



**THE COAL MINES (OPENCAST COAL MINES)
REGULATIONS 1986**

PAUL REEVES, Governor-General

ORDER IN COUNCIL

At Wellington this 22nd day of September 1986

Present:

HIS EXCELLENCY THE GOVERNOR-GENERAL IN COUNCIL

PURSUANT to the Coal Mines Act 1979, His Excellency the Governor-General, acting by and with the advice and consent of the Executive Council, hereby makes the following regulations.

ANALYSIS

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Title and commencement 2. Interpretation | <ol style="list-style-type: none"> 15. Safety belts and ropes 16. Machinery and plant 17. Belt conveyors 18. Persons to wear close fitting garments, etc. 19. Suppression of dust 20. Disposal of water and waste 21. Railway sidings 22. Rope haulage tramways 23. Self-propelled vehicles |
| <i>Mine Managers' Certificates</i> | |
| <ol style="list-style-type: none"> 3. Opencast coal mine managers' certificates 4. Syllabus for opencast coal mine managers' certificates 5. Certificates to accompany application 6. Qualifications of candidates for examination 7. Opencast coal mine managers' examinations 8. Duplicate certificates or permits | <p style="text-align: center;"><i>Sanitation, Hygiene, and Amenities</i></p> <ol style="list-style-type: none"> 24. Sanitation and hygiene 25. Provision of first aid 26. Amenities |
| <i>Safety and Protection</i> | |
| <ol style="list-style-type: none"> 9. Duties of manager 10. Employment in opencast coal mines 11. Duties of persons employed 12. Precautions against fire 13. Lights and lighting 14. Protective helmets and other protective equipment | <p style="text-align: center;"><i>Explosives</i></p> <ol style="list-style-type: none"> 27. Code to be complied with 28. Danger to life and property 29. Magazine 30. No naked lights in magazines 31. Quantity of explosives to be taken from magazine |

32. Explosives to be removed	49. Treatment of misfired charges
33. Persons allowed to fire shots	50. Shotfiring from power supply
34. Age limit	51. Electric batteries not to be used for shot firing
35. Preparation of capped fuse and primers	52. Use of electric exploder
36. Explosives to be carried in secure containers	53. Testing of electric exploders, cables, and detonators
37. Tamping of explosives	54. Extraneous electricity
38. Stemming	55. Record of shots fired
39. Wrapping to be left on cartridges	
40. Diameter of drill holes	<i>Faces, Benches, and Safe Access</i>
41. Charges to be fired when charged	56. Opencast faces, benches, etc.
42. Warnings of shots to be fired	
43. Blasting shelters	<i>Miscellaneous Provisions</i>
44. Igniting the safety fuse	57. Plans
45. Shots to be counted	58. Duty generally
46. Face to be cleared before drilling	59. Disputes
47. Examination of unexploded holes	Schedule
48. Drilling in butt holes forbidden	

REGULATIONS

1. Title and commencement—(1) These regulations may be cited as the Coal Mines (Opencast Coal Mines) Regulations 1986.

(2) These regulations shall come into force on the 1st day of October 1986.

2. Interpretation—In these regulations, unless the context otherwise requires,—

“The Act” means the Coal Mines Act 1979:

“Approved” means approved by the Chief Inspector of Coal Mines:

“Board” means the Board of Examiners established under section 210 of the Coal Mines Act 1979:

“Inspector” means, as the case may require,—

(a) An Inspector of Coal Mines appointed under section 8 of the Act; and

(b) An Electrical Inspector of Coal Mines appointed under section 9 of the Act; and

(c) A Mechanical Engineering Inspector of Coal Mines appointed under section 10 of the Act:

“Manager” means a manager of an opencast coal mine:

“Opencast coal mine” means any place where operations are carried on for the purpose of extracting coal or fireclay where the fireclay is worked in association with coal deposits, and—

(a) The access to the coal or fireclay is obtained by means of the removal of overburden by mechanical or other means so as to expose the coal seams to natural light; or

(b) The coal seams are exposed to natural light without the need for the removal of any overburden:

“Syllabus”, in relation to the examinations for opencast coal mine managers’ certificates, means the syllabus set out in the Schedule to these regulations:

“Vehicle” includes motorcars, trucks, bulldozers, scraper loaders, front-end loaders, face shovels, and any other type of self-propelled unit used in or about a mine.

Mine Managers’ Certificates

3. Opencast coal mine managers’ certificates—(1) Every application for examination for an opencast coal mine manager’s certificate shall be

in the prescribed form and shall be accompanied by the fees set out in subclause (2) of this regulation.

(2) The application fee payable for examination shall be \$10 in the case of an A-grade opencast coal mine manager's certificate and \$5 in the case of a B-grade opencast coal mine manager's certificate.

(3) For the proper conduct of written and oral examinations the Board may appoint supervisors with such functions and powers as the Board thinks fit, and every supervisor so appointed who is not otherwise employed in a department of State shall be paid such fee as may from time to time be authorised by the Minister.

(4) Every candidate shall, before a date fixed by the Board in each year, make application in writing to be examined to the Secretary of the Board, Mines Division, Ministry of Energy, Wellington.

(5) The examinations for an A-grade certificate shall be both written and oral, the oral examination being conducted before members of the Board for that purpose.

(6) The examination for a B-grade certificate shall be oral only and shall be conducted by one or more members of the Board from time to time or by such other person, including an Inspector, as the Board may appoint for the purpose.

(7) No candidate shall be permitted to present himself for examination without an authority signed by the Secretary of the Board.

4. Syllabus for opencast coal mine managers' certificates—(1) The written and oral examinations for A-grade opencast coal mine managers' certificates shall comprise the subjects set out in the Schedule to these regulations.

(2) The oral examinations for B-grade opencast coal mine managers' certificates shall comprise the subjects set out in the Schedule to these regulations.

5. Certificates to accompany application—Every applicant for examination for an opencast coal mine manager's certificate shall forward with the application—

- (a) Evidence in writing of his experience in opencast coal mining and of the different opencast coal mines, underground coal mines, metalliferous mines, tunnels, and quarries that he has been employed in, and the period and nature of employment in each; and
- (b) Evidence of his general character and repute; and
- (c) A medical certificate that he is able, as far as his sight and hearing are concerned, to carry out the duties of the position efficiently; and
- (d) A first-aid certificate, acceptable to the Board, showing that he is fitted to give first aid to persons requiring it, and any such certificate shall have been obtained within the 5 years immediately preceding the date of the application or shall have been endorsed with a statement to the effect that the holder has passed a re-examination in first aid within the said period of 5 years.

6. Qualifications of candidates for examination—(1) No person under the age of 23 years shall sit for any examination for an opencast coal mine manager's certificate.

(2) Every applicant for examination for an opencast coal mine manager's certificate shall—

- (a) Have in the aggregate at least 2 years' experience at the face of an opencast coal mine, including the use of explosives in that work; or
- (b) Have in the aggregate at least one year's experience in the working of an opencast coal mine, including the use of explosives in that work, and at least 2 years' experience in the working at the face of an underground coal mine, a metalliferous mine, or a tunnel; or
- (c) Be the holder of a mine manager's certificate granted under the Coal Mines Act 1979, or a mine manager's certificate granted under the Mining Act 1971, or be the holder of either an A-Grade or B-Grade quarry manager's certificate granted under the Quarries and Tunnels Act 1982; or
- (d) Have such other experience as may be prescribed by regulations made under the Act:

Provided that for the purposes of paragraphs (a) and (b) of this subclause, where experience has been gained at an opencast coal mine where no explosives are used, the applicant shall be required to produce evidence that he has attended an approved explosives course.

7. Opencast coal mine managers' examinations—(1) Candidates for examination for opencast coal mine managers' certificates will be required to present themselves for examination at such times and places as are appointed by the Board.

(2) A pass mark of 50 percent in each subject is required.

(3) A candidate for an A-grade opencast coal mine manager's certificate shall not be examined in the oral examination until he has a pass in all written subjects of the examination.

(4) In the A-grade opencast coal mine manager's examination partial passes may be granted for each subject and a partial pass shall be valid for 2 years.

8. Duplicate certificates or permits—(1) Every application for a duplicate of any certificate issued under the Act shall be made in writing by the applicant to the Secretary of the Board.

(2) Every application for a duplicate of any permit issued by an Inspector under section 125 (1)(g) (i) of the Act shall be made in writing by the applicant to the Inspector.

(3) The application shall state the nature and class of the certificate or permit of which a duplicate is desired, and the number and date thereof if possible.

(4) The application shall be accompanied by—

(a) A fee of \$5; and

(b) A statutory declaration that the applicant is the person named in such certificate or permit, and is the lawful holder thereof. The declaration shall also set forth that the certificate is lost or destroyed; and

(c) Such other particulars as may be required.

Safety and Protection

9. Duties of manager—(1) The manager shall see that all the provisions of the Act and the regulations made thereunder are carried out.

(2) The manager of an opencast coal mine, or an authorised qualified person appointed by him in writing, shall daily, within 2 hours immediately before the commencement of the first working shift of the day in any part of the mine, and every subsequent 6 hours while the mine is working, inspect every working place and roadway and all adjacent places from which danger might arise, and shall forthwith make a true report of his inspection in a book kept for the purpose at the mine, which book shall be made accessible to the Inspector and persons employed in or about the mine.

(3) The manager of an opencast coal mine or an authorised qualified person appointed by him in writing shall at least once in every 24 hours examine all faces, benches, tipheads, safety appliances, and safety equipment used in mining operations in the mine and shall at least once a week carefully examine all buildings, machinery, screening plant, and works used for mining purposes in or about the mine, and shall forthwith after every such examination record in writing in a book to be kept for that purpose his opinion as to that condition and safety and as to any alterations or repairs required to ensure greater safety to the persons employed in or about the mine.

(4) It shall be the duty of the manager of an opencast coal mine to ensure that there shall be at all times in force a scheme for the systematic examination and testing of all mechanical and electrical apparatus at the mine to ensure proper maintenance thereof, and the results of the examination and testing shall be recorded in a book kept at the mine for that purpose.

(5) The manager shall make arrangements for officials to meet him or his authorised deputy from time to time for the purpose of conferring on matters connected with their duties.

(6) Every notice required by these regulations and the special regulations of the mine (if any) required by law to be posted up shall be posted up by the manager in some conspicuous place where it may be conveniently read or seen by the persons affected, and so often as it becomes defaced, obliterated, or destroyed he shall renew it with all reasonable dispatch.

(7) The manager shall forthwith send notice in writing to the Inspector of the following classes of occurrences, whether or not personal injury or disablement is caused:

- (a) All cases of ignition of gas or dust:
- (b) All cases of fire or heating at or in the working face:
- (c) All cases of inrush of water from underground or surface:
- (d) All cases of alleged breaches of the Act or regulations:
- (e) All accidents due to the use of electricity resulting in loss of life or personal injury:
- (f) The collision, runaway, or rollover of any vehicle.

10. Employment in opencast coal mines—(1) No person shall be employed at or about an opencast coal mine without the permission of the manager.

(2) No workman shall take any person into an opencast coal mine without the approval of the mine manager.

11. Duties of persons employed—(1) All persons employed in or about an opencast coal mine shall comply with the provisions of the Act and the regulations made thereunder and with the directions concerning safety and discipline as may be given to them by the manager.

(2) No person shall use threatening or abusive language towards the manager or other official of an opencast coal mine, nor shall the manager or other official of the mine use threatening or abusive language towards any person employed in or about the mine.

(3) No person shall fight or behave in a violent manner in or about an opencast coal mine.

(4) No person shall enter or remain in or about an opencast coal mine while in a state of intoxication or under the influence of drugs, and no person shall take intoxicating liquor or drugs in or about the mine except with the approval of the manager.

(5) Every person shall, before commencing work in or about an opencast coal mine, and during the course of it, and especially after shot firing, make a careful examination of his working place, and remove any loose rocks, stones, earth, or coal which may be dangerous.

(6) No person employed in an opencast coal mine shall throw down rocks, stones, earth, or other material which may endanger other persons, without giving warning to them and seeing they have retired to a safe place.

(7) Every person employed in or about an opencast coal mine who notices anything unsafe or likely to produce danger shall forthwith report it to the manager or to the official in charge.

(8) No person employed in or about an opencast coal mine shall, without reasonable cause, do anything likely to endanger other persons.

12. Precautions against fire—The owner and the manager of every opencast coal mine shall take adequate precautions against any outbreak of fire, for the adequate warning of the employees, and for the prompt suppression of any such outbreak.

13. Lights and lighting—Lighting approved by the Inspector shall be provided in all working places where natural lighting is inadequate to provide safe working conditions, and in all places in the surface workings of the opencast coal mine where work is carried out during the hours of darkness.

14. Protective helmets and other protective equipment—(1) In every opencast coal mine, the owner, or the manager on his behalf, shall cause to be supplied to each employee and to every person in the mine a protective helmet of approved type and such helmet shall be worn in the opencast mine workings at all times and in such other areas of mining operations as may be required by the Inspector.

(2) The owner, or the manager on his behalf, shall, without cost to the employee, replace such helmet when necessary, if the replacement has not been made necessary as a result of wilful damage or loss by the employee, in which case the employee himself shall pay for the replacement.

(3) A helmet supplied or replaced by the owner or the manager on his behalf or replaced by the employee shall at all times remain the property of the owner.

(4) If any opencast mining operations involve a risk of injury to the eyes from flying particles or fragments, corrosive or irritant substances, or from any other causes, the owner of the mine, or the manager on his behalf, shall provide the person employed in the operation with suitable and efficient equipment or appliances for the protection of his eyes, and keep such equipment and appliances properly maintained.

(5) If, in the opinion of the medical consultant to the Ministry of Energy, any noise arising from any process or activity carried out in or about an opencast coal mine is likely to cause impairment of the hearing of persons employed therein, the owner, or the manager on his behalf, shall take all steps as may be practicable to prevent those persons from being exposed to that noise.

(6) If, in the opinion of the Inspector, it is not practicable to prevent exposure to the noise by reducing the noise level of the process or activity, the owner, or the manager on his behalf, shall cause all persons exposed to the noise to be provided with a personal ear protection device of a type approved by the medical consultant to the Ministry of Energy.

15. Safety belts and ropes—(1) Every person working on the face of an opencast coal mine at a greater height than 2 metres above the level of the mine floor or bench floor shall at all times be attached to a properly secured safety rope by means of a safety belt or other appliance approved by the Inspector.

(2) Every person who, in or about an opencast coal mine, descends into any bin, hopper, or stockpile cavity shall be at all times attached to a properly secured safety rope by means of a safety belt or other appliance approved by the Inspector, and shall at all times, while he is in that place, be attended by a second person in a place of safety who shall ensure the safety rope is properly secured and that there is no unnecessary slack rope.

(3) Every person shall, before commencing work in or about an opencast coal mine, satisfy himself as to the safety of the rope and safety belt or other appliance and shall not use anything that he finds unsafe.

16. Machinery and plant—(1) All boilers, compressors, engines, gearing, crushing, and screening plant and all parts of machinery used for opencast coal mining operations shall be kept in a safe condition.

(2) All parts of machinery in or about an opencast coal mine which are dangerous by virtue of their exposure, movement, and capacity to inflict injury as a result of an accidental or unconscious act by any person, shall be rendered safe by the provision of adequate safeguards, as directed by the Inspector.

(3) All elevated platforms, walkways, and ladder ways shall be provided with adequate handrails and kickboards and be of such construction and materials as directed by the Inspector.

(4) Machinery shall not be oiled or cleaned manually while it is in motion.

(5) All electrical equipment shall comply with the Coal Mines (Electrical) Regulations 1980*, where applicable.

17. Belt conveyors—(1) Belt conveyors installed in an opencast coal mine shall be constructed, installed, operated, maintained, and supervised in a safe manner and so as to avoid undue heating, overloading, spillage, and the accumulation of material on the conveyor parts.

(2) Methods approved by an Electrical Inspector of Coal Mines shall be adopted where required to prevent the accumulation of electro-static charges on the conveyor parts.

(3) Unless exemption is granted in writing by the Inspector, every belt conveyor or belt conveyor system shall—

- (a) Be fitted with an approved warning device which shall, immediately before the starting of the belt conveyor or belt conveyor system, operate for not less than 20 seconds and so warn all persons in the vicinity that the conveyor is about to start; and
 - (b) Be provided with a means of stopping the belt at any point along its length, by such means as approved by the Inspector; and
 - (c) Where the driving motor of the belt conveyor is operated by means of remote control, it shall be so arranged that the motor cannot be restarted until released at the point where it was stopped.
- (4) No person shall ride on any belt conveyor.
- (5) No person shall cross over a moving conveyor unless by way of a properly constructed bridge with handrails.
- (6) Where it is necessary to cross under a moving belt conveyor, adequate protection shall be provided to prevent contact with moving parts of the conveyor.
- (7) Where conveyor belts are installed, adequate means of protection shall be provided to protect persons from falling against moving parts at drive heads and loading and transfer points of the belt conveyor and, where the Inspector requires, other parts of the belt conveyor shall be similarly protected.

18. Persons to wear close fitting garments, etc.—(1) All persons whose duty it is to attend moving machinery in or about an opencast coal mine shall wear close fitting garments which cannot readily be caught by or entangled in machinery.

(2) No person, unless his hair is cut short or securely fixed and confined close to his head, shall work in any position where he is likely to come into direct contact with moving machinery in or about an opencast coal mine.

19. Suppression of dust—(1) Where dust is produced in the course of mining operations in or about an opencast coal mine, haulroads, or crushing or screening plant to such an extent that the visibility or health of persons employed therein may be endangered thereby, the owner, or the manager on his behalf, shall make provision for preventing or allaying the dust or the danger to persons from the dust. No person shall work in, or cause or allow to be worked, any place, until such provision is made effectively and constantly used.

(2) The provisions so made shall be such as to lay the dust by the use of water delivered by sprays or jets or other effective methods and shall be approved by the Inspector:

Provided that where it is found that such provisions are impracticable to remove or lay the dust in a working place, the owner, or the manager on his behalf, shall provide each person in such a place with a respirator of a type approved by the Inspector. The respirator shall be constantly used by that person while working in the dusty atmosphere.

(3) Every person in or about an opencast coal mine shall comply with the instructions of the manager or the Inspector as to the use of water and appliances provided in or about the mine for the suppression of dust.

(4) All power operated drills used for drilling rock or stone in an opencast coal mine shall be fitted with water feed for allaying the dust, unless in the opinion of the Inspector the operator and other persons in the vicinity are adequately protected from inhaling the dust:

Provided that where the Inspector considers it impractical to provide water for drilling purposes he may issue a certificate permitting the use of an auxiliary apparatus approved by the Inspector for the effective prevention of the escape of rock dust into the air.

(5) If, in the opinion of the Inspector, the dust from the exhaust of a crushing or screening plant dust extraction system, stockpiles, waste dumps, or roadways in or about an opencast coal mine is a nuisance to persons employed in or about the vicinity of the mine and is detrimental to their health and visibility, he shall give notice in writing to that effect, and the manager shall thereupon provide and cause to be constantly used such appliances as effectively lay the dust.

(6) The water that is used for the purpose of laying dust shall be free from pollution by noxious matter.

20. Disposal of water and waste—(1) The water from the drainage of an opencast coal mine or the washing of a crushing or screening plant shall not be discharged unless it meets the requirements as to the water quality set by the water authority for the district in consultation with the Inspector. The siting of settling ponds or other means of removing solid pollutants shall be approved by the Inspector.

(2) Overburden and other rock, clay, or soil waste, and coal stockpiles shall be sited so that the material will not enter or obstruct natural watercourses, unless otherwise approved in writing by the district water authority in consultation with the Inspector.

21. Railway sidings—(1) In or about an opencast coal mine no person shall pass immediately in front of or between wagons which are being loaded, except the person in charge of the wagons.

(2) Where, during the period between one hour after sunset and one hour before sunrise or during foggy weather or periods of poor visibility, shunting or any operations likely to cause danger to persons employed in or about an opencast coal mine are frequently carried on, efficient lighting shall be provided either by hand lamps or stationary lights, as the case may require, at all points where necessary for the safety of any such persons.

(3) No materials of any kind shall be placed in or about an opencast coal mine near a line of rails in such a manner as to expose persons employed to risk of injury from traffic by having to pass on foot over the same or between the same and the line, and in no case, unless with the special permission of the Inspector, shall materials be placed within 1.7 metres from the centre line of the nearest line of rails.

(4) No person shall cross a line of rails by climbing over or passing underneath a train or wagons where there may be risk of danger from traffic.

(5) Where railway wagons are specially placed so as to afford a thoroughfare, it shall be at least 4.5 metres in width.

(6) Where a locomotive is engaged in pushing more than one wagon and risk of injury thereby may be caused to persons employed in or about an opencast coal mine, a person shall, wherever it is safe and reasonably practicable to do so, accompany or precede the front wagon, or other efficient means shall be taken to obviate any such risk.

(7) No person shall place himself upon the buffer of a locomotive or wagon in motion unless there is a secure handhold thereon, nor stand thereon unless there is also a secure footplate thereon.

(8) No locomotive or wagon shall be moved on a line of rails until warning has been given by the person in charge thereof to persons employed in or about an opencast coal mine whose safety is likely to be endangered thereby.

(9) Where persons employed therein have to pass on foot or work in or about an opencast coal mine no locomotive or wagon shall be moved on a line of rails in the mine during foggy weather or periods of poor visibility unless the approaching end is distinguished by a suitable light, or, where it is safe and reasonably practicable, the locomotive is accompanied by a person with a lamp.

(10) All spaces between the rails of turnabouts and crossings in which the boot of a worker passing thereover is liable to be caught shall be filled with concrete, asphalt, or wooden blocks.

(11) No structure or part of a structure up to a height of 2.3 metres above rail level shall be erected or allowed to remain within a distance of 1.7 metres from the centre line of the nearest line of rails, except with special permission of the Inspector.

22. Rope haulage tramways—(1) No tramway or aerial incline worked by ropes shall be installed or operated in or about an opencast coal mine without the prior written approval of the Inspector who shall assure himself as to the safety of the design and installation before giving such approval.

(2) The ropes, machinery, appliances, and permanent way of such installations shall be kept in a safe and efficient state of repair.

(3) No person shall remain under the rope or chain of an aerial incline while a wagon or load is in motion in an opencast coal mine. While a load is being moved on the loading table no person shall remain immediately beneath it, and no person shall be allowed, without special permission from the manager or an official of the mine, to ascend or descend by means of an aerial incline.

23. Self-propelled vehicles—(1) No person under the age of 18 years shall be permitted to have charge of a vehicle in or about an opencast coal mine, unless prior written approval is given by the Inspector.

(2) No person shall be allowed to have charge of a vehicle in or about an opencast coal mine unless—

(a) He has the appropriate driver's licence for the particular type of vehicle;

or

(b) He has been examined by the manager or some competent person appointed by him in writing for the purpose or by a thorough practical trial in the use of the vehicle, and has received from the manager his written authority to be in charge of it.

(3) Every vehicle used in or about an opencast coal mine shall be maintained in a fully operative and safe condition and, where appropriate, such vehicles shall carry a current warrant or certificate of fitness, as the case may be.

(4) Within 12 months of these regulations coming into force all mobile plant used in or about an opencast coal mine shall be fitted with approved safety frames and approved safety belts unless exempted in writing by the Chief Inspector. Seat belts shall be worn at all times by the operator while the vehicle is in use.

(5) The manager shall set in writing the speed limits to be driven by empty and loaded vehicles in or about the opencast coal mine, and the manager shall have erected about the mine notices displaying those speed limits.

(6) Where practicable haul roads in or about an opencast coal mine shall be constructed so that opposing traffic is separated.

(7) At the commencement of each shift the controls and safety attachments of each vehicle shall be examined by the operator, who shall immediately report any defect to the manager, and should any defect threaten the safe operation of the vehicle, the manager shall ensure that the vehicle is withdrawn from service until such time as the defect has been properly remedied.

(8) At least once in every week each vehicle shall be examined by a competent person appointed by the manager, who shall see it is in all respects in proper working order, and shall keep a written report of the results of the examination.

Sanitation, Hygiene, and Amenities

24. Sanitation and hygiene—(1) At every opencast coal mine a sufficient number of privies and urinals shall be provided for the use of employees, and shall be properly maintained and kept in a clean condition satisfactory to the Inspector.

(2) At every opencast coal mine a supply of drinking water, sufficient for the needs of the persons employed, shall be provided. If persons are employed in places remote from a water supply, suitable containers of water shall be provided for use and cleaned and replenished at least once in every 24 hours when in use.

(3) Suitable facilities for washing shall be provided and maintained in a clean and tidy condition to the satisfaction of the Inspector, and shall be conveniently accessible for use of persons employed in or about the opencast coal mine.

25. Provision of first aid—(1) At every opencast coal mine there shall be provided and kept at a convenient place in good condition and ready for immediate use—

(a) A suitably constructed stretcher with a blanket; and

(b) A first-aid box equipped to a standard approved by the medical consultant to the Ministry of Energy;

Provided that if the size of the mining operations are such that immediate access to the first-aid box is not available, the Inspector may require a first-aid box to be kept at more than one location in the mine.

(2) The manager, or some qualified person appointed by him, shall every working week personally inspect the first-aid equipment and satisfy himself that it complies with the requirements of this regulation. A record shall be kept in the first-aid box of the date of each inspection and the state of the equipment at the time of inspection.

(3) Subject to the discretion of the Inspector, a person trained in administering first aid to the injured shall be available at or to every opencast coal mine.

26. Amenities—(1) There shall be provided and maintained for the use of persons employed in an opencast coal mine adequate and suitable accommodation for clothing not worn during working hours.

(2) Unless otherwise required by the Inspector, where meals are taken at an opencast coal mine there shall be provided and maintained a suitable room in which meals may be taken. The room shall be furnished and equipped with—

- (a) Seating, a table, and, when required by the Inspector, means for heating water; and
 - (b) Facilities for washing within a reasonable distance of the meal room; and
 - (c) An impervious approved receptacle with a well fitting cover in which all waste food, paper, and other rubbish shall be placed.
- (3) The receptacle shall be emptied once each working day and the contents properly disposed of.
- (4) Any such meal room shall not be used for storage of material or goods and shall be kept clean and tidy for the purpose for which it is provided.

Explosives

27. Code to be complied with—The New Zealand Standard 4403:1976 (Explosives Code) and amendments, as it relates to the use of explosives, shall, unless otherwise required by these regulations, be complied with where explosives are used in opencast mining operations.

28. Danger to life and property—No shot-firing operations in an opencast coal mine shall be conducted in such a manner as to cause danger to life or damage to property.

29. Magazine—(1) Detonators shall not be stored in the same magazine as other explosives.

(2) Explosives and detonators shall be stored in magazines licensed by the Chief Inspector of Explosives appointed pursuant to the Explosives Act 1957 sited in places approved by him and the Inspector.

(3) A person specially appointed in writing by the manager shall be in charge of every magazine and shall be responsible for the safe storage of explosives contained therein, and for the distribution of explosives therefrom.

(4) Magazines shall be kept clean.

(5) Explosives shall be used in the same order as that in which they are received.

30. No naked lights in magazines—(1) No naked lights shall be introduced into a magazine, or into any working place in an opencast coal mine where explosives are temporarily stored. A proper approved lamp shall be provided for use in such places.

(2) No person shall smoke in, or take matches or any other flame-making or spark-making appliance into, any magazine or explosives store place.

(3) No cases or cartons containing explosives shall be opened in the storage area of a magazine.

(4) Instruments made solely of wood, brass, or copper shall be used in opening cases of explosives, and the manager shall provide and keep provided suitable instruments for this purpose.

31. Quantity of explosives to be taken from magazine—Explosives shall not be taken from a magazine in an opencast coal mine in quantities exceeding that required for use during one shift, and surplus explosives shall be returned to the magazine at the end of the shift.

32. Explosives to be removed—In the event of the closing of any opencast coal mine or any part of a mine, the explosives stored therein shall be removed and disposed of as directed by the Inspector.

33. Persons allowed to fire shots—(1) The preparation of charges and the charging, tamping, and firing of all explosive charges in or about an opencast coal mine shall be carried out under the personal supervision of the manager, who may be assisted by a competent person.

(2) Where the manager is absent, all preparation, charging, tamping, and firing of explosives shall be done under the personal supervision of a person who shall be the holder of an opencast coal mine manager's certificate.

34. Age limit—No person under the age of 18 years shall be allowed to handle charge shot holes with, or fire any explosives in an opencast coal mine.

35. Preparation of capped fuse and primers—(1) Capped fuse shall be prepared by a person authorised in writing by the manager, in an approved place, using suitable approved fuse cutters and crimpers.

(2) Primers shall be prepared in an approved place.

(3) Detonators shall not be distributed in the workings of an opencast coal mine unless attached to a fuse.

(4) Detonators shall not be inserted into a compound of a primer cartridge more than the length of the detonator.

36. Explosives to be carried in secure containers—Explosives when taken from a magazine shall be conveyed direct to the workings of the opencast coal mine in a securely covered case, canister, or other suitable container of an approved type and pattern. Separate containers shall be used for conveying explosives, capped fuse, electric detonators, and primers.

37. Tamping of explosives—(1) In an opencast coal mine no tool shall be used for loading explosives or for tamping material in boreholes, other than a wooden tamping rod without metal parts, or a loading device made of a substance or substances approved by the Inspector.

(2) It shall be the duty of the manager or other person in charge of every opencast coal mine at all times to keep a sufficient number of suitable rods or loading devices available for use in connection with shot firing operations.

38. Stemming—When in an opencast coal mine explosives have been tamped into holes and stemming is used, the stemming shall be tamped. Tamping shall commence lightly but may gradually increase in force and the stemming increased until the hole is filled. Stemming shall be sand or other inert material approved by the Inspector, which is inserted in the hole after the explosives or between decks when deck loading.

39. Wrapping to be left on cartridges—Except in the case of free running explosives or as may be otherwise approved, no person shall remove the wrappers around cartridges of explosives to be used in charging a hole in an opencast coal mine.

40. Diameter of drill holes—(1) Every drill hole in an opencast coal mine shall be of such diameter as will allow the charge to be freely inserted to the bottom of the hole without ramming or removing the wrapper from the cartridge.

(2) The diameter of every drill hole shall be—

(a) At least 6 millimetres greater than the diameter of the cartridge where the diameter of the cartridge is less than 35 millimetres; and

(b) At least 10 millimetres greater than the diameter of the cartridge where the diameter of the cartridge is 35 millimetres or more.

41. Charges to be fired when charged—(1) Unless otherwise approved in writing by the Inspector under conditions to be set at the time, no greater number of holes shall be charged in any one working face in an opencast coal mine than are to be fired on the day the holes are charged.

(2) Unless otherwise approved under subclause (1) of this regulation, charged holes not fired or exploded on the same day shall be treated as misfired.

42. Warnings of shots to be fired—(1) A person intending to fire a round of shots or shot in an opencast coal mine shall give a complete and definite warning before he fires to all persons in the vicinity who would be likely to receive injury, and the warning shall include information as to the locality of the blast and as to the number of charges to be exploded. In addition the person intending to fire shall ensure that such persons take proper shelter and he shall take proper shelter himself.

(2) In addition to such warnings being given, the person firing the blast shall ensure that all means of ingress to the place where firing is about to take place are securely guarded against traffic by persons acting under his instructions, and at these points of ingress “DANGER-BLASTING” signs shall also be displayed during blasting operations.

(3) Before blasting, visual and audible signals to signify “danger, blasting” shall be made, and after blasting is over an “all-clear” signal shall be given. It shall be the duty of the manager to ensure all persons in or about an opencast coal mine are conversant with the signals used.

(4) Before blasting, warnings shall be given by the manager or the person firing the shot to householders in the vicinity of the mine.

43. Blasting shelters—Where required by the Inspector, suitable approved shelters shall be provided for and used by workmen and others in all opencast coal mines.

44. Igniting the safety fuse—(1) When igniting more than one fuse, only an approved type of ignitor shall be used in an opencast coal mine.

(2) In so lighting fuses, care shall be taken that no portion of the burning ignitor falls into any of the holes or upon any of the fuses.

(3) No more than 6 charges shall be ignited each in succession at the one time by one person. Where the number of charges exceeds 6, electric firing apparatus or approved ignition devices shall be used:

Provided that where use is made of an approved ignition device whereby a number of holes are fired at that same time, the fuses for individual holes shall not be less than 0.6 metres in length while the fuse which initiates the ignition shall not be less than 1.2 metres in length.

45. Shots to be counted—(1) When charges of explosives are being fired by safety fuse at any one time in a working place in an opencast coal mine, the number of shots exploding shall be counted, and if there is any doubt as to the number of shots which exploded, a misfire shall be deemed to have taken place.

(2) Where 2 or more parties working near one another intend to fire, they shall arrange the order of their firing in such a way as to avoid confusion in counting the explosions in each place.

46. Face to be cleared before drilling—No drilling shall be carried out on any face in an opencast coal mine until the whole face has been checked, butt holes plugged, and the face examined for misfires.

47. Examination of unexploded holes—(1) After firing in any working places in an opencast coal mine, if a portion of a drill hole remains, then unless it can clearly be seen by a competent person, after it has been washed out, that no explosive remains in the hole, a misfire shall be deemed to have taken place.

(2) Subclause (1) of this regulation shall apply to all butt holes, wherever they are found.

48. Drilling in butt holes forbidden—(1) In an opencast coal mine no hole shall be drilled in the butt or remaining portion of a hole in which a charge of explosives has been previously fired or within 150 millimetres of any such hole.

(2) All butts shall be plugged with wooden plugs before drilling commences.

49. Treatment of misfired charges—(1) In an opencast coal mine, a charge that has misfired shall not be approached until 30 minutes has elapsed after the time of lighting the fuse, except that a charge fired by electric current may be approached after 5 minutes if the shot-firing cable is first disconnected and short circuited.

(2) When holes are known to have misfired, a barricade or other obstruction with a danger notice shall be placed so as to notify the fact of the misfire, and if the misfire occurs at a change of shifts the incoming shift shall be notified.

(3) A charge of nitroglycerine compound which has misfired shall not be withdrawn, but, if the charge is bottom primed, the stemming shall be carefully removed by use of water passed through a copper, plastic, or rubber tube or hose to the outer end of the charge and a sufficient charge or charges shall be inserted and fired for the purpose of exploding the original charge until it can clearly be seen by a competent person after the hole has been washed out that no explosive remains. A thorough search shall be made for unexploded charges in the resulting material pile.

(4) The stemming of a charge of gunpowder that has misfired may be withdrawn with a copper pricker and the charge reprimed and fired.

(5) When a charge of ammonium nitrate mixture has misfired an attempt may be made to wash out the mixture in addition to any stemming down to the primer. The mixture shall be collected for safe disposal. The washing, reloading, and firing shall then follow the requirements of subclause (3) of this regulation.

(6) Where it is not possible to remove a misfire by washing, a relieving hole shall be drilled as nearly parallel as possible with the original hole charged and fired:

Provided that—

(a) The collar of the misfired shot shall be effectively blocked by the insertion of a wooden plug or otherwise clearly marked; and

(b) Where the misfired hole is 50 millimetres or less in diameter and less than 3 metres in length such relieving hole shall not be drilled closer than 600 millimetres to the nearest point of the misfired hole, so that at no time it intersects the misfired hole; and

- (c) With larger and longer holes the distance between the misfired hole and the relieving hole shall be increased as circumstances allow having regard to the diameter and length of the misfired hole; and
 - (d) Where an electric detonator is in the misfired hole the detonator wires shall first be short circuited and then tied to some object to aid the recovery of the detonator after the relieving hole has been fired.
- (7) When firing a relieving charge, the person firing the charge shall take precautions against fly rock caused by firing the charge.
- (8) All explosives recovered from the misfired holes shall be collected and disposed of in an approved manner.

50. Shot firing from power supply—Electricity from power or lighting circuits shall not be used for firing explosive charges in or about an opencast coal mine.

51. Electric batteries not to be used for shot firing—A primary or secondary electric battery shall not be used for shot firing in an opencast coal mine.

52. Use of electric exploder—(1) When an exploder is to be used in an opencast coal mine, the exploder, shot-firing cable, wires, and detonators shall be suitable for the conditions under which blasting is to be carried out.

(2) The exploder shall be in the sole charge of the manager or an appointed person firing the shot and shall be fitted with a handle or key which shall be detached when not required for firing and shall not in any circumstances pass from the personal custody of the shot firer while he is on duty. Where small exploders are not fitted with an attachable handle or key, the exploder shall be kept on the person of the shot firer at all times while he is on duty.

(3) The authorised person shall ensure that there is sufficient length of cable to enable the shot firing to be done from a place of safety, and shall—

- (a) Short circuit the shot-firing cable leading to the shots to be fired at the end of the cable which is to be connected to the exploder; and
- (b) Couple up the shot-firing cable to the detonator wires before coupling in the shot-firing cable to the exploder; and
- (c) Before coupling the shot-firing cable to the exploder test the circuit for continuity from a safe place; and
- (d) Not remove the short circuit from the shot-firing cable until all the workmen have retreated from the working place to a position of safety such that if a premature explosion occurred when removing the short circuit it would be harmless to the men and to the person removing the short circuit; and
- (e) Couple the shot-firing cable to the exploder himself; and
- (f) Ensure during charging operations that all electric power circuits which pass through or near the point at which the exploder is to be used are isolated; and
- (g) Before making the shot see that all persons in the vicinity have taken proper shelter; and

- (h) Immediately after the firing of the shot disconnect the shot-firing cable from the exploder, short circuit the shot-firing cable and remove the handle or key if any.

53. Testing of electric exploders, cables, and detonators—The exploder to be used in an opencast coal mine shall be tested at frequent intervals by means of a blasting rheostat and detonator or other approved method. When the cables and electric detonator are to be tested, they shall be tested separately by an approved galvanometer or some other approved method. Detonators when being tested shall be suitably covered by inserting them in a steel pipe to protect the person testing them or by some other approved method.

54. Extraneous electricity—When electric detonators are to be used for firing charges in or about an opencast coal mine the special conditions detailed in clause 11 of the New Zealand Standard 4403 (Explosive Code) shall be enforced in relation to electric storms, stray electric currents, induced electric currents from transmission, and static electricity:

Provided that in the case of electric storms when any blasting is being undertaken in or about a mine the person in immediate charge of the blasting shall stop the work, and withdraw workmen to a safe distance, and work shall not commence until thunder can no longer be heard or lightning observed.

55. Record of shots fired—(1) The person firing the shot shall keep a daily record in a book (which shall be kept at the opencast coal mine for that purpose) of—

- (a) The number of cartridges in each shot; and
- (b) The number of shots fired; and
- (c) The time of firing the shots; and
- (d) The number of misfired shots (if any).

(2) Such daily record shall be kept in the prescribed form.

(3) A record shall be kept of the recovery procedure adopted with the misfired shot, and the time of recovery.

Faces, Benches, and Safe Access

56. Opencast faces, benches, etc.—(1) The workings of the face sides, tops, or overburden of an opencast coal mine shall be carried out in such manner so as to prevent danger from falls of ground.

(2) The overburden or tops of an opencast coal mine, and all loose ground or material, shall be cleared far enough back from the edge of the mine to prevent danger to the persons employed in or around the mine.

(3) Unless otherwise approved by the Inspector in writing, the height of a face in an opencast coal mine shall not exceed—

- (a) 15 metres in the case of competent strata:
- (b) 3.5 metres for sand or incompetent strata:

Provided that the Inspector shall not approve a face height exceeding 30 metres, except in the case of the final batter of a worked out mine, and then only with the written approval of the Chief Inspector.

(4) When an opencast coal mine is worked in benches, every bench upon which work is carried out using self-propelled vehicles shall have a minimum width sufficient to operate such vehicles safely:

Provided that no bench shall have a width of less than half the height of the face above or less than 3.5 metres, whichever is the greater without the approval of the Inspector in writing.

(5) The outer edge of every bench upon which self-propelled vehicles are used shall be clearly marked in an approved manner.

(6) Secure means of access shall be provided by which the workmen can go to and from their working place.

(7) All vehicular access roads within an opencast coal mine shall be so constructed and maintained that the width and surface of the carriageway are safe for the purpose for which they are to be used:

Provided that, where access roads to benches are used to transport the mined product by vehicles then the maximum gradient shall be 1 in 10 unless approved in writing by the Inspector and in no case shall the access road to a bench exceed the gradient of 1 in 5.

(8) Where stripped material is being dumped by vehicles at raised tip-heads, this must be done in a manner approved by the Inspector.

(9) Unless otherwise approved by the Inspector, the access to an opencast coal mine shall be securely fenced, including a gate that can be locked to prevent unauthorised access to the mine. The top of the mine, if considered dangerous, shall be likewise fenced to the satisfaction of the Inspector.

Miscellaneous Provisions

57. Plans—(1) The owner, agent, or manager of every opencast working shall keep in the office of the opencast working an accurate plan of the workings of such opencast working, showing the workings up to a date not more than 12 months previously and the general direction and rate of dip of the strata, and all faults, dykes, and other dislocations of the seam or seams, and, in addition, there shall also be provided a tracing of a plan on the same scale showing thereon all roads, creeks, rivers, swamps, barriers, dams, impounded waters, and other natural features, whether of the same or a different kind or nature, which, if disturbed by mining operations, are likely to cause damage to or danger in the opencast workings, houses, orchards, cultivation, or any other improvements within the mine and the limits of any tidal waters within 30 metres of any part of the opencast workings.

(2) Unless the Chief Inspector otherwise determines, the plan required to be kept in the office at the opencast working under this regulation shall show a fixed datum on the surface related to standard datum and reduced levels at points not more than 100 metres apart on the floor of each seam being worked.

(3) At the commencement of each calendar year the manager of every opencast coal mine shall submit to the Inspector plans for the work in the next 12 months.

(4) These plans shall show the development of the opencast for the next 12 months and shall include all buildings to be erected, bunds, situations of tipheads, boundaries, and contours of all opencast workings.

58. Duty generally—(1) Whenever these regulations require that any equipment shall be provided or that any act, matter, or thing shall be done or not done, it shall be the duty of the owner or manager of an opencast coal mine to provide any such equipment or to do or cause to be done or to refrain from doing, and so far as possible to prevent any other person from doing, any such act, matter, or thing, as the case may be.

(2) Whenever in these regulations an obligation is expressly or by implication cast upon any person or other person to do or to refrain from doing any act, matter, or thing in or about an opencast coal mine it shall be the duty of any such workman or other person to refrain from doing that act, matter, or thing, as the case may be.

59. Disputes—In the event of a dispute between the manager of an opencast coal mine and the District Inspector, either party may appeal to the Chief Inspector to settle the matter.

Reg. 4A

SCHEDULE

SYLLABUS FOR EXAMINATION FOR A AND B GRADE OPENCAST COAL MINE MANAGER'S CERTIFICATE

PART I

Mining, Machinery, and General

(a) *Mining*

The design and layout of opencast coal mines, including layout of benches, faces, tipheads, roads, drainage, stripping of overburden, and mining of coal seams.

Elementary geology relating to opencast coal mines, rock types, faults, jointing, bedding, dip, and strike, and their influence on the siting and laying out of an opencast coal mine and plant, having regard to the safe working of an opencast coal mine. The methods of working the coal face and benches, faces, and the safety of persons employed in or about the opencast coal mine, and the duties of the manager in that regard.

(b) *Machinery*

A knowledge of the plant operated in connection with the various kinds of opencast coal mining, including plant used to work the coal face and strip the overburden to transport and load the coal, as well as plant used in processing the coal and plant used for dumping in the opencast mine.

A knowledge of the requirements of existing legislation as to the care, maintenance, and safety precautions to be taken in the operation by the manager in that regard.

(c) *General*

A knowledge of the Coal Mines Act 1979 and opencast coal mining regulations thereunder and a knowledge of other relevant legislation affecting the operation of opencast coal mine workings.

Conditions under which provision for first aid is to be provided, the nature of the supplies and equipment to be maintained. A knowledge of the requirements for health and sanitation of persons employed in or about an opencast coal mine, including the provision of meal rooms, ablution facilities, suppression of dust, and the supply of personal safety equipment, water treatment, disposing of overburden, and reporting of accidents.

PART II

Explosives and Shot firing

(a) *Explosives*

The classification of all explosives ordinarily used in opencast coal mining operations and the conditions under which each class is best used, the

causes of deterioration in explosives, and the means of detecting such deterioration, the storage and handling of explosives in an opencast coal mine, the description of the handling and storage of detonators, detonating fuse, safety fuse, and ignition devices.

(b) *Shot firing*

The design, calculation of charges, methods of charging and firing of shots, methods of initiating detonation of charges, methods of detecting defects in electrical shot-firing apparatus, and comparison of effects of hole distribution, methods of minimising ground vibration, air blast, and fly rock due to shot-firing operations, and the duties of the manager of an opencast coal mine with regard to the carrying out of shot-firing operations.

P. G. MILLEN,
Clerk of the Executive Council.

EXPLANATORY NOTE

This note is not part of the regulations, but is intended to indicate their general effect.

These regulations, which come into force on 1 October 1986, replace the safety provisions of the Quarries Regulations 1959 so far as they relate to the safe working of opencast coal mines. (Safety provisions relating to underground coal mines are contained in separate regulations.)

The various parts of the regulations are as follows:

Certificates of Competency

Regulations 3 to 8 provide for the granting of opencast coal mine managers' certificates of competency.

Safety and Protection

Regulations 9 to 23 cover matters which generally either do not come under a specific heading or should be particularly emphasised.

Sanitation, Hygiene, and Amenities

Regulations 24 to 26 cover matters of health and the provision of suitable meal places in opencast coal mines.

Explosives

Regulations 27 to 55 cover the storage and use of explosives in opencast coal mines.

Opencast Faces, Benches, and Bench Access

Regulation 56 provides for the safe working of opencast faces and benches.

Miscellaneous Provisions

Regulations 57 to 59 are miscellaneous provisions.

The Schedule sets out the syllabus for examinations for the certificates of competency for opencast coal mine managers.

Issued under the authority of the Regulations Act 1936.

Date of notification in *Gazette*: 25 September 1986.

These regulations are administered in the Ministry of Energy.