UNDERGROUND COAL MINES FIRE PRECAUTIONS RULES 1978


Department of Mines,
Brisbane, 12 October, 1978.

HIS Excellency the Governor, acting by and with the advice of the Executive Council, having, in pursuance of Section 111 of the Coal Mining Act 1925-1976, made amendments to Rules under the Act by—

(i) repealing Rules 25 to 32 both inclusive of the Belt Conveyor Rules of 1964 and the headnotes "Fire Extinguishing Equipment", "Water Supply", and "Fire Extinguishers" relating thereto; and

(ii) making additional Rules as set out hereunder, such amendments are published for general information.

R. E. CAMM,
Minister for Mines, Energy and Police.

UNDERGROUND COAL MINES FIRE PRECAUTIONS RULES 1978

1. These Rules may be cited as the Underground Coal Mines Fire Precautions Rules 1978 and shall have application in respect of all underground coal mines.

2. It shall be the duty of a manager of an underground coal mine to ensure that compliance is made with the requirements of these Rules.

3. (1) A building or structure at the top of any shaft or outlet shall not be made of or comprise any flammable material likely to cause danger from fire to any person employed at the mine.

   (2) An engine room switch room, electric substation or motor room located in an underground coal mine shall not be made of or comprise any flammable material likely to cause danger from fire to any person employed in the mine.

   (3) There shall be provided at an underground coal mine suitable and sufficient means of extinguishing fires at each of the following places, that is to say:—

   (a) in every engine room or motor room;

   (b) at any place at which flammable material is permanently stored.

4. Except as hereinafter provided in these Rules—

   (a) an underground coal mine shall have a reticulated water supply system attached to a permanent source of supply capable of maintaining a delivery of not less than 35 litres of water per second to the colliery system;
Provided that when no such permanent source of supply is available or when the permanent source of supply is unable to supply 35 litres of water per second, a reservoir or tank or tanks with a capacity of not less than 200 000 litres shall be provided and maintained with that amount of water on the surface;

(b) water for fire fighting shall be reticulated through the working parts of the mine and carried up to a point not more than 200 metres from the working faces in pipes of such a diameter as will ensure that a minimum quantity of 5 litres per second at a minimum pressure of 480 kilopascals is available at all times throughout the system without need to manually start pumps or open valves other than the control hydrant;

(c) reducing valves or some other method of controlling the water pressure shall be introduced into the reticulation so that at no point in the system shall the flow pressure exceed 1 750 kilopascals;

(d) all reticulation systems shall be sectionalised and each section shall be capable of having pipes inserted or removed without the need to cut off the water supply to the entire system;

(e) test points shall be placed along the reticulation system commencing from the surface of the mine or the shaft bottom as the case may be and thereafter at intervals of approximately 30 metres of vertical depth. Each test point shall be provided with a means for using a pressure gauge and a flow test meter;

(f) a person or persons shall check the water pressure in each working panel prior to the beginning of each mineral producing shift;

(g) at the bottom of the shaft or the belt conveyor drift an automatic alarm shall be installed and such alarm shall give visible and audible warning in the event of the water pressure falling below the pressure required by these Rules;

(h) standard wheel valve hydrants with waterways at least 60 millimetres in diameter and threads of the pattern used by Fire Brigades provided and maintained under the Fire Brigades Act 1964–1977 or other approved fitting shall be fitted at intervals of not more than 100 metres for fire fighting purposes;

(i) for fire fighting and other purposes 25 millimetre outlet valves with appropriate fittings permanently attached for use with 20 millimetre or 25 millimetre internal diameter hose shall be provided at intervals of not more than 30 metres on the reticulation system in belt conveyor roadways;
(j) a standard wheel valve hydrant (as described in paragraph (h) of this Rule) shall be placed in the reticulation main at a point approximately 25 metres on the intake side of all belt conveyor drive heads, loading points, transfer, switchrooms, electric substations, oil depots and filling stations, and at the end of all mains in the reticulation system so that at any time it is possible to direct water on to any part of the working faces or to any part of the mine where the risk of fire is high.

(5) Sufficient equipment for fire fighting purposes shall at all times be readily available in an underground coal mine and without prejudice to the generality of the foregoing such equipment shall include—

(a) approved fire fighting hoses with an internal diameter not less than 35 millimetres and designed to withstand a pressure when new of 3000 kilopascals. Such hose shall be—

(i) in minimum lengths of 30 metres when new;
(ii) fitted with suitable type male and female couplings;
(iii) capable of withstanding rough usage;
(iv) unaffected by mildew and treated to protect against rot;
(v) stored in containers provided for the purpose.

(b) other approved hoses, which, shall be—

(i) of internal diameter not less than 20 millimetres;
(ii) of smooth bore reinforced moulded rubber or other suitable materials;
(iii) in minimum lengths of 30 metres when new;
(iv) fitted with suitable type male and female couplings.

(6) (a) (i) Portable fire extinguishers shall be provided on the intake side of and near to all the locations mentioned in sub-rule (3) of Rule 3 and paragraph (j) of sub-rule (4) of Rule 3 of these Rules.

(ii) In the case of switch rooms, electric sub stations, oil depots and filling stations there shall be provided, in addition to the fire extinguishers required by paragraph (1) hereof not less than two water proof containers, each of at least 25 kg. capacity, of ground limestone.

(b) Fire extinguishers installed and used in pursuance of these Rules shall be of a type constructed in accordance with Australian Standards 1840 to 1848—"Portable Fire Extinguishers" and shall—

(i) be maintained in accordance with Australian Standard—1851, "Installation and Maintenance of Portable Fire Extinguishers and Fire Hose Reels" and be ready for immediate use;
(ii) in the case of fire extinguishers carried for use in locomotives, shuttle cars or other mobile machines have a minimum rating of 20B:C or a minimum capacity of 4 kilograms; and
(iii) in any other case have a minimum rating of 60B:C or a minimum capacity of 12 kilograms.
(c) Where in this sub-rule reference is made to rating of fire extinguishers it shall be taken as meaning a rating established in accordance with Australian Standard 1850—"Classification, Fire Testing and Rating of Portable Fire Extinguishers".

(7) (1) Depots for fire fighting purposes shall be set up in an underground coal mine at intervals of not more than 400 metres on roadways where belt conveyors are installed and also at a point approximately 25 metres on the intake side of the locations mentioned in sub-rule (3) of Rule 3 and paragraph (j) of sub-rule (4) of Rule 3 of these Rules.

(2) At such depots the following equipment shall be provided:—
   (a) at least 100 metres of fire fighting hose with appropriate couplings; provided that at face depots sufficient hose capable of at all times reaching the working face shall be provided and, except in the case where the couplings are 'snap on' couplings, two hose coupling spanners;
   (b) at least one 1 into 2 breeching piece fitted with a manually operated cut-off valve;
   (c) at least two branch pipes and nozzles with a 12 millimetre diameter outlet;
   (d) at least one diffuser or fog nozzle;
   (e) at least one adapter suitable for use with the hoses provided under these Rules;
   (f) at least two 9 kilogram fire extinguishers.

(8) A properly constructed fire station shall be set up at an underground coal mine in close proximity to the shaft or tunnel entrance. Such fire station shall contain at least—
   (a) 300 metres of 35 millimetre minimum diameter fire hose fitted with suitable male and female couplings and, except in the case where the couplings are 'snap on' couplings, two hose coupling spanners;
   (b) twelve lengths, each of 30 metres of 12 or 20 millimetre high pressure hose fitted with the necessary appropriate couplings and suitable nozzles;
   (c) three breeching pieces fitted with manually operated cut-off valves;
   (d) two 12 millimetre and two 15 millimetre diameter nozzles;
   (e) four 9 kilogram fire extinguishers;
   (f) two complete sets of tools each consisting of at least a shovel, an axe, a saw, a pick and a hammer;
   (g) sufficient spare fittings and pipe tools to be used in the case of an emergency;
   (h) a copy of the fire fighting plan as required by these Rules;
   (i) 100 litres of approved foam making compound.
(9) (1) A properly constructed fire substation shall be set up in an underground coal mine in close proximity to the entrance to every zoned area in the mine. Such fire substation shall contain at least—

(a) 150 metres of fire hose fitted with suitable male and female couplings and, except in the case where the couplings are ‘snap on’ couplings, two hose coupling spanners;
(b) two breeching pieces with manually operated cut-off valves;
(c) three branch pipes;
(d) two 12 millimetre diameter nozzles;
(e) two fog or diffuser nozzles;
(f) two 30 metre lengths of 12 millimetre or 20 millimetre high pressure hose fitted with suitable couplings and spray jet nozzles;
(g) spare fittings and pipe tools;
(h) 65 litres of approved foam making compound;
(i) an approved type of foam making branch applicator;
(j) two 9 kilogram fire extinguishers;
(k) a copy of the working plan of the zoned area.

(2) In any underground coal mine where the working faces are more than 3 kilometres from the surface, foam making generators and additional foam making compound shall be kept at fire substations if the Chief Inspector by notice to the manager so requires.

(10) Fire fighting brigades shall be formed at an underground coal mine and the members of such brigades shall undergo a form of fire fighting instruction and training based on methods used by Fire Brigades provided and maintained under the Fire Brigades Act 1964–1977, and shall be instructed in the use of mine plans and become familiar with the workings of the mine. After instruction and training has been completed the members of such brigades shall at least once in every two months carry out practices to ensure their efficiency in fire fighting operations.

The training, instructing and practising shall be carried out to the satisfaction of the district inspector.

(11) (1) An emergency telephone shall be incorporated with the telephone system of an underground coal mine so that in an emergency immediate telephonic communication is available from any telephone underground to some point at the surface of the mine which is manned whilst men are underground.

(2) An emergency telephone and 300 metres of telephone cable with suitable attachments for connection to the telephone system of an underground coal mine shall be kept at the surface of the mine ready for instant use.

(12) A plan shall be kept at an underground coal mine showing the position in which are placed—

(a) pipe mains, hydrants, valves, fire depots and fire substations; and
(b) stoppings, over casts, ventilation doors, regulators, belt conveyors, electric cables and apparatus and telephones.

The plan shall also show the direction of ventilation in the roadways and shall indicate the extent of the zoned areas (if any).

(13) (1) Rules shall be made in respect of an underground coal mine to cover the evacuation of any or all the employees from underground in the event of an emergency. All employees shall be made familiar with these Rules.

(2) A copy of such Rules shall be—
(a) posted in suitable places at the mine; and
(b) forwarded to the inspector for the district and to the superintendent of the rescue station for the Mines Rescue District in which the mine is situated.

(3) A glossary of fire fighting terms as used by Fire Brigades provided and maintained under the Fire Brigades Act 1964-1977 shall be posted in suitable places at an underground coal mine.

(4) The location of all underground fire depots, fire sub stations, fire extinguishers (which are separate from the foregoing) and hydrants installed to satisfy Rule 3 (4) (h) hereof, shall be indicative by reflective signs so fixed that they can be easily seen by persons travelling towards them.

(14) Clear instructions to employees as to their procedure on discovering a fire at an underground coal mine shall be posted in suitable places thereat.

(15) (1) An underground coal mine, for the purpose of fire fighting organisation, shall be divided into zones to the satisfaction of the district inspector.

(2) Provisions shall be made for the isolation of each zone in the case of emergency if the Chief Inspector so requires by notice given to the manager.

(16) (1) At an underground coal mine a person designated as a fire officer, who has undergone the course of instruction required under Rule 10 of these Rules shall be appointed in writing by the manager and such person shall be responsible for the training of fire fighting brigades.

(2) The fire officer or such other persons authorised by the manager shall be responsible for the maintenance of all fire fighting equipment and shall, at least once in every month, inspect all fire fighting equipment and record its condition in a book to be kept at the mine for the purpose.

(17) The Chief Inspector may direct that any Rule or part thereof of these Rules be varied or otherwise modified in respect of the working of a particular underground coal mine.