is abandoned, the owner of the dam shall, unless he causes it to be emptied, cause to be constructed a by-pass or spillway capable of discharging, without injury to the dam, the maximum run-off of the watershed which feeds the dam.

291. Removal of props and timber.

Where it is proposed to remove from any portion of a mine any prop, timber, or stone wall the removal of which is subject to Section 43 of the Act—

- (a) notice in Form 18 shall be served on the owner, agent, or manager of the adjoining mine at least seven days before the proposed removal; and
- (b) an application to an inspector shall be made in Form 19.

292. Notice to commence working on shaft, etc.

Where in respect of the commencement or recommencement of any workings in a mine a notice is, under Section 54 of the Act, required to be given to the Warden, the notice shall be in Form 20.

293. Notice of separate working of parts of mine.

Where the owner, agent, or manager of any mine commences to work any one part of the mine separately from any other part, he shall immediately give to the Warden a notice in Form 21 including particulars and a sketch plan sufficient to identify the parts which are being worked separately.

294. Notice of change in mine name, owner, agent or manager.

(1) The owner, agent, or manager of a mine shall notify the Warden in Form 22 where the mine name, or the owner, agent, or manager of the mine, has been changed.

(2) A notice under Subsection (1) shall be given by leaving it at, or posting it in a registered envelope addressed to, the Warden's office within seven days of the change.

PART III.—WORKS GENERALLY.

295. Abatement of dust or fumes.

Where, in or about any works, an inspector finds any dust or fumes in any form or quantity which, in his opinion, constitutes a nuisance or is likely to cause any detriment to the health of any person employed there, he may require the manager to take such measures as the inspector deems adequate to abate the nuisance or avoid the detriment and the manager shall immediately take the measures required by the inspector.

296. Damage and non-user of sanitary appliances.

Every person employed in or about any works who damages, misuses, or fails to use any appliance provided for —

- (a) the abatement of any nuisance caused by, or the avoidance of any detriment likely to arise from, the presence of dust or fumes; or
- (b) any other purpose of sanitary nature,

is guilty of an offence.

Penalty: A fine not exceeding K40.00.

297. Application of Part II.

Any section of Part II. which the Minister, by notice declares to be applicable to works generally, shall be deemed to be a section relating, and applying with the necessary modifications, to works generally.

298. Application of forms relevant to Part II.

Where any form is prescribed under or in relation to any section of Part II. which is declared under Section 297 to be applicable to works generally, the form shall be applicable, with the necessary modifications, to works generally.

PART IV.—DREDGES SPECIALLY.**299. Safety appliances for dredges.**

The following safety appliances shall be provided and maintained in good order in connexion with every dredge used for mining purposes:—

- (a) a lifebuoy, a light line, and a boat hook near the bow of the dredge; and
- (b) a lifebuoy, a light line, and a boat hook near the stern of the dredge; and
- (c) a boat containing a light line and a boat hook; and
- (d) a looped wire line securely fastened around the outside of pontoons about 152.4mm¹ above the water line.

300. Additional safety appliances.

(1) Where an inspector deems that the stream in which any dredge is being constructed or worked is deep or swift-flowing, he may require the owner, agent, or manager of the dredge to provide, in connexion with the dredge, a second boat.

(2) Each of the two boats shall be furnished with a lifebuoy, a light line, and a boat hook not less than 2.134m² long, all of which shall be kept in a condition ready for use.

(3) Life belts shall be provided for every member of the crew of a boat when engaged in shifting the mooring lines of the dredge.

301. Safety appliances easily accessible.

All the safety appliances required to be provided in connexion with any dredge shall be kept in a conspicuous place easily accessible to persons on the dredge and any damage to, or loss of, the appliances, shall be immediately repaired.

302. Wellhole to be protected, etc.

(1) The wellhole of every dredge shall be fenced or covered as far as is reasonably practicable.

(2) Where fencing or covering is not practicable, a movable gangway not less than 0.762m³ wide and fitted with a substantial hand rail at each side shall be provided for, and used by, persons crossing the wellhole.

303. Buckets to be avoided.

A person shall not step on the moving buckets or chain of any dredge.

¹Metricated editorially. The original distance was 6 in.

²Metricated editorially. The original length was 7 ft.

³Metricated editorially. The original width was 2ft 6in.

304. Machinery, etc., to be protected.

All exposed belting or machinery of any dredge shall be furnished by the owner of the dredge with a satisfactory fence.

305. Stanchions and handrails.

(1) Where any dredge is not entirely covered in, the sides of the uncovered portion of the hull shall be fitted with—

- (a) stanchions not more than 2.438m¹ apart; and
- (b) two substantial hand rails or tightly sprung wires or chains, the lower rail, wire, or chain not being more than 254mm² above the deck.

(2) The fittings referred to in Subsection (1) may be movable, and moved when taking coal or other material on board the dredge, but shall be kept in position at all other times.

306. Gangway to bank.

(1) Every dredge which works close to a bank shall be provided with a gangway not less than 0.762m³ wide and long enough to reach from the dredge to the bank.

(2) The gangway shall be provided with a substantial hand rail at each side and be secured to the deck of the dredge.

307. Freeboard.

The freeboard between the deck of the dredge and the surface of the water shall not at any time be permitted to be less than that required by the inspector.

308. Latrine accommodation.

Every dredge shall be provided with approved latrine accommodation.

309. Dredge not to be used until approved.

A dredge, except a dredge in operation at 30 June 1936, being the date on which the *Mines and Works Regulations* 1935 of the former Territory of New Guinea came into operation⁴ or any of its appliances shall not be used for mining purposes unless and until an inspector is satisfied as to—

- (a) the strength and soundness of the pontoons; and
- (b) the efficiency of the safety appliances; and
- (c) the sufficiency of the freeboard.

310. Suspension or condemnation of dredge.

(1) Where an inspector is of the opinion that any dredge is unsafe and should be suspended from operation or wholly condemned, he shall report to the Warden the facts on which his opinion is based.

(2) On the receipt of a report under Subsection (1), the Warden may issue a summons, returnable in 14 days, and cause it to be served on the owner, agent, or manager of the dredge, calling on him to show cause why the dredge should not be either suspended from operation or condemned for all future use.

¹Metricated editorially. The original distance was 8 ft.

²Metricated editorially. The original distance was 10 in.

³Metricated editorially. The original width was 2ft 6in.

⁴See footnote to Section 145.

(3) On the return, and proof of service, of the summons the Warden shall make full and open inquiry into the matters reported by the inspector and for that purpose shall—

- (a) take evidence on oath; and
- (b) if he considers it necessary, view the dredge.

(4) After the inquiry has been completed, the Warden may by order—

- (a) suspend the dredge from operation until the fulfilment of such conditions as he imposes; or
- (b) condemn the dredge and declare it to be unfit for use for mining purposes; or
- (c) dismiss the summons.

(5) Any owner, agent, or manager who disobeys an order under Subsection (4) and any person who knowingly does any act which is in violation of the order is guilty of an offence.

Penalty: A fine not exceeding K100.00 or imprisonment for a term not exceeding six months.

311. Copy of Part IV. to be posted.

A printed copy of Part IV. shall be kept posted in a conspicuous place on every dredge and shall be renewed as it becomes torn or defaced.

PART V.—SMELTING WORKS SPECIALLY.

312. Drinking water.

(1) The owner, agent, or manager of every smelting works shall provide an ample supply of pure drinking water for human consumption, which shall be made freely and easily available to all persons employed in or about the works.

(2) Every precaution shall be taken to prevent the water provided from becoming polluted or being rendered unwholesome.

313. Drink containers to be covered.

A person shall not, in or about any smelting works, carry or use any vessel containing tea, water, or other fluid for drinking purposes unless the vessel is covered by a tight-fitting lid which shall not be removed in the works, except to permit of the contents of the vessel being poured out for drinking.

314. Water and standpipe for laying dust.

On every feed floor, tamping floor, and every other place in any smelting works where dust is raised, there shall be provided an ample supply of water for the purpose of laying the dust by sprinkling, and a standpipe and hose or other suitable contrivance.

315. Warm water, bath houses, etc.

(1) At every smelting works where lead ores are smelted there shall be provided to the satisfaction of an inspector, having regard to the number of persons employed—

- (a) adequate accommodation in the form of bath houses and change rooms; and
- (b) adequate supplies of clean water at a temperature of at least 21.1°C¹ made available for the bath houses; and
- (c) a sufficient number of wash basins.

¹Metricated editorially. The original temperature was 70°F.

(2) The bath houses and change rooms shall be made available free of cost at all reasonable hours, and for every shift, to all persons employed in the works.

(3) A caretaker shall be in charge of the bath houses and change rooms and shall keep a day book and record in the book the names of all persons who use the baths and wash basins.

(4) A person shall not—

- (a) destroy, damage, deface, or disfigure any bath house or change room, or appliance in, or used in connection with, the accommodation; or
- (b) commit any unseemly or indecent act in or about the accommodation; or
- (c) enter or use any part of the accommodation whilst in a state of intoxication.

316. Control of flue dust.

Every owner, agent, or manager of a smelting works shall use all prescribed means to ensure that the flue dust is—

- (a) not emitted from smelters' stacks; and
- (b) wetted as soon as it is drawn from the flue; and
- (c) prevented from accumulating so as to become a nuisance or be injurious to persons employed in the smelting works.

317. Furnaces to have special hoods.

At all smelting works where lead ores are smelted each furnace shall be surrounded with a hood which—

- (a) shall open below, so as to catch the fumes from the molten metal and slag; and
- (b) terminate in a chimney or other similar means of access to the outer air.

PART VI.—CERTAIN OCCUPATIONS.

Division 1.—Occupations Requiring Certificates or Permits.

318. Occupations for which certificates are necessary.

(1) Subject to this section, a person shall not be employed in or about any mine in any of the following occupations unless he is the holder of a certificate of competency in Form 23 issued by the appropriate Board of Examiners constituted under this Part:—

(a) Group I comprising:—

- (i) metalliferous mine manager; and
- (ii) colliery manager; and
- (iii) dredge master; and

(b) Group II comprising:—

- (i) a driver of any winding engine or machinery, other than a winding engine or machinery operated by manual power, when used for raising or lowering men in a shaft or for raising or lowering materials in a shaft when the shaft is being sunk; and
- (ii) a driver of a steam engine or boiler; and
- (iii) mine electrician; and
- (iv) boiler inspector.

(2) The owner of a mine may appoint or allow any person who does not hold the prescribed manager's certificate to be a manager of the mine if not more than 30 persons are ordinarily engaged underground.

(3) Notwithstanding anything in this Part, an inspector, on being satisfied that a person—

(a) is qualified to be admitted to examination for one of the occupations specified in Subsection (1); and

(b) is competent to be employed in the occupation,

may, on payment of a fee of K1.00, authorize the person in writing to be employed in the occupation for a period not exceeding six months.

(4) Any person who has been employed in Papua New Guinea as a dredge master for a period of six months before 30 June 1936, being the date on which the *Mines and Works Regulations* 1935 of the former Territory of New Guinea came into operation¹, is exempt from the provisions of this section.

319. Permits for certain occupations.

Permits of employment may be granted and issued under this Part in respect of each of the following occupations:—

(a) alluvial miner; and

(b) underground miner; and

(c) boiler operator; and

(d) hoist driver.

Division 2.—Certificates of Competency.

320. Boards of examiners.

There shall be a Board of Examiners for each of the occupations specified in Section 335.

321. Constitution of Boards.

(1) A Board of Examiners shall consist of—

(a) the Assistant Secretary for the Mines Division of the Department of Minerals and Energy; and

(b) the Mining Engineer of that Department; and

(c) the Mining Warden of that Department; and

(d) one other member appointed by the Minister by notice in the National Gazette.

(2) The member referred to in Subsection (1)(d) shall—

(a) in respect of the occupation of metalliferous mine manager, colliery manager, dredge master, or mine surveyor—be a qualified mining engineer; and

(b) in respect of the occupation of winding-engine driver, ordinary steam-engine driver, electric-motor driver, gas-engine or oil-engine driver, dredge winchman, mine electrician, or boiler inspector—be a qualified mechanical engineer and a qualified electrical engineer.

¹See footnote to Section 145.

(3) A Board of Examiners may, for the better exercise of its powers in relation to any particular case, co-opt no more than two additional members who, whilst dealing with the particular case, shall have the same rights as any other member of the Board except the Chairman.

322. Chairman and Deputy Chairman.

(1) The Assistant Secretary for the Mines Division of the Department of Minerals and Energy shall be the Chairman of a Board of Examiners.

(2) The Mining Engineer shall be the Deputy Chairman of a Board of Examiners and, in the absence or inability to act of the Chairman, shall have, and may perform, all the powers and functions of the Chairman under this Regulation.

323. Deputies of members of Boards.

(1) The Minister may, by notice in the National Gazette, appoint a person to be a deputy of a member of a Board of Examiners.

(2) A person appointed to be a deputy of a member referred to in Section 321(1)(a),(b) or (c) shall be an officer of the Public Service.

(3) A person appointed to be a deputy of a member referred to in Section 321(1)(d) shall be a person qualified as prescribed in Section 321(2)(a) or (b) as the case requires.

(4) A deputy appointed under this section has, in the event of the inability of the member of whom he is the deputy to attend a meeting, all the powers and functions of a member.

(5) An appointment of a deputy under this section, and an act done by him as such, shall not be questioned in any proceedings on the ground that the occasion for his appointment or the exercise of his powers had not arisen or had ceased.

324. Meeting and fees of Board.

(1) Meetings of a Board of Examiners shall be convened by the Chairman on not less than seven days' notice to the other members.

(2) A Board of Examiners shall be deemed to be, for the purposes of the *Boards (Fees and Allowances) Act*, a Board approved under Section 2 of that Act.

(3) At a meeting of a Board of Examiners—

(a) three members, one of whom are the Chairman, are a quorum; and

(b) all questions shall be decided by a majority of votes of the members present; and

(c) the Chairman has a deliberative, and in the event of an equality of votes on a matter, also a casting vote.

(4) The Director may from time to time appoint an officer of the Department of Minerals and Energy to record and keep the minutes of meetings of Boards of Examiners and generally to act as secretary of the Boards.

325. Duties and powers of Board.

Subject to this Regulation, a Board of Examiners—

(a) shall (if the subjects of examination for any occupation have been prescribed) examine the qualifications of any person who applies to it under Section 331; and

- (b) may after the prescribed examination, grant and issue a certificate of competency to any applicant; and
- (c) may, without examination, grant and issue a certificate of competency in accordance with Section 333; and
- (d) shall keep a Register of Certificates in Form 24 and record in it particulars of all certificates of competency issued, suspended, or cancelled under this Regulation; and
- (e) shall issue to the person registered as the holder of any certificate of competency, a duplicate certificate on—
 - (i) being satisfied that the original has been lost; and
 - (ii) the receipt of a fee of K1.58.

326. Practical experience.

The Board of Examiners—

- (a) may refuse admission to the prescribed examination; and
- (b) shall refuse a certificate of competency,

to any person who fails to satisfy it that he has had such practical experience as is, in the Board's opinion, necessary to fit him for the occupation in respect of which he desires the certificate of competency.

327. Cancellation or suspension of certificates.

(1) On the complaint of an inspector or a District Officer that the holder of any certificate granted and issued under this Part—

- (a) is incompetent; or
- (b) has been guilty of—
 - (i) an offence under the Act; or
 - (ii) a breach of this Regulation; or
 - (iii) any misconduct or negligence,

the Chairman shall, by written notice signed by him, require the holder of the certificate to appear before the Board of Examiners and show cause why the certificate should not be cancelled or suspended.

(2) The notice under Subsection (1) shall—

- (a) appoint a place as well as a day and hour for the hearing of the matter, not sooner than seven days after the service of the notice; and
- (b) specify the grounds for requiring the holder of the certificate to show cause.

(3) The evidence received at the hearing shall be on oath and shall be taken down in writing in the presence of the witness and, after being read over to him and found correct, signed by him as well as by the Chairman.

(4) On consideration of the evidence, the Board of Examiners shall—

- (a) record its finding and determine—
 - (i) not to interfere with the certificate; or
 - (ii) to cancel the certificate; or
 - (iii) to suspend the certificate for a specified period; and

- (b) in writing, notify the holder of the certificate of the finding and determination; and
- (c) file at the Warden's Office, all the papers including the depositions taken at the hearing.

328. Appeal to National Court.

The holder of any certificate of competency affected by a finding and determination under Section 327 may appeal to the National Court in the manner, and subject to the conditions, prescribed for an appeal to the National Court from a decision of the Warden under the *Mining Act*.

329. Delivery up of certificates.

(1) On the expiration of the time allowed for any appeal under Section 328 the Warden may order the holder of the certificate of competency to deliver up, within the time specified in the order, the certificate for endorsement according to the determination made under Section 327.

(2) Any person who, without reasonable cause, fails to comply with an order under this section is guilty of an offence.

Penalty: A fine not exceeding K40.00.

Division 3.—Examination for Certificates of Competency.

330. Time and place of examinations.

(1) The Chairman of the Board of Examiners shall, by notice published once in the National Gazette and once in some newspaper circulating in the goldfields and mineral fields of the country, appoint a day, hour, and place for the holding of examinations for certificates of competency.

(2) A notice under Subsection (1) shall specify—

- (a) the occupations for which; and
- (b) the place at which; and
- (c) the date, not sooner than one month from the date of the publication in the newspaper, on which,

the examinations are intended to be held, and the date by which applications may be lodged with the Chairman of the appropriate Board of Examiners.

(3) A copy of the notice appearing in the newspaper shall be posted in some conspicuous place at every post office in the goldfields and mineral fields, as soon after the publication in the newspaper as the exigencies of postal communication will permit of the receipt of the newspaper at the post office.

331. Applications for examination and certificate.

(1) Any person resident in the country may apply for an examination of his qualifications for, and for a certificate of competency in respect of, one or other of the occupations specified in Section 318 or 335.

(2) An application under Subsection (1) shall be—

- (a) in Form 25; and
- (b) lodged with the Chairman of the appropriate Board of Examiners not later than the date advertised for lodging it; and

(c) accompanied by—

- (i) the prescribed fee; and
- (ii) a medical certificate as to physical fitness for the occupation; and
- (iii) testimonials from two responsible persons resident in the country as to the sobriety and integrity of the applicant.

332. Evidence of theoretical study, etc.

Before admitting any applicant to examination, the Board of Examiners may require him to furnish, to the satisfaction of the Board, evidence that he has—

- (a) pursued such a course of theoretical study; and
- (b) had such practical experience,

as the Board deems necessary to fit him for the occupation for which he desires a certificate of competency.

333. Certificate without examination.

(1) Application for the grant and issue, without examination, of a certificate of competency in respect of one or other of the occupations specified in Section 318 or 335 may be made in Form 26 by any person resident in the country who holds from some authority, which the appropriate Board of Examiners deems worthy of recognition, a certificate, or a diploma, which he desires to be accepted as evidence of his competency in the occupation.

(2) An application under Subsection (1) shall be lodged with the Chairman of the appropriate Board of Examiners, and be accompanied by—

- (a) the prescribed fee; and
- (b) a medical certificate as to physical fitness for the occupation; and
- (c) testimonials from two responsible persons resident in the country as to the sobriety and integrity of the applicant.

(3) Before granting an application under this section, the Board of Examiners shall be satisfied—

- (a) as to the fitness of the applicant; and
- (b) that the applicant is identical with the person named in the certificate or diploma, which shall be produced to the Board for inspection; and
- (c) that the certificate or diploma is of equal grade and corresponds to the certificate of competency applied for.

(4) An applicant under this section shall pay a fee of K3.15.

334. Statement of applicant to be verified.

The Chairman of the Board of Examiners, whenever he deems it advisable, may require all particulars or information furnished in relation to any application under Sections 331 and 333 to be verified by a statutory declaration made by the applicant.

335. Fees for examinations.

(1) The fee payable by an applicant for examination for a certificate of competency in respect of any of the following occupations is:—

	K
Dredge master	6.30
Winding-engine driver	4.72
Steam-engine driver	3.15
Electric-motor driver	3.15
Gas or oil-engine driver	3.15
Dredge winchman	4.72
Mine electrician	6.30
Boiler inspector	3.15
Metalliferous mine manager	9.45
Mine surveyor	6.30
Colliery manager	9.45

(2) Where the fee has been paid under this section by any applicant whom the Board of Examiners has refused to admit to examination, he is entitled to a refund of half the amount paid.

336. Examinations to be written or oral.

Any examination, or any part of an examination, under this Regulation shall be written or oral, or partly written and partly oral, as the Board of Examiners may in its absolute discretion require.

*Division 4.—Special Conditions Affecting Different Examinations.***337. Examination for metalliferous mine managers.**

Every applicant for examination as to his qualifications for the occupation of metalliferous mine manager shall be required—

- (a) to satisfy the Board of Examiners that—
- (i) he is not less than 25 years of age; and
 - (ii) he has had practical experience in surveying, sampling, mining, and other underground working in metalliferous mines or the supervision of them for a period of not less than—
 - (A) five years, at least two years of which have been spent at the face as a practical miner; or
 - (B) three years, and has completed a satisfactory course of instruction at a recognized university, school of mines, or other technical institution; or
 - (C) three years, and is the holder of a mine surveyor's certificate of competency issued under this Regulation; and
- (b) to pass in the following subjects, operations, and matters:—
- (i) mining, including—
 - (A) hydraulic sluicing methods; and

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- (B) dredge mining; and
- (C) alluvial mining; and
- (D) open cuts; and
- (E) the laying out and construction of shafts, drives, chambers, levels, winzes, stopes, and other underground workings; and
- (F) the methods of bratticing, timbering, and otherwise supporting or filling workings; and
- (G) drainage of mines and pumping appliances used for drainage; and
- (H) haulage in shafts and underground planes; and
- (I) the strength of ropes and chains; and
- (J) the tapping of water in mines and the construction of underground dams; and
- (K) types of drills and other mining machines; and
- (L) the use, nature, and properties of explosives; and
- (M) the construction and use of cages, safety catches, detaching hooks, apparatus for preventing overwinding, and all other safety appliances,

and generally all matters connected with the working and development of a metalliferous mine; and

(ii) mine ventilation, including—

- (A) types of fans, blowers, and similar appliances; and
- (B) methods of ventilation; and
- (C) measurement of air currents and moisture in air and the cooling power of mine air; and
- (D) methods of catching, counting, and allaying dust; and
- (E) sampling of and determination of injurious dusts and impurities in mine air; and
- (F) anemometers, konimeters, hygrometers, kata-thermometers and similar instruments; and

(iii) mine rescue work, including—

- (A) the construction, care, and use of the principal types of portable breathing apparatus in common use in mines; and
- (B) types of dangerous gases and their occurrence and effect; and
- (C) training of mine rescue squads; and

(iv) mine sampling and valuation, including—

- (A) sampling of developed and undeveloped ore bodies, faces, cores, and alluvial and other deposits; and
- (B) sampling tools; and
- (C) diamond and other drilling layout; and
- (D) discounting of assay values of samples; and
- (E) calculation of ore reserves and values; and

- (v) mining geology, including—
 - (A) modes of occurrence of useful minerals; and
 - (B) general principles of geology; and
 - (C) knowledge of common rocks and of the properties of and methods of testing common useful minerals; and
 - (D) laws of faults; and
 - (E) disturbances in lodes, beds, leads, and other mineral deposits; and
 - (F) occurrence of oil deposits; and
 - (G) economic geology generally; and
- (vi) mining surveying, including the matters specified in Section 338(c)(i); and
- (vii) ore-dressing and sampling, including—
 - (A) construction, erection, and use of machines for crushing and dressing ores; and
 - (B) the methods of ore-dressing; and
 - (C) outlines of milling and treatment processes and machinery; and
 - (D) battery practice; and
 - (E) crushing; and
 - (F) amalgamation; and
 - (G) cyanidation; and
 - (H) flotation; and
 - (I) treatment of ores by chemical, mechanical, or other processes; and
 - (J) methods of sampling ores and waste products; and
- (viii) surface work, including—
 - (A) installation and management of machinery used about a mine or works; and
 - (B) design and erection of poppet heads, hoppers, milling plants, mine buildings and structures; and
 - (C) design of pipe lines; and
 - (D) laying out and construction of tramways, water races, and flumes; and
 - (E) elementary mechanical drawing; and
 - (F) electricity applied to mining; and
 - (G) strength of materials of construction; and
 - (H) testing of boilers, air compressors, and safety appliances; and
- (ix) elementary mathematics, book-keeping, and mine accounts, including—
 - (A) the fundamental rules applied to whole numbers and to vulgar and decimal fractions; and
 - (B) proportion; and

- (C) practice; and
 - (D) percentage; and
 - (E) extraction of square root; and
 - (F) general mensuration of surfaces, plane figures, and solids; and
 - (G) superficial measurement of masonry and timbers; and
 - (H) contents of cylinders, cones, spheres, dams, lodes, ore bodies, ore paddocks, and similar matters; and
 - (I) definition and explanation of book-keeping terms; and
 - (J) pay sheets; and
 - (K) accounts relating to the receipt and distribution of stores and the disposal of ore and metal; and
 - (L) summaries of mineral produced and labour employed; and
 - (M) analysis and comparison of costs; and
 - (N) stock, cash, working, and revenue accounts; and
 - (O) journals; and
 - (P) balance-sheets; and
 - (x) the law in force in the country relating to mining; and
- (c) to produce to the Board of Examiners a certificate from a recognized first aid training society or a medical practitioner registered in Papua New Guinea or a State of Australia that the applicant has undergone satisfactorily a course of training in first aid to the injured, particulars of which certificate shall be endorsed on the certificate of competency as metalliferous mine manager before it is issued by the Board.

338. Examination for mine surveyors.

Every applicant for examination as to his qualifications for the occupation of mine surveyor shall be required—

- (a) to satisfy the Board of Examiners that—
 - (i) he is not less than 21 years of age; and
 - (ii) he has had technical instruction satisfactory to the Board; and
 - (iii) he has had experience in mine surveys for not less than 12 months; and
- (b) to lodge with his application a complete plan and longitudinal and cross sections of a workings drawn by him in accordance with Division II.1, together with field notes and calculations of a survey made by him; and
- (c) to pass in the following subjects, operations, and matters:—
 - (i) mine surveying, including—
 - (A) general principles and methods of mine surveying; and
 - (B) the use, care, and adjustment of instruments used in surveying; and
 - (C) mathematical calculations relating to mine surveying; and
 - (D) drawing of plans on system of co-ordinates; and
 - (E) sections; and
 - (F) levelling in mines and on the surface; and

- (G) measurements of dams, dumps, and other earthworks; and
- (H) calculations of quantities; and
- (I) location, survey, and construction of mine roads, tramways, water races, aerial tramways, and power-transmission lines; and
- (J) solution of problems involved in the determination of dip, strike, and intersection of lodes; and
- (K) determination of the true meridian; and
- (L) topographical survey; and
- (M) transfer of azimuth underground; and
- (N) design and layout of workings including ore and mullock passes, travelling ways, and timber drives; and
- (O) underground and surface connexions; and
- (P) bore-hole surveys; and
- (ii) mine ventilation, including the items specified in Section 337(b)(ii); and
- (iii) mine sampling, including—
 - (A) sampling of developed and undeveloped faces and alluvial and other deposits; and
 - (B) calculation of ore reserves and values; and
- (iv) mining geology, including the items specified in Section 337(b)(v).

339. Examination for dredge masters.

- (1) Every applicant for examination as to his qualifications for the occupation of dredge master shall satisfy the Board of Examiners that he—
- (a) is at least 25 years of age; and
 - (b) has had employment on dredges for periods aggregating not less than five years; and
 - (c) is, or is deemed to be, the holder of a certificate of competency in respect of the occupation of a dredge winchman.
- (2) The applicant who is admitted to examination shall be required to pass in the following subjects, operations, and matters:—
- (a) the laying of lines and the methods of running lines for working a dredge; and
 - (b) the moving of a dredge up and down stream; and
 - (c) the mooring of a dredge and protecting a dredge against floods; and
 - (d) boats, and the working of boats under conditions incidental to dredging operations; and
 - (e) the law in force in the country relating to mining by dredging and to dredges for mining purposes; and
 - (f) such matters relating to the safe working of dredges as the Board deems desirable, including a knowledge of machinery and the strength of ropes.

340. Examination for winding-engine drivers.

(1) Every applicant for examination as to his qualifications for the occupation of winding-engine driver (steam or electric or both steam and electric) shall satisfy the Board of Examiners that he—

- (a) is not less than 21 years of age; and
- (b) is, or is deemed to be, the holder of—
 - (i) a certificate of competency in respect of the occupation of an ordinary steam-engine driver, where he desires a certificate of competency relating to a steam-winding engine; or
 - (ii) a certificate of competency in respect of the occupation of an ordinary electric-motor driver, where he desires a certificate of competency relating to an electric-winding engine; or
 - (iii) a certificate of competency in respect of both the occupation of an ordinary steam-engine driver and of an electric-motor driver, where he desires a certificate of competency relating to both a steam-winding engine and an electric-winding engine; and
- (c) has had general experience, for not less than 200 hours during a period of six months, in the operation of either a steam-winding engine or an electric-winding engine or of both a steam-winding engine and an electric-winding engine, under the supervision of a person who is, or is deemed to be, the holder of the appropriate certificate in respect of the occupation of a driver of the particular type of winding engine, according to whether the applicant desires the certificate secondly referred to in Paragraph (b)(i), (ii) or (iii).

(2) The applicant who is admitted to examination shall be required to pass in the following subject, operations, and matters:—

- (a) the general duties of winding-engine drivers, and precautions when taking charge; and
- (b) the signal code as prescribed by this Regulation, prime signals and different combinations, and precautions when giving signals; and
- (c) the lowering and hoisting of men and materials and the precautions to be taken in connexion with that operation, the speed allowed, the determination of the speed, and different forms of indicators; and
- (d) brakes and their different forms, method of attachment of brakes to engine, and mode of operation and the testing of brakes; and
- (e) winding accidents, their cause and prevention, and action in case of emergency; and
- (f) the cleaning and oiling of wire ropes, and method of putting new rope on drum; and
- (g) winding engines of different varieties, their operation and general construction, and reversing gears; and
- (h) the care of winding machinery, and ascertainment of dangerous defects; and
- (i) the management and construction of different types of air compressors, and accidents with air compressors; and
- (j) the law in force in the country in relation to winding and signals and to the use of electricity and machinery, in their application to winding engines, in and about mines and works.

341. Examination for ordinary steam-engine drivers.

(1) Every applicant for examination as to his qualifications for the occupation of ordinary steam-engine driver shall satisfy the Board of Examiners that he—

- (a) is not less than 19 years of age; and
- (b) has had experience, for not less than 700 hours during a period of 12 months, in or about steam-engine boilers under the supervision of a person who is, or is deemed to be, the holder of a certificate of competency in respect of the occupation of ordinary steam-engine driver or boiler inspector or a certificate deemed by the Board of Examiners to be the equivalent of such a certificate.

(2) The applicant who is admitted to examination shall be required to pass in the following subjects, operations, and matters:—

- (a) general duties of an ordinary steam-engine driver, and precautions when taking charge; and
- (b) construction of various steam engines and boilers in general use; and
- (c) details and use of parts, both internal and external, of steam machinery and boilers in general use; and
- (d) correction of defects in steam engines and boilers, and emergencies; and
- (e) elementary arithmetic; and
- (f) the law in force in the country in relation to boilers and machinery in and about mines and works.

342. Examination for ordinary electric-motor drivers.

(1) Every applicant for examination as to his qualifications for the occupation of ordinary electric-motor driver shall satisfy the Board of Examiners that he—

- (a) is not less than 19 years of age; and
- (b) has had experience, for not less than 140 hours during a period of four months, learning to operate electric motors and generators, under the supervision of a holder of a certificate of competency in respect of the occupation of an ordinary electric-motor driver or a certificate deemed by the Board of Examiners to be the equivalent of such a certificate.

(2) The applicant who is admitted to examination shall be required to pass in the following subjects, operations, and matters:—

- (a) general duties of an ordinary electric-motor driver, and precautions when taking charge; and
- (b) use and construction of electric motors and generators, both A.C. and D.C.; and
- (c) types of starters, methods of starting, and switches, fuses and meters; and
- (d) wiring; and
- (e) general elementary knowledge of the application of electricity to mining; and
- (f) the law in force in the country in relation to the use of electricity in its application to electric motors in and about mines and works.

343. Examination for gas-engine or oil-engine drivers.

(1) Every applicant for examination as to his qualifications for the occupation of a gas-engine or oil-engine driver shall satisfy the Board of Examiners that he—

- (a) is not less than 19 years of age; and
- (b) has had experience, for not less than 140 hours during a period of four months, learning to operate gas-engines or oil-engines (of more than 18.643 kW¹), under the supervision of a holder of a certificate of competency in respect of the occupation of a gas-engine or oil-engine driver or a certificate deemed by the Board of Examiners to be the equivalent of such a certificate.

(2) The applicant who is admitted to examination shall be required to pass in the following subjects, operations, and matters:—

- (a) general duties of a gas-engine or oil-engine driver, and precautions when taking charge; and
- (b) general principles of gas-engines and oil-engines; and
- (c) the principal working parts of gas-engines or oil-engines, the different classes of producers and accessories, and fittings and their uses; and
- (d) necessary action in the case of emergencies and danger; and
- (e) the law in force in the country in relation to the use of machinery in and about mines and works.

344. Examination for dredge winchmen.

(1) Every applicant for examination as to his qualifications for the occupation of a dredge winchman (steam or electric, or both steam and electric) shall satisfy the Board of Examiners that he—

- (a) is, or is deemed to be, the holder of—
 - (i) a certificate of competency in respect of the occupation of an ordinary steam-engine driver, where he desires a certificate of competency in relation to a steam winch; or
 - (ii) a certificate of competency in respect of the occupation of an ordinary electric-motor driver, where he desires a certificate of competency in relation to an electric winch; or
 - (iii) a certificate of competency in respect of both the occupation of an ordinary steam-engine driver and of an electric-motor driver, where he desires a certificate of competency in relation to both a steam winch and an electric winch; and
- (b) has had general experience, for not less than 200 hours during a period of six months, in the operation of either a steam or electric dredge-winch or both a steam and electric dredge-winch under the supervision of a person who is the holder of the appropriate certificate in respect of the occupation of a dredge winchman operating the particular type of winch according to whether the applicant desires the certificate secondly referred to in Paragraph (a)(i), (ii) or (iii).

¹Metricated editorially. The original power was 25 horse-power.

(2) The applicant who is admitted to examination shall be required to pass in the following subjects, operations, and matters:—

- (a) general duties of a dredge winchman, and precautions when taking charge; and
- (b) operation of bucket lines; and
- (c) operation of dredge on the Spud System; and
- (d) operation of dredge on the Head-line System; and
- (e) cleaning and oiling of wire ropes; and
- (f) such other matters relating to dredging as are specified by the Board of Examiners in the notice appointing the time and place of examination; and
- (g) the law in force in the country in relation to dredges used for mining purposes.

345. Examination for mine electricians.

(1) Every applicant for examination as to his qualifications for the occupation of a mine electrician, shall satisfy the Board of Examiners that he—

- (a) is not less than 21 years of age; and
- (b) has been the holder for a period of six months of a certificate of competency in respect of the occupation of an ordinary electric-motor driver or satisfies the Board of Examiners as to his technical and practical training in the occupation of electrician; and
- (c) has had general experience, for not less than 200 hours during a period of 12 months, in the operation and installation of electric services in and about a mine.

(2) The applicant who is admitted to examination shall be required to pass in the following subjects, operations, and matters:—

- (a) the use of electricity in and about mines in so far as regards safety of life and property—the examination to be limited to questions which are suitable for practical working electricians; and
- (b) the use and construction of electric motors and generators both A.C. and D.C.; and
- (c) first aid to the injured, in cases of electric shock; and
- (d) the law in force in the country in relation to the installation and use of electricity in and about mines and works.

Division 5.—Permits of Employment.

346. Who may issue permits.

(1) Subject to this Regulation, the Warden or an inspector may issue a permit of employment in respect of any of the occupations referred to or included in Section 319.

(2) The fee payable on the issue of a permit under this section is K0.75.

347. Issue of permits.

(1) A permit shall not be issued under Section 346 unless—

- (a) application is made in Form 27; and

- (b) evidence that the applicant is a person of sober habits and of general good conduct is produced; and
- (c) the prescribed fee is paid.

(2) Every permit issued by the Warden or an inspector shall be in Form 28.

348. Alluvial miner's permit.

A permit shall not be issued in respect of the occupation of an alluvial miner unless the applicant for the permit satisfies the Warden or the inspector to whom the application is made that he—

- (a) resides in the country; and
- (b) can efficiently handle explosives; and
- (c) has had sufficient technical training and, in the aggregate, at least six months' practical experience in alluvial mining.

349. Underground miner's permit.

A permit shall not be issued in respect of the occupation of an underground miner unless the applicant for the permit satisfies the Warden or the inspector to whom the application is made that he—

- (a) resides in the country; and
- (b) has had sufficient technical training and, in the aggregate, has been engaged in practical underground mining for a period of at least two years.

350. Boiler operator's permit.

(1) A permit shall not be issued in respect of the occupation of a boiler operator unless the applicant for the permit satisfies the Warden or the inspector to whom the application is made that he—

- (a) resides in the country; and
- (b) is able efficiently to operate the type of boiler for the operation of which the permit is desired.

(2) Where required by the Warden or inspector, the applicant shall produce a certificate by a qualified medical practitioner that he is mentally sound and physically capable of operating the type of boiler.

351. Restricted operation of boiler operator's permit.

(1) Every permit issued for the occupation of a boiler operator shall be limited in its operation to a particular boiler or boilers of which particulars sufficient for identification shall be specified in the permit.

(2) Where at any time after the issue of the permit it appears to the Warden or an inspector to be desirable to extend the operation to any other boiler or boilers, he may so extend its operation by specifying the particulars of the other boiler or boilers in an endorsement, signed by him on the permit.

352. Hoist driver's permit.

(1) A permit shall not be issued in respect of the occupation of a hoist driver unless the applicant for the permit satisfies the inspector to whom the application is made that he—

- (a) resides in the country; and

(b) is able efficiently to operate the type of hoist for the operation of which the permit is desired.

(2) Where required by the inspector, the applicant shall produce a certificate by a qualified medical practitioner that he is mentally sound and physically capable of operating the type of hoist for the operation of which the permit is desired.

353. Restricted operation of hoist driver's permit.

(1) Subject to Subsection (2), a permit issued in respect of the occupation of a hoist driver shall be valid only for the type of hoist and the operation specified in the permit.

(2) Where he considers it desirable to do so, an inspector may from time to time extend a permit referred to in Subsection (1) to such other type of hoist or operation as is specified by endorsement, signed by him on the permit.

354. Register of permits.

A register of all permits issued by the Warden or an inspector shall be kept at the Warden's office.

355. Suspension and cancellation of permits.

(1) Where it appears to an inspector that the holder of a permit for employment issued under this Part has shown himself to be incapable of, or grossly negligent in, discharging his duties, he shall report the facts to the Warden.

(2) The Warden, on consideration of the facts reported to him, may, by written notice signed by him, require the holder of the permit to appear before him and show cause why the permit should not be cancelled or suspended.

(3) A notice under Subsection (2) shall—

(a) appoint, for the hearing of the matter, a place as well as a day and hour not sooner than seven days after service of the notice; and

(b) specify the grounds for requiring the holder of the permit to show cause.

(4) After the conclusion of the evidence which shall be on oath, taken down in writing, and signed by the respective witnesses, the Warden shall record and pronounce his determination—

(a) not to interfere with the permit; or

(b) to cancel the permit; or

(c) to suspend the permit for a specified period.

(5) Where the Warden determines to cancel or suspend the permit he may order the delivery up to him of the permit for the purpose of endorsing his determination on it.

(6) The determination of the Warden under this section is final and conclusive.¹

PART VII.—MISCELLANEOUS.

356. Order requiring discontinuance of operations or use of machinery.

Where an inspector considers it proper to make an order under Section 6(1)(e) of the Act, he shall serve on the manager a notice—

(a) where the order relates to Section 6(1)(e)(i) of the Act—in Form 29; or

(b) where the order relates to Section 6(1)(e)(ii) of the Act—in Form 30.

¹But, see, Constitution, Section 155.

357. Requisition to remedy danger or defect.

(1) Every requisition by an inspector made, and delivered at a mine or works, under Section 9(1) of the Act shall be in Form 31.

(2) Any appeal against a requisition under Subsection (1) shall be made to the Warden's Court by lodging, at the Warden's office within seven days after the delivery of the requisition, a notice of appeal in Form 32, a copy of which shall be served on the inspector making the requisition.

(3) The Warden may, for the hearing of the appeal, appoint any time after the expiration of seven days, or such shorter period to which the parties assent, from the lodging of the notice of appeal.

358. Reports of accidents.

(1) Where an owner, agent, or manager of a mine or works is required, under the Act or this Regulation, to report any accident to an inspector or to the Warden, the report shall be made—

(a) if the accident is attended with loss of human life or bodily injury — in Form 14; and

(b) if the accident is not so attended—in Form 33.

(2) The facts relating to the accident shall be promptly entered in the prescribed Mine Register and a record shall also be made of the fact and date of the report.

(3) Where the accident causes any of the effects referred to in Section 57(1)(a) and (b) of the Act, the report shall be made within 24 hours of the occurrence of the accident.

359. Inquiry by inspector into accident.

Where an inspector proposes to hold, under Section 59 of the Act, an inquiry into any accident which, occurring at any mine or works, results in the loss of human life or in serious bodily injury to any person, he shall, not less than seven days before the time appointed for the hearing of the inquiry, cause to be served on the owner, agent, or manager of the mine or works a notice in Form 34.

360. Summons to attend or produce documents.

(1) Where, for the purpose of an inquiry held by him under Section 15 of the Act, an inspector requires—

(a) the attendance of any person to give evidence, he may issue a summons in Form 35; or

(b) the production of any relevant book or document in the possession or control of any person, he may issue a summons in Form 36.

(2) A summons referred to in Subsection (1) shall be served personally on the person to whom it is addressed by showing him the original and leaving a copy of the summons with him.

361. Registration of manager.

(1) The owner or agent of a mine or works shall, for the purpose of registering the name and address of the manager under Section 16 of the Act, lodge at the Warden's office a notice in Form 37.

(2) The Warden shall—

- (a) keep a register in which he shall cause to be entered the name and address of every manager in respect of whom he receives the notice under Subsection (1); and
- (b) subject to Subsection (3)—issue to the owner or agent a certificate of registration in Form 38.

(3) The Warden may—

- (a) refuse a certificate for any one manager in respect of more than one mine or works; and
- (b) by notice in Form 39—require the owner or agent of the mine or works, within one month after the service of the notice on him, to appoint a different manager in respect of any additional mine or works,

and the owner or agent shall appoint a different manager accordingly and notify the Warden of the appointment.

362. Appointment of deputy manager.

Where, under Section 17 of the Act, a deputy manager of any mine or works is appointed during the incapacity or absence of the manager, notice of the appointment in Form 40 shall be sent to the Chief Inspector.

363. Report by manager on dangerous condition in mine.

Where, under Section 20 of the Act, it becomes the duty of the manager of a mine to report that the mine or any part of the mine is dangerous, he shall make his report in Form 41.

364. Exemptions.

Where the Warden, or any inspector, exercises any power of exemption under the Act or this Regulation he shall do so by order in Form 42, and he may in the order specify the period for which the exemption shall be operative.

365. Register to be kept at mine or works.

(1) There shall be kept, at every mine or works, a book in Form 43, called the Mine Register or Works Register, as the case may be, in which there shall, in relation to the mine or works, be recorded from time to time—

- (a) the inspector's observations on, and the particulars of any alterations or requirements which he deems necessary in regard to, the condition in which he finds the mine or works or any machinery; and
- (b) any entry and memorandum made by the manager of the mine under Section 20 of the Act; and
- (c) any certificate by an inspector under Section 26 of the Act; and
- (d) any other entries, statements, or particulars which are, under this Regulation, required—
 - (i) to be so entered or recorded; or
 - (ii) to be recorded without specifying any particular register or book in which they are to be recorded.

(2) Every entry made in the book—

(a) shall show—

(i) the date when it was made; and

(ii) the number of the relevant section of the Act or regulation, and the facts under such appropriate headings as Ventilation, Explosives, Boilers or Electricity, or as the case may be; and

(b) shall be signed by the person making it.

(3) The pages of the book shall be numbered consecutively and an index to the entries shall be kept up to date.

(4) The book shall be made available at all reasonable times to any inspector who may, subject to this Regulation, require such modifications in the method of making any entry, or of keeping the index, as appear to him to be desirable.

366. Working hours of persons in charge of machinery.

Except where the written permission of an inspector has first been obtained, a person in charge of any machinery at any mine or works shall not be employed for any one working period or shift of more than eight hours, and at the end of the period or shift there shall be an interval of at least eight hours before the commencement of the next period or shift.

367. Written approval, etc.

(1) Where under this Regulation an inspector, being then at a mine or works, gives any approval, consent, instruction, or order in relation to the mine or works, for the giving of which approval, consent, instruction, or order no other method or form is prescribed, the inspector shall, in the prescribed Mine or Works Register, as the case may be, make an entry of the date and the facts.

(2) Where the owner, agent, or manager of a mine or works receives any approval, consent, instruction, or order in any form specially prescribed, he shall, on the day of its receipt, make, in the prescribed Mine or Works Register, as the case may be, a brief entry of its effect and file the form in such a manner as to make it readily available for inspection at any time.

368. Non-observance of this Regulation.

Where under this Regulation some act at, on, or in connexion with, any mine, dredge, or works, is required to be done or is prohibited, without imposing on any particular person the duty to do, or refrain from doing, the act, and there has been a failure to do so or refrain, the owner, agent, or manager of the mine, dredge, or works, where the failure occurs, shall be deemed to contravene the provision of this Regulation requiring or prohibiting the act.

369. Allowances for witnesses.

(1) Where under the Act or this Regulation, the attendance of a witness is required at an inquiry, or at the hearing of any matter by the Warden, the witness is entitled to witnesses' expenses in accordance with the following scale:—

(a) for travelling—

(i) to a witness who travels by ship, air or vehicle, the amount actually and properly paid for fares both in going to and returning from the inquiry or hearing; or

(ii) where fares are not paid—mileage for each mile¹ actually travelled (over the first three miles) to be allowed one way only, a sum not exceeding K40.00 per mile,

as assessed by the Warden; and

(b) for attendance—a sum representing the amount of salary, wages or income actually lost and accommodation expenses, but not exceeding K21.00 per day, as assessed by the Warden.

(2) An assessor shall be deemed to be, for the purposes of the *Boards (Fees and Allowances) Act*, a member of a Board approved under Section 2 of that Act.

370. Extension of time.

Subject to the Act, the Warden may, on the application of any party affected, extend the time prescribed in this Regulation for the doing of any act, where the application is made before, or within the shortest practicable period after, the expiration of the time and it appears to the Warden that the time prescribed is insufficient.

SCHEDULES.

SCHEDULE 1.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 16.

Form 1.

CERTIFICATE OF EXEMPTION FROM STANDARDS OF TEMPERATURE.

To the Owner (or Agent or Manager), (name and address of mine).

This is to certify that (name and address of mine) is exempt from the standards of temperature prescribed by Section 16 of the *Mining (Safety) Regulation*.

Dated at , 19

Dated at , 19

Inspector of Mines.

¹Metrication has not been attempted editorially.

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Mining (Safety)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 17.

Form 2.

NOTICE TO INSTALL AND WORK ADDITIONAL VENTILATION.

To the Owner (or Agent or Manager), (name and address of mine).

You are notified that you are required, within _____ days from date, to have installed and working in the part(s) of (name and address of mine) which is/are set out below the following additional or auxiliary ventilating appliances:—

Dated at _____, 19 _____

Inspector of Mines.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 23(1)(a).

Form 3.

APPLICATION FOR EXEMPTION FROM VENTILATION REQUIREMENTS.

To the Inspector of Mines

at _____

I apply for exemption from the ventilation requirements in the undermentioned working places of (name and address of mine), for the purpose of improving ventilation or temperature of mine (or opening up ground otherwise inaccessible) by carrying on the temporary mining operations and with the objects specified in the accompanying statutory declaration made by me in accordance with Section 23(1) of the *Mining (Safety) Regulation*. The working places for which the exemption is sought are as follows:—

Dated at _____, 19 _____

Owner (or Agent, or Manager),
(name and address of mine).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 23.

Form 4.

CERTIFICATE OF EXEMPTION FROM VENTILATION REQUIREMENTS FOR TEMPORARY OPERATIONS.

To the Owner (or Agent or Manager), (name and address of mine).

This is to certify that your application dated _____, 19 _____ for exemption from the ventilation requirements of the *Mining (Safety) Regulation* has been granted and that you are PERMITTED TEMPORARILY to carry on at (name and address of mine) the mining operations specified below but subject to the conditions and restrictions set out:—

Issued at _____, 19 _____

Inspector of Mines.

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Mining (Safety) Act.

Reg., Sec. 38.

Form 5.

NOTICE TO MAKE DUST TESTS.

To the Owner (or Agent or Manager), (name and address of mine).

Take notice that you are required within _____ days from date to make tests of the quantity of dust present in the air in the working places, travelling ways, and crib places of (name and address of mine) and that in the making of the tests you shall employ the following method:—

Issued at _____, 19 _____

Inspector of Mines.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 59.

Form 6.

EXEMPTION FROM RESTRICTIONS ON FIRING UNDERGROUND.

To the Owner (or Agent or Manager), (name and address of mine).

I exempt the parts of (name and address of mine) which are specified below, from the requirements of Section 59(7) to (11) of the *Mining (Safety) Regulation* subject to the following conditions:—

Dated at _____, 19 _____

Inspector of Mines.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 107.

Form 7.

NOTICE TO TEST SAFETY CAGES.

To the Owner (or Agent or Manager), (name and address of mine).

Take notice that I shall require that the test referred to in Section 107 of the *Mining (Safety) Regulation* shall be conducted in my presence on _____, 19 _____ at _____ a.m./p.m.

Dated at _____, 19 _____

Inspector of Mines.

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Mining (Safety)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 142(a).

Form 8.

NOTICE OF INTENTION TO INSTALL OR ERECT BOILER.

To the Inspector of Mines,

at

I give you notice that it is intended to install or erect at (*name and address of mine or works*) a boiler which is intended to be used for the purpose of and of which the following are the particulars:—

Owner's name and address:

Type:

Description:

Grate bar area:

Name of maker:

Shop number:

Date of construction:

I enclose the maker's test certificate and a print of the drawing of the boiler specifying and showing the several matters required by Section 161 of the *Mining (Safety) Regulation*.

Dated at _____, 19 _____

Owner (*or Agent, or Manager*),
(*name and address of mine or works*).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 142(b).

Form 9.

BOILER CERTIFICATE.

To the Owner (*or Agent or Manager*), (*name and address of mine or works*).

I certify that I have this day examined the boiler, of which particulars are given below, intended to be used in connexion with for the purpose of (*name and address of mine or works*) and that I find the boiler to be in a good condition and fit for the purpose mentioned.

The maximum working pressure of the boiler is

Particulars of Boiler referred to in this Certificate.

Type of boiler:

Date of manufacture:

Description of boiler setting:

Type of safety valves:

Dated at _____, 19 _____

Boiler Inspector.

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Prepared for inclusion as at 1/1/1980.

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Mining (Safety) Act.

Reg., Sec. 152.

Form 10.

NOTICE OF INTENTION TO INSPECT BOILERS.

To the Manager, (*name and address of mine or works*).

Take notice that on _____, 19____ an inspection will be made of every boiler installed or erected at (*name and address of mine or works*).

Your attention is directed to the provisions of Section 152(3) and (4) of the *Mining (Safety) Regulation*.

Dated at _____, 19____

Boiler Inspector.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 153.

Form 11.

RECORD OF BOILER INSPECTION.

Made at _____ mine situated at _____ works on _____, 19____

Official No.:

Type of boiler:

Date of manufacture:

Description of boiler setting:

Material of construction (steel or iron):

Diameter and length of shell:

Thickness of shell plates:

Particulars of riveting of longitudinal joint:

Number of furnaces:

Diameter of furnaces:

Thickness of furnace plates:

Particulars of longitudinal joint of furnace (riveted or welded):

Description of circumferential joint of furnace and length of longest ring of plates:

Thickness of end plates:

Description, number, and distribution of stays:

Number of stay tubes and particulars of distribution:

Thickness of firebox plates:

Particulars and distribution of screwed stays:

Particulars of firebox stays:

Absence (or otherwise) of defects around blow-off cock and bend:

Condition of pressure gauge:

Variation from standard gauge:

Number and condition of the water gauge glasses and mountings:

Condition of these mountings:

With regard to proper safety valves—

(a) Number:

(b) Type (locked etc):

(c) Diameter:

(d) Condition:

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Area of each fire-grate:

Date of last test:

Dates of last two cleanings:

Hydrostatic test pressure:

Nature and extent of alteration in shape of furnaces as ascertained by trammel gauges when under hydrostatic test pressure:

Weakness (if any) disclosed by hydrostatic test:

Repairs recommended:

In the case of a locomotive or portable boiler—

(a) Diameter of boiler:

(b) Particulars of thickness and riveting of longitudinal joints of shell or barrel plates:

Supplementary particulars and remarks:

The above particulars are a true record of the inspection.

Dated at _____, 19 _____

Boiler Inspector.

PAPUA NEW GUINEA

Mining (Safety) Act.

Reg., Sec. 155.

Form 12.

NOTICE PROHIBITING OR RESTRICTING USE OF BOILER.

To the Owner (or Agent or Manager), (name and address of mine or works).

Take notice that you are required to desist from working or using the undermentioned boiler (specify particulars showing extent of the prohibition or restriction intended. (See Section 155 (1) of the Mining (Safety) Regulation.))

The boiler referred to above is (insert description sufficient to identify boiler).

Dated at _____, 19 _____

Boiler Inspector.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 157.

Form 13.

BOILER REPAIRS OR ALTERATIONS.

NOTICE.

To the Inspector of Mines

at

I give notice that in relation to one (or two or as the case may be) boiler(s) now erected at (name and address of mine or works) particulars of which are given below, I propose to effect the following repairs, alterations, or additions:—

(State nature of repairs, alterations or additions proposed to be made.)

The work will be done by (name and address of person who is actually to effect the repairs, etc.).

Particulars of Boiler referred to in this Notice.

Type of boiler:

Date of manufacture:

Description of boiler setting:

Type of safety valves:

Dated at _____, 19 _____

Owner (or Agent, or Manager),
(name and address of mine or works).

Mining (Safety)

Ch. No. 195A

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 171 and 358(1)(a).

Form 14

REPORT OF ACCIDENT CAUSING BODILY INJURY.

I report that an accident occurred in the *(insert part of mine or works)* of *(name and address of mine or works)* on _____, 19____, at _____ a.m./p.m. when the person in charge was *(name)* and that the particulars of the accident are as follows:—

Particulars of the Accident.

Injured person's—			Result of injury <i>(fatal or non-fatal).</i>	Description of non-fatal injury.	What done with injured <i>(treated locally, sent to hospital, etc.).</i>	Name of doctor attending.	Cause of accident <i>(if explosion, name of explosive to be given.)</i>
Full name.	Age.	Status <i>(married or single).</i>					

Dated at _____, 19____

Owner(or Agent, or Manager),
(name and address of mine or works).

143
Prepared for inclusion as at 1/1/1980.

Ch. No. 195A

Mining (Safety)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 272.

Form 15.

NOTICE OF RESUMPTION OF MINING OPERATIONS.

To the Inspector of Mines

at

I give notice that it is intended to resume mining operations at *(name and address of mine)*, on or about _____, 19____.

You are requested to examine the appliances and workings of the mine and to indicate whether or not the operations may be resumed with safety.

Dated at _____, 19____.

Owner *(or Agent, or Manager)*,
(name and address of mine).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 42.

Form 16.

Reg., Sec. 288.

APPLICATION FOR APPROVAL TO CONSTRUCT, ALTER, OR ENLARGE A DAM.

To the Chief Inspector.

1. I apply for authority to construct/alter/enlarge a dam having a capacity of _____ litres, situated at _____ and intended to be used in connexion with mining operations at _____.

2. I have this day lodged, in accordance with Section 42 of the *Mining (Safety) Act*, plans and specifications showing the details of the proposed construction/alteration/enlargement.

Dated at _____, 19____.

(Signature of Applicant.)

*Strike out whichever is inapplicable.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 43.

Form 17.

Reg., Sec. 289.

NOTICE TO EMPTY OR REPAIR DAM.

To

You are notified that the dam situated at _____ and constructed *(or used)* for mining purposes at _____ and constructed *(or used)* for mining purposes at *(name and address of mine)* is defective and dangerous to human life/property and you are required immediately to empty and keep empty/discontinue to use the dam until you have effected such reconstruction/repairs as shall be satisfactory to ensure safety.

Dated at _____, 19____.

Warden *(or Inspector of Mines)*.

*Strike out whichever is inapplicable.

Mining (Safety)

Ch. No. 195A

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 53.

Form 18.

Reg., Sec. 291(a).

REMOVAL OF PROPS, TIMBER, ETC.

NOTICE TO ADJOINING MINE.

To the Owner (or Agent or Manager), (*name and address of adjoining mine*).

Take notice that it is proposed, at the expiration of seven days from the date of this notice, to remove the props, timber, or stone wall from the undermentioned portions of the (*name and address of mine*) and that, since the removal may affect the safety or accessibility of either that mine or the adjoining mine, application is being made for the consent of an inspector of mines.

Portions of Mine and Particulars of Props, etc., Proposed to be Removed.

Dated at _____, 19 _____

Owner (or Agent, or Manager),

(*name and address of mine*).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 53.

Form 19.

Reg., Sec. 291(b).

REMOVAL OF PROPS, TIMBER, ETC.

APPLICATION FOR CONSENT OF INSPECTOR.

To the Inspector of Mines

at _____

I apply for the consent required under Section 53 of the *Mining (Safety) Act* for the removal from the undermentioned portion of (*name and address of mine*) of the props, timber, or stone wall particularized below.

I have this day given notice to the owner/agent/manager* of the adjoining mine, (*name and address of adjoining mine*), the safety or accessibility of which may be affected by the removal, that it is proposed to effect the removal after the expiration of seven days, and that this application for consent is being made.

Portions of Mine and Particulars of Props, etc., Proposed to be Removed.

Dated at _____, 19 _____

Owner (or Agent, or Manager),

(*name and address of mine*).

*Strike out whichever is inapplicable.

Ch. No. 195A

Mining (Safety)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 54.

Form 20.

Reg., Sec. 292.

NOTICE OF COMMENCEMENT OF WORK ON NEW OR ABANDONED SHAFTS ETC.

To the Chief Inspector.

Take notice that working was, on _____, 19____, (*name and address of mine*) commenced (*or recommenced*) on a shaft (*or vein or lode or seam*) which is new (*or had been abandoned or discontinued*) for a period of _____ months and which is located in the undermentioned portion of the mine:—

Dated at _____,

19____.

Owner (*or Agent, or Manager*),

(*name and address of mine*).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 293.

Form 21.

NOTICE OF SEPARATE WORKING OF PARTS OF MINE.

To the Warden

at _____

Take notice that the parts of (*name and address of mine*) which are described and delineated in the appended particulars and sketch plan, are now being worked separately.

The particulars of the several parts are:—

Sketch Plan.

Dated at _____,

19____.

Owner (*or Agent, or Manager*),

(*name and address of mine*).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 294.

Form 22.

NOTICE OF CHANGE IN MINE NAME (*or OWNER or AGENT or MANAGER.*)

I the undersigned being the present owner (*or agent or manager*) of (*name and address of mine*) give notice that a change was made on _____, 19____, with the result that the present name (*or owner or agent or manager*) of the mine is as follows:—

Name:

Address:

Dated at _____,

19____.

Owner (*or Agent, or Manager*),

(*name and address of mine*).

Mining (Safety)

Ch. No. 195A

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 318.

Form 23.

CERTIFICATE OF COMPETENCY FOR THE OCCUPATION OF

Certificate No.

This is to certify that _____ of _____ has satisfied the Board of Examiners appointed under the *Mining (Safety) Regulation* that he is competent to discharge the duties attaching to the occupation of _____

Issued at _____ on _____, 19____, to _____ who has, for the purpose of identification, affixed his signature below.

(Signature of Holder.)

Chairman of the Board of Examiners.

Entered in the Register of
Certificates at Folio _____

Secretary to the Board.

Dated _____, 19____

PAPUA NEW GUINEA

Mining (Safety) Act.

Reg., Sec. 325.

Form 24.

REGISTER OF CERTIFICATES.

Certificates Issued.				Memoranda of suspension or cancellation or issue of duplicates.	
Progressive No.	Date of issue.	Occupation.	Holder's name.	Date.	Particulars.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 331.

Form 25.

APPLICATION FOR EXAMINATION AND CERTIFICATE

FOR THE OCCUPATION OF

1. I, _____ of _____, apply for examination and a certificate of competency for the abovementioned occupation.

2. I am _____ years of age having been born on _____, 19____ at _____

3. I have had practical experience extending over a period of _____ in (occupation) _____ which experience was gained at _____

4. I have pursued a course of theoretical study at _____ in the following subjects and for the duration set opposite each subject:—

(Subjects) (Duration)

*5. I am the holder of a certificate of competency granted under the Mining (Safety) Regulation for the occupation of _____

6. Attached are—

- (i) medical certificate as to physical fitness for the above occupation; and
- (ii) testimonials from _____ and as to my sobriety and integrity; and
- (iii) the fee of K _____ payable for examination.

Dated at _____, 19 _____

(Signature of Applicant.)

*This paragraph to be used only in appropriate cases.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 333.

Form 26.

APPLICATION FOR CERTIFICATE WITHOUT EXAMINATION FOR THE OCCUPATION OF _____

1. I, _____ of _____, apply for the issue to me, without examination, of a certificate of competency for the abovementioned occupation.

2. I request that the undermentioned certificate(s) or diploma(s), which was/were issued to me by (name and address of authority issuing certificate or diploma) be accepted as evidence of my competency for the occupation for which I now desire a certificate of competency.

3. I have had practical experience extending over a period of _____ in (occupation) which experience was gained at _____

4. Attached are—

- (i) medical certificate as to physical fitness for the above occupation; and
- (ii) testimonials from _____ and _____ as to my sobriety and integrity; and
- (iii) the fee of K3.15.

Dated at _____, 19 _____

(Signature of Applicant.)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 347(1).

Form 27.

APPLICATION FOR PERMIT OF EMPLOYMENT IN THE OCCUPATION OF _____

1. I, _____ of _____, apply for a permit of employment in respect of the abovementioned occupation.

2. I have had practical experience extending over a period of _____ in (occupation) which experience was gained at _____

3. Particulars of my technical training are as follows:—

4. I enclose—

- (i) the fee of K0.75 payable for the permit; and
- (ii) testimonials from _____ and _____ as to my sobriety and general character.

Dated at _____, 19 _____

(Signature of Applicant.)

Mining (Safety)

Ch. No. 195A

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 347(2).

Form 28.

PERMIT OF EMPLOYMENT
FOR THE OCCUPATION OF

Permit No.

This permit is issued to _____ of _____, whose signature is, for the purpose of identification, affixed below, and entitles him to be employed as _____ at _____ (name and address of mine or works).

Issued at _____, 19 _____
(Signature of Holder.)

Warden (or Inspector of Mines).

*In the case of a boiler operator particulars of the boiler should be inserted in addition to the words "boiler operator".

**Where operation of particular permit is not restricted the words "or elsewhere in Papua New Guinea" should be added.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 6(1)(e)(ii).

Form 29.

Reg., Sec. 356(a).

ORDER TO CEASE OPERATIONS AND WITHDRAW PERSONS.

To the Manager, (name and address of mine or works).

You are ordered immediately to cease all operations in the undermentioned part(s) of (name and address of mine or works) and to withdraw all persons now engaged in or being in those parts until you have taken and completed, for the purpose of ensuring safety, the following action:—

(State fully what action required to be taken.)

Description of Part(s) of Mine (or Works).

Dated at _____, 19 _____
Inspector of Mines.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 6(1)(e)(ii).

Form 30.

Reg., Sec. 356(b).

ORDER TO DISCONTINUE USE OF UNSAFE MACHINERY.

To the Manager, (name and address of mine or works).

You are ordered to immediately discontinue at (name and address of mine or works), the use of (describe machinery sufficiently to identify it,) until you have, in order to render it/them safe, taken the following steps:—

(Set out particulars of action required.)

Dated at _____, 19 _____
Inspector of Mines.

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Mining (Safety)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 9(1).

Form 31.

Reg., Sec. 357(1).

REQUISITION TO REMEDY DANGER OR DEFECT.

To the Owner (or Manager), (name and address of mine or works.)

You are required to remedy (specify time e.g., "immediately" or within seven days from the delivery of this requisition, or as the case may be) the undermentioned matter, thing, or practice which I find to be a danger or defect existing at (name and address of mine or works) by taking the action particularized below.

Description of Danger or Defect Found.

Particulars of the Remedial Action Required.

Dated at _____, 19 _____

Inspector of Mines.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 357(2).

Form 32.

REQUISITION TO REMEDY DANGER OR DEFECT.

NOTICE OF APPEAL.

To the Inspector of Mines

at

Take notice that I appeal against the requisition dated _____, 19 _____ at (name and address of mine or works) and requiring that certain action specified in the requisition should be taken in order to remedy a danger (or defect) alleged to exist there.

The grounds on which the appeal is based are as follows:—

Dated at _____, 19 _____

Owner (or Manager),
(name and address of mine or works).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 358(1)(b).

Form 33.

REPORT OF ACCIDENT WITHOUT BODILY INJURY.

I report that an accident occurred in the (state part of mine or works) of (name and address of mine or works) on _____, 19 _____ at _____ a.m./p.m. when the person in charge was (name).

And that the particulars of the accident are as follows:—

(Give fullest particulars as regards the nature, causes, and effects of the accident.)

Dated at _____, 19 _____

Owner (or Agent, or Manager),
(name and address of mine or works).

Mining (Safety)

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PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 59.

Form 34.

Reg., Sec. 359.

NOTICE OF INQUIRY BY INSPECTOR INTO ACCIDENT.

To the Owner (or Agent or Manager), (*name and address of mine or works*).

Take notice that an inquiry under Section 59 of the *Mining (Safety) Act* will be held at
on _____, 19____ at _____ a.m./p.m.

Section 59 of the Act provides that this notice shall, on its receipt by you, be posted in some conspicuous place at the (*name and address of mine or works*).

Dated at _____, 19____.

Inspector.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 15.

Form 35.

Reg., Sec. 360(1)(a).

SUMMONS TO TESTIFY AT INQUIRY.

To

You are summoned to attend at _____ on _____, 19____, and there to give evidence at an inquiry, in relation to (*name and address of mine or works*), to be held under Section 15 of the *Mining (Safety) Act*, and your attention is directed to the fact that neglect of failure without reasonable cause, to obey this summons renders you liable to a penalty of K40.00.

Issued at _____, 19____.

Inspector of Mines.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 15.

Form 36.

Reg., Sec. 360(1)(b).

SUMMONS TO PRODUCE DOCUMENTS.

To

You are summoned to bring with you _____ on _____, 19____, and there to produce the undermentioned books and documents at an inquiry to be held under Section 15 of the *Mining (Safety) Act* and your attention is directed to the fact that neglect or failure, without reasonable cause, to obey this summons renders you liable to a penalty of K40.00.

The documents and books which you are required to bring and produce are _____ and such other documents and books in your possession and control relating in any respect to the matter of an inquiry into the safety and well-being of persons employed at (*name and address of mine or works*).

Issued at _____, 19____.

Inspector of Mines.

Ch. No. 195A

Mining (Safety)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 16.

Form 37.

Reg., Sec. 361(1).

NOTICE OF APPOINTMENT OF MANAGER.

Notice is given that _____ of _____ has been appointed as manager of _____
(name and address of mine or works) where there are employed _____ persons.

*(Name of manager) is the holder of the certificate of competency prescribed in respect to the occupation of _____

It is requested that a Certificate of Registration be sent to _____ of _____

Dated at _____, 19 _____

**Owner (or Agent),

(name and address of mine or works).

*Strike out this paragraph if notice relates to manager of works (and not of a mine).

If the notice signed by a person as the Agent of the Owner the full name of the Owner (whether an individual or a company) should be stated.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 16.

Form 38.

Reg., Sec. 361(2).

CERTIFICATE OF REGISTRATION OF MANAGER.

This is to certify that I have this day registered the name and address of (name of registered manager) and the name and address of (name and address of mine or works) of which mine/works, notice of the appointment of (name of registered manager) as manager, has been duly received.

Dated at _____, 19 _____

Warden.

*Strike out whichever is inapplicable.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 361(3).

Form 39.

NOTICE TO APPOINT MANAGER.

To the Owner (or Agent), (name and address of mine or works).

I refuse a certificate of registration in respect of the appointment of _____ as manager of (name and address of mine or works) for the reason that _____ is already the manager appointed and registered for (name and address of mine or works) and I require you to appoint, within one month after service on you of this notice, a different manager at the first mentioned mine/works.

Dated at _____, 19 _____

Warden.

*Strike out whichever is inapplicable.

Mining (Safety)

Ch. No. 195A

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 17.
Reg., Sec. 362.

Form 40.

NOTICE OF APPOINTMENT OF DEPUTY MANAGER.

To the Chief Inspector.

This is to notify that _____ whose name has been registered as the manager of (*name and address of mine or works*) is incapacitated by illness (*or accident or about to be absent for more than seven days*) and that during the incapacity/absence of _____ I, as owner/agent/manager of the mine/works have appointed, (*full name*) to be deputy manager.

You will be advised on the recovery/return of the manager.

Dated at _____, 19 _____

Owner (*or Agent, or Manager*),
(*name and address of mine or works*).

*Strike out whichever is inapplicable.

PAPUA NEW GUINEA.

Mining (Safety) Act.

Act, Sec. 20.
Reg., Sec. 363.

Form 41.

REPORT BY MANAGER ON THE DANGEROUS STATE OF MINE.

To the Inspector of Mines

at _____

I report that owing to a danger which has arisen in (*name and address of mine*) I have ceased operations in the part(s) of the mine where the danger exists: (*give full particulars of parts of mine affected*) and I have withdrawn all persons who were engaged in or otherwise in those part(s).

The facts relating to the danger are as follows:—

(*Give details of the danger arising.*)

Dated at _____, 19 _____

Manager,
(*name and address of mine*).

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 364.

Form 42.

ORDER OF EXEMPTION.

To the Owner (*or Agent or Manager*), (*name and address of mine or works*).

In the exercise of the power conferred on me by the *Mining (Safety) Act/Regulation* I order that (*name and address of mine or works*) shall for a period of _____ from this date be exempt from (*set out fully and clearly the nature of the exemption*) as regards the whole of the mine/works (*or the following parts of the mine/works*):—

Dated at _____, 19 _____

Warden (*or Inspector of Mines*).

*Strike out whichever is inapplicable.

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Mining (Safety)

PAPUA NEW GUINEA.

Mining (Safety) Act.

Reg., Sec. 365.

Form 43.

MINE (or WORKS) REGISTER.

Date.	Act Section No./ Regulation Section No.	Subject.	Particulars.	Entered by.

SCHEDULE 2.

Reg., Sec. 195.

MAXIMUM CURRENT FOR COPPER CONDUCTORS¹.

Column 1.	Column 2.	Column 3.	Column 4.
GAUGE. Number of Wires and gauge in S.W.G. or Inches.	SECTION. Nominal Size of Conductors in Square Inches.	AMPERES. Maximum Amperes for Conductors with Class A Insulation.	AMPERES. Maximum Amperes for Conductors with Class B Insulation.
1/18	.001810	3.2	4.2
3/22	.001825	3.3	4.3
1/17	.002463	4.0	5.4
3/20	.003016	4.7	6.4
1/16	.003217	4.9	6.8
1/15	.004072	5.9	8.2
7/22	.004266	6.2	8.5
1/14	.005027	7.0	9.8
3/18	.005364	7.3	10.3
7/20	.007052	9.0	13.0
7/18	.01254	14.0	21.0
19/20	.01912	20.0	29.0
7/16	.02227	22.0	33.0
19/18	.03399	31.0	47.0
7/14	.03483	31.0	48.0
7/.095"	.05	42.0	64.0
19/.058"	.05	42.0	64.0
19/16	.06039	48.0	75.0
19/14	.09442	68.0	108.0
19/.082"	.1	71.0	113.0
37/16	.1176	81.0	130.0
19/.092"	.125	84.0	136.0
19/.101"	.15	96.0	158.0
37/.072"	.15	96.0	158.0
19/12	.1595	102.0	166.0
37/14	.1838	114.0	187.0

¹Because of the nature of this table no attempt has been made to metricate editorially.

Column 1.	Column 2.	Column 3.	Column 4.
GAUGE. Number of Wires and gauge in S.W.G. or Inches.	SECTION Nominal Size of Conductors in Square Inches.	AMPERES. Maximum Amperes for Conductors with Class A Insulation.	AMPERES. Maximum Amperes for Conductors with Class B Insulation.
37/.082"	.2	121.0	200.0
61/15	.2455	142.0	237.0
37/.092"	.25	145.0	241.0
37/.101"	.3	166.0	279.0
61/14	.3029	168.0	282.0
37/12	.3105	170.0	287.0
37/.110"	.35	187.0	317.0
37/.118"	.4	208.0	354.0
61/.092"	.4	208.0	354.0
61/.101"	.5	248.0	425.0
61/12	.5120	252.0	433.0
61/.110"	.6	282.0	493.0
91/.092"	.6	282.0	493.0
91/.098"	.7	320.0	560.0
91/.101"	.75	340.0	592.0
91/.104"	.8	352.0	624.0
91/.110"	.9	390.0	688.0
91/11	.9504	406.0	719.0
91/.118"	1.0	424.0	750.0
127/.101"	1.0	424.0	750.0

INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 195A.

Mining (Safety).

SUBSIDIARY LEGISLATION.

Act, Section 3.—Exemptions, Mine or Works, etc.

Loloho Power Station of Bougainville Copper Pty. Ltd., from the provisions of Section 143 of the *Mining (Safety) Regulation*, subject to conditions.

(Gazette No. 55, 10.7.1975.)

Gazette No. 81, 13.10.1977.)

Ramu Hydro Electric Project from compliance with Section 113 of the *Mining (Safety) Regulation* subject to conditions as per Schedule.

The owners of Ramu Hydro Electric Project from compliance with Section 16(2) of the *Mining (Safety) Act* subject to conditions.

(Gazette No. 79, 21.11.1974.)

Act, Section 4.—Exemptions—Quarries or Dams, etc.

Diversion Weir on Water Power Lease No. 4, granted under *Water Resources Act*, as in Schedule.

(Gazette No. 45, 24.5.1973.)

All the provisions of the Act apply in respect of the Order except Sections 16(2), 29, 48, 50 and 53.

The Order applies to any quarry, dam, tunnel or other works being constructed for a hydropower project.

(Gazette No. 40, 29.5.1980.)

Regulation, Section 320.—Appointment of Board of Examiners.

The Warden of Morobe Goldfield to be a Board of Examiner for the occupations of—

Boiler Inspector

Colliery Manager

Dredge Master

Dredge Winchman

Gas or Oil-engine Driver

Metalliferous Mine Manager

Mine Electrician

Ch. No. 195A

Mining (Safety)

Mine Surveyor

Ordinary Electric-motor Driver

Ordinary Steam-engine Driver

Winding-engine Driver

INDEPENDENT STATE OF PAPUA NEW GUINEA.

CHAPTER NO. 195A.

Mining (Safety).

APPENDIXES.

APPENDIX 1.

SOURCE OF THE MINING (SAFETY) ACT.

Part A.—Previous Legislation.

Mining (Safety) Act 1977 (No. 45 of 1977).

Part B.—Cross References.

Section, etc., in Revised Edition.	Previous Reference. ¹	Section, etc., in Revised Edition.	Previous Reference. ¹
1	1	30	31
2	3	31	32
3	4	32	33
4	5	33	34
5	6	34	35
6	7	35	36
7	8	36	37
8	9	37	38
9	10	38	39
10	11	39	40
11	12	40	41
12	13	41	42
13	14	42	43
14	15	43	44
15	16	44	45
16	17	45	46
17	18	46	47
18	19	47	48
19	20	48	49
20	21	49	50
21	22	50	51
22	23	51	52
23	24	52	53
24	25	53	54
25	26	54	55
26	27	55	56
27	28	56	57
28	29	57	58
29	30	58	59

¹Unless otherwise indicated, references are to the Act set out in Part A.

Part B.—Cross References—*continued.*

Section, etc., in Revised Edition.	Previous Reference.	Section, etc., in Revised Edition.	Previous Reference.
59	60	70	71
60	61	71	72
61	62	72	73
62	63	73	74
63	64	74	75
64	65	75	76
65	66	76	77
66	67	77	78
67	68	78	79, 80
68	69	79	81
69	70	80	82

APPENDIX 2.

SOURCE OF THE MINING (SAFETY) REGULATION.

Part A.—Previous Legislation.

Mines and Works Regulation 1935 of the former Territory of New Guinea as adopted by the *Mining (Safety) Act*, Section 80.

Part B.—Cross References.

Section, etc., in Revised Edition.	Previous Reference. ¹	Section, etc., in Revised Edition.	Previous Reference. ¹
1	3	45	48
2	4	46	49
3	5	47	50
4	6	48	51
5	7	49	52
6	8	50	53
7	9	51	54
8	10	52	55
9	11	53	56
10	12	54	57
11	13	55	58
12	14	56	59
13	15	57	60
14	16	58	61
15	17	59	62
16	18	60	63
17	19	61	64
18	20	62	65
19	21	63	66
20	22	64	67
21	23	65	68
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¹Unless otherwise indicated, references are to the regulation set out in Part A.

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