(i) direct that the manager or owner prepares plans in accordance with the provisions of this Part within such period as the Chief Government Mining Engineer may specify; and

(ii) if the manager or owner fails to comply with a direction made in terms of subparagraph (i), cause such plans to be prepared at the expense of the manager or owner.

(2) No person shall fail to comply with a directive made by the Chief Government Mining Engineer in terms of subparagraph (i) of subsection (1).

Plans to be confidential

85. All surface, underground and assay plans of any mine which have been prepared by any Government surveyor, and any such plans submitted to an inspector by any manager or owner of a mine for safe keeping, otherwise than in terms of section 86, shall be confidential, and no information relating to such plans shall be divulged to any member of the public, save with the written authority of such manager or owner:

Provided that, at the discretion of an inspector, information relating to such plans may be made available without such written authority if the mine has been abandoned and the claims have been forfeited in terms of Part XIII of the Act.

Notice of intention to close down or abandon a mine

86. (1) In addition to the requirements of subsection (1) of section 256 of the Act, if any owner or manager of a mine on which mining operations are being carried out intends to close down such mine, he shall, not less than thirty-one days before such closing down, give written notice to the inspector of the mining district in which such mine is situated of such intention.

(2) In addition to the requirements of subsection (2) of section 256 of the Act, the manager or owner of a mine shall, within thirty-one days of the closing down of the mine, lodge with the inspector of the mining district in which the mine is situated all plans, tracings, transparencies, survey co-ordinate ledgers, calculation books and, on the written instructions of such inspector, survey note book, extant at the date of closure, and all such information shall thereupon become the property of Government.

PART VII

COAL MINES AND FIERY MINES

Interpretation in this Part

87. In this Part—

"accessible workings" includes all workings other than abandoned workings that have had all entrances effectively sealed by stoppings;

"incombustible matter" does not include moisture;

"road" includes any road of any description in the underground workings of a coal mine extending from the shafts, outlets or inlets to within ten metres of the coal face.

Declaration of a fiery mine

88. (1) The Chief Government Mining Engineer may declare any mine or part of a mine to be a fiery mine if inflammable gas is present or is, in his opinion, likely to be present in that mine.

(2) Where the Chief Government Mining Engineer has made a declaration in terms of subsection (1), he shall notify the manager of the mine concerned in writing of the declaration.

Coal mines: precautions against coal dust explosions

89. (1) Except in so far as exemption may have been granted by an inspector to such degree and subject to such conditions as he may specify in writing, the following provisions shall apply at every coal mine—

(a) no plant for sorting, screening or crushing coal shall be erected in the workings and no such plant shall be erected on surface within a distance of seventy-five metres from any downcast shaft or other opening where ventilating air enters the underground workings;

(b) arrangement shall be provided and used at every plant for sorting, screening or crushing coal to ensure that as little coal dust as practicable enters the workings;

(c) arrangements shall be provided and used in the underground workings to prevent, suppress, collect and remove, as far as practicable, the fine coal and coal dust created by mining operations;

(d) in all accessible workings underground every road shall be treated with incombustible dust to ensure at all times that the dust that can be raised into the air from the floor, roof or sides of the road shall not contain less incombustible matter than is determined in accordance with the following table—

Percentage by mass of volatile matter content, calculated on an ash-free dry basis, of the coal being mined	*Minimum percentage by mass of incombustible matter content*
Over 14 but not exceeding 20	50
Over 20 but not exceeding 22	55
Over 22 but not exceeding 25	60
Over 25 but not exceeding 27	65
Over 27 but not exceeding 30	68
Over 30 but not exceeding 32	70
Over 32 but not exceeding 35	72
Exceeding 35	75

(2) For the purposes of paragraph (d) of subsection (1), the volatile matter content of any coal shall be that determined by analysis of a representative section of the seam of a representative sample of run of mine coal from the seam taken within the preceding twelve months and, where no such determination has been made, the content shall be deemed to exceed thirty-five *per centum*.

Coal mines: supply of incombustible dust

90. (1) The purpose of complying with the provisions of section 89, the manager shall ensure that supply of incombustible dust equivalent to at least one week's requirement shall always be available in the underground workings for distribution and use and that such incombustible dust—

(a) contains not less than ninety-five *per centum* by mass of incombustible matter; and

(b) is of such fineness that, when dry, all of it will pass through a sieve of six hundred micrometres aperture and at least fifty *per centum* of it by mass will pass through a sieve of seventy-five micrometres aperture; and

(c) is a limestone/dolomite dust that does not contain more than five *per centum* by mass of free silica or is some other approved dust; and

(d) is light in colour and of such character that, unless directly wetted by water, it does not cake and will readily disperse into the air when blown upon; and

(e) is tested, at intervals not exceeding three months, for its incombustible matter content and fineness.

(2) A record shall be kept of the tests carried out for the purpose of paragraph (e) of subsection (1) and shall be available for inspection by an inspector.

Coal mines: testing effectiveness of precautions against coal dust explosion

91. (1) For the purpose of determining the adequacy of the measures taken to comply with the provisions of paragraph (d) of subsection (1) of section 89, samples sufficient in number and from appropriate locations so as to be representative of dust conditions shall be systematically collected, in accordance with the provisions of this section, at intervals not exceeding thirty days, from the roads in active working areas of each ventilating district or in each such section of the workings as an inspector, after consultation with the manager, may require.

(2) The following provisions shall apply to the collection of samples in terms of subsection (1)—

(a) each sample shall be collected over a length of road not less than fifty metres in length;

(b) the sample of dust on the roof and sides shall be taken separately from the sample of dust on the floor;

(c) in the case of the dust on the roof and sides, the sample shall be taken to a depth not exceeding six millimetres and, in the case of the dust on the floor, to a depth not exceeding twenty-five millimetres;

(d) every sample taken shall be representative of the whole surface of the roof and sides of the floor, as the case may be, of the length of road being sampled and shall be collected either—

(i) by a method of strip sampling by which the dust is collected from a succession of transverse strips one hundred millimetres wide and equally spaced not more than five metres apart; or

(ii) by a method of spot sampling by which the dust for each particular sample is collected from one point for each metre of that length of road.

(3) Each sample collected in terms of this section shall be well mixed and a representative portion, after drying in the air if necessary, shall be passed through a sieve of two hundred and fifty micrometres aperture and retained for analysis.

(4) Analysis of each sample collected in terms of this section shall be carried out by the following method or by any other approved method—

(a) a weighed quantity of dust shall be heated in an open vessel to a temperature of not less than four hundred and eighty degrees and not more than five hundred and twenty degrees Celsius until the coal is completely burnt away, and the incinerated residue shall be weighed;

(b) the incinerated residue shall be reckoned as incombustible matter and be expressed as a percentage of the total mass of the dust.

(5) A record shall be kept of the date and place of each sampling and the result of the tests carried out under subsection (4).

(6) A return shall be sent each month to an inspector clearly describing the places sampled and the results of the analysis obtained.

(7) In every case where analysis reveals unsatisfactory conditions in the places sampled, the return in terms of subsection (6) shall reflect what remedial action has been taken.

Coal mines: roads and coal tubs

92. (1) Underground roads along which coal is moved or transported shall be systematically cleared of any coal spillage and, before any area of the mine is isolated by stopping, the floor, roof and sides of all roads therein shall be systematically cleared of dust and freshly stone-dusted.

(2) Coal tubs shall be constructed and maintained so as to prevent coal dust escaping through the sides, ends or bottom.

Stone dust or water barriers

93. (1) Stone dust or water barriers erected for the purpose of suppressing coal dust explosions shall be of a design and construction approved by an inspector and located at such points as the manager, after consultation with the inspector, may determine.

(2) Stone dust or water barriers erected in terms of subsection (1) shall be inspected by an official every three months and the results of this inspection shall be recorded in ink in a book supplied by the manager.

Daily report on precautions taken

94. Once in every twenty-four hours an official shall report in writing in a book provided for the purpose by the manager on the measures taken to ensure compliance with the provisions of paragraph (c) of subsection (1) of section 89 and section 92.

Coal mines: responsibilities of miner in charge

95. (1) In every underground coal mine—

(a) every working place which has remained idle for more than six hours or which has remained idle for such lesser interval than six hours as an inspector may direct and every working place in which blasting has taken place shall be examined and made safe by the miner in charge of the section in which such working place is located before any work is resumed in such working place;

(b) no person, other than the holder of an appropriate blasting licence, shall enter and no miner in charge shall cause or permit any other person to enter any travelling way or working place in a section until such travelling way or working place to which any person is required to have access has been examined by the miner in charge of the section and found to be satisfactorily ventilated and in a safe condition;

(c) at the commencement of a shift the miner in charge shall—

(i) examine every working place in his section for inflammable gas with an approved flame safety lamp or approved methanometre; and

(ii) place his initials and the date of examination in chalk or crayon in a conspicuous place, other than the working place itself, in every working place immediately after he has examined it; and

(iii) immediately fence off or set up a barrier at the entrance to any place which he finds to be in an unsafe condition and cannot there and then make safe and, until he has personally made such place safe, shall not allow any person to enter therein except such persons as may be necessary to assist him in making such place safe; and

(iv) inform an official by the quickest means available if noxious or inflammable gas is found during his examinations;

(v) immediately after the inspection of the section—

A. record in ink in duplicate in a book provided by the manager a full and accurate report specifying whether or not and where noxious or inflammable gas, defects in roof and sidewall and other sources of danger were found or observed; and

B. sign in ink the report and send the original thereof immediately it has been made to the surface for transmission to the manages's office.

(2) The original of the report referred to in subparagraph (v) of paragraph (c) of subsection (1) shall be countersigned by an official on receipt and shall be retained by him for at least three months.

(3) A miner in charge carrying out the examination required by paragraph (c) of subsection (1) shall—

(a) take all reasonable measures to prevent persons not required to assist him from entering any such working place until he has examined and made safe and until he has given them definite instructions to enter; and

(b) take all reasonable precautions for the safety of persons present to his knowledge in his section and for the safety of his workmen, and such precautions shall continue as long as he allows any such person to remain in his section or until he is relieved of responsibility by another miner or competent person in accordance with subsection (4); and

(c) not be a contractor for the getting of minerals in the mine.

(4) A relieving miner or competent person shall, by means of a token to be handed to the miner relieved or by such other means as the Chief Government Mining Engineer may approve, signify that he has assumed responsibility for the safety of the section.

(5) Subject to subsection (7), in every coal mine a miner in charge shall, in the course of his shift, make at least three inspections, at intervals not exceeding three hours, of every working place in his section.

(6) Where coal pillars are being extracted, a miner shall not have charge of more than twelve working places or such lesser number of working places as an inspector may determine for the particular section of the mine and inspections shall include all accessible positions of the goaf edge of each working place.

(7) Where a section giving inflammable gas freely is opened out, a miner shall not be in charge of more than six working places and he shall make inspections at intervals not exceeding one hour.

(8) In the course of every inspection made in terms of subsection (5) the miner in charge shall test for inflammable gas with an approved flame safety lamp or an approved methanometer and, if inflammable gas is detected in a quantity sufficient to show a distinct cap on the reduced flame of the safety lamp or to give a reading of one comma two five *per centum* on the methanometer so as to necessitate the withdrawal of persons in terms of section 68, he shall immediately report its presence to the manager of an official by message sent in writing.

Coal mines: entry in absence of miner in charge

96. (1) Notwithstanding the provisions of sections 31 and 95 and subject to this section, a competent person may with his workmen enter and work in working places in by of the waiting place required by paragraph (f) of subsection (1) of section 9 when the miner in charge or a blasting licence holder is not present.

(2) Subsection (1) shall only apply if—

(a) the competent person has been appointed for the purpose by the manager and has satisfied an inspector as to his knowledge of gases and the testing thereof; and

(b) the work, which shall not include coal getting, has been specified and authorized by the manager or an official; and

(c) the miner in charge has, at the end of the preceding shift, examined and, if necessary, made safe every working place to which the competent person and his workmen are required to have access; and

(d) the work does not continue for more than four hours in the absence from the section of the miner in charge or a blasting licence holder; and

(e) at all times an approved flame safety lamp or approved methanometer is provided and used where the work is being undertaken.

(3) The competent person in charge of work being carried out in terms of this section shall immediately cease work and withdraw all persons if the ventilating air current diminishes noticeably or if the place where the work is being carried out becomes unsafe or if any inflammable gas is detected and, in the event of inflammable gas being detected, shall make an immediate report to an official.

Official to test for inflammable gas

97. (1) In every underground coal mine in the course of each shift a test for inflammable gas similar to the test required by subsection (8) of section 95 shall be made by an official or competent person, other than the miner in charge, appointed by the manager of every miner's section in which workmen work or travel or may be required to work or travel during that shift.

(2) A report on every test made in terms of subsection (1) shall be recorded in ink at the end of that shift by the person making the test on a form approved by an inspector in a book provided for the purpose by the manager, and such report shall be signed by the person making it and shall be examined and countersigned by the manager or an official within twenty-four hours.

Coal not to contain explosives

98. In every coal mine the manager shall take all reasonable precautions to ensure that no explosives are contained in the coal that is produced.

Coal mines and fiery mines: when firing of charges prohibited

99. In every coal mine and every fiery mine no person shall fire any explosives charge or cause or permit any person to fire any explosive charge in any place where there is sufficient inflammable gas present to show a distinct cap on the reduced flame of an approved safety lamp or give a reading of one comma two five *per centum* on an approved methanometer.

Coal mines: permitted explosives

100. (1) In every underground coal mine no explosives, other than permitted explosives, shall be used:

Provided that the Chief Government Mining Engineer may—

(a) prohibit the use of any such permitted explosives; or

(b) if he is satisfied that they comply with safety requirements, may permit in writing the use of any explosives, other than permitted explosives.

(2) For the purpose of subsection (1) the following shall be deemed to be permitted explosives—

(a) blasting cartridges—

(i) Ajax;

(ii) Monobel;

(iii) Coalex No. 1;

(iv) Saxonite:

Provided that the charge per shot hole shall not exceed 800 g; and

(b) detonators—

(i) instantaneous electric detonators with a copper capsule and of a strength not less than No. 6D;

(ii) "Carrick" short period delay detonators, maximum delay 150 milliseconds.

Firing of charges in coal

101. (1) This section shall apply to underground coal mine only.

(2) No person shall fire charges or cause or permit any other person to fire charges in coal unless the coal to be blasted has two free faces and the end of the shot-hole is at least one hundred and fifty millimetres short of the back of the cut providing the second of the two free faces:

Provided that, at places where topcoaling is taking place and two free faces cannot be established, the drilling and blasting of the roof of the coal seam may be undertaken in a different manner if an inspector has granted written permission therefore, in which event, any person firing charges, or causing or permitting charges to be fired, shall comply with the terms and conditions fixed by the inspector in such written permission.

(3) No shot-hole shall be fired unless the portion of the hole between the explosives and the collar is adequately tamped with non-inflammable tamping supplied by the manager.

(4) No person shall fire any charge unless he has examined as shortly before firing as practicable, the place where the charge is to be fired, all accessible workings into which the charge may blast and the ventilating air entering the place where the charge is to be fired and has found no danger of the firing causing an explosion of inflammable gas or coal dust.

(5) The examination required by subsection (4) shall be made with an approved flame safety lamp or an approved methanometer.

Development drives, et cetera: special provisions

102. In every fiery mine and every coal mine, no person shall, in any development drive, heading or bord more than fifty metres in advance of the general line of working, fire charges or cause or permit any other person to fire charges except between shifts.

Coal mines: parking of diesel units when not in use

103. In any coal mine every mobile diesel-powered unit underground shall, when not in use, be kept in a place approved by an inspector.

Coal mines: return airways

104. (1) In every coal mine there shall be in each ventilation district a return airway leading to the main return aircourse of the mine.

(2) Every return airway, including the main return aircourse, shall be kept fenced off from disused workings and maintained in proper state of repair so that it can be traversed without danger.

(3) An official shall inspect all return airways, at intervals not exceeding seven days, and shall record the results of his inspections in ink in a book supplied by the manager.

(4) The record required by subsection (3) shall be kept in an office on surface and shall be countersigned by the manager at intervals not exceeding fourteen days.

Coal mines and fiery mines: fans

105. (1) In every fiery mine and every coal mine—

(a) every fan shall be so installed and positioned as to ensure, as far as possible, that it is not damaged by an explosion; and

(b) except with the written permission of an inspector, every main fan shall be—

(i) situated on surface; and

(ii) fitted with an automatic alarm to alert persons should it stop; and

(c) in the event of a main fan stopping for any reason and thereby endangering the safety of persons in the workings, the manager shall ensure that—

(i) immediate steps are taken to withdraw all persons from such workings to a place of safety; and

(ii) as soon as such persons have reached a place of safety, all electrical power supplied to the workings ventilated by such fan is switched off; and

(iii) after the main fan has been re-started, no electrical power to the workings shall be switched on and no person other than those engaged in making the necessary examination shall enter such workings until safe conditions have been restored; and

(d) every main fan shall be examined internally and externally, together with its appurtenant gear, at intervals not exceeding three months, by a competent person.

(2) The manager shall keep or cause to be kept at the mine a book in which the person carrying out the examination required by paragraph (d) of subsection (1) shall record in ink a true report on the condition of the fan and its appurtenant gear found at every examination.

(3) If, on any examination, any weakness or defect is found by which the efficient and continuous operation of a fan may be affected and such weakness or defect cannot be immediately remedied, it shall be reported without delay to the manager.

Coal mines and fiery mines: installation and operation of fans

106. (1) No fan shall be installed or operated in the workings of any fiery mine or any coal mine except in accordance with the provisions of this section.

(2) Where it is intended to install an auxiliary fan in a return airway from a ventilating district, an inspector shall first be notified in writing, the site of such fan shall be selected by the manager and the installation shall be such that the motor is situated in intake air and there is no possibility of return air passing over the motor and ancillary electrical gear. In special circumstances exemption may be given in writing from the above provision by an inspector of mines.

(3) In the case of any fan installed elsewhere than in a return airway from a ventilating district—

(a) each such fan shall be installed at a site personally selected and authorized by the manager or an official; and

(b) no such fan shall be installed or operated at any place unless the quantity of fresh air reaching it at all times is sufficient to ensure that any recirculation of air shall not prejudice the supply of adequate ventilation;

(c) no such fan shall be removed without the authority of the manager or an official who shall make a suitable endorsement in the book referred to in subsection (4); and

(d) the power supply to each such fan shall be controlled from a switch on the section distribution panel independent of the switches controlling any other machinery in the section.

(4) Every fan shall be operated in accordance with the instructions given by the manager or an official who shall record in ink in a book provided for the purpose the particulars of the authorization and shall ensure that the miner in charge is made aware of such instructions.

(5) In the workings of any coal mine or fiery mine an electrically-driven fan shall not be started or re-started after it has stopped unless, immediately before the fan is started or re-started, tests have been carried out with an approved flame safety lamp or an approved methanometer by a competent person and the site of its motor and ancillary electrical gear have been found to be clear of inflammable gas.

Coal mines: aircourses

107. In every coal mine—

(a) all doors connecting a main intake aircourse with a main return aircourse shall be strongly constructed, afford an effective seal and shall be in duplicate;

(b) all stoppings and air-crossings shall be robust and built in such a manner as to prevent leakage and at least one side of every stopping shall be kept accessible for inspection.

Coal mines: supply of air

108. In every coal mine not exempted in writing by an inspector—

(a) the quantity of fresh air in cubic metres per second supplied throughout the twenty-four hours for each ventilating district shall be not less than nought comma nought two five multiplied by the maximum number of tonnes of coal and rock mined per shift in such district; and

(b) no ventilating district shall at any time contain more than two hundred persons; and

(c) in bord and pillar workings, roadways that carry a uni-directional flow of air over the whole of the cross-sectional area from the main intake aircourse to the main return aircourse of any section of the workings for the purpose of ventilating such workings shall be provided and maintained to carry such flow as close as practicable to every working place in such section; and

(d) the quantity of air supplied at the face of any heading which is being advanced in coal and which had advanced more than eight metres from its point of communication with the nearest roadway that is carrying a uni-directional flow of air over the whole of its cross-sectional area from the main intake aircourse of the section of workings in which such heading is being advanced shall be not less than nought comma one five cubic metres per second for each square metre of the average cross-sectional area of the heading; and

(e) the quantity of air supplied at the face of any tunnel being advanced in stone or in dyke and at the face of any shaft in the course of being sunk shall be not less than nought comma one five cubic metres per second for each square metre of the average cross-sectional area of the excavation.

Coal mines: measurement of air circulating and measurement of dust

109. (1) In every coal mine measurements shall be made not less than once a month, during the main working shift, of—

(a) the quantity of air circulating through the mine and each ventilating district; and

(b) the quantity of air circulating through each working section and the average velocity of the air current along the roads.

(2) In every underground coal mine measurements shall be made not less than once in every six months or at such greater intervals as the Chief Government Mining Engineer may permit

in writing during the main working shift, of the amount of dust in the air in representative working places in each section while drilling, cutting, breaking, loading or transfer of coal or rock is taking place.

Record to be kept of measurements of air circulating and of dust

110. A record of the measurements made in terms of section 109 shall be kept and shall be available for inspection by an inspector.

Coal mines: flame safety lamps or methanometers to be provided

111. Subject to section 112, at every coal mine there shall be provided at least one flame safety lamp or methanometer for every 20 underground employees unless an inspector has in writing granted exemption from the provisions of this section.

Coal mines and fiery mines: methanometers and lamps to be approved

112. (1) No methanometer shall be allowed or used in the workings of any coal mine or fiery mine unless it is of an approved design and construction.

(2) No flame safety lamp or other portable lamp shall be allowed or used in the workings of any coal mine or fiery mine unless it is an enclosed and locked or sealed lamp of an approved design and construction.

Approval of lamps and methanometers by Chief Government Mining Engineer

113. Every application for approval by the Chief Government Mining Engineer of the design and construction of a methanometer or lamp for the purposes of section 112 shall be accompanied by a sample of the methanometer or lamp and drawings giving full details and specifications of the design and construction thereof.

Competent person to have charge of lamps

114. (1) At every coal mine and every fiery mine the manager shall in writing appoint a competent person who shall ensure that—

(a) all methanometers are accurately calibrated and in good working order whenever issued for use; and

(b) all portable lamps are in good working order and in safe condition whenever issued for use and, more particularly, that—

(i) every flame safety lamp has been properly cleaned, filled with fuel, assembled and locked or sealed;

(ii) every portable electric lamp has been properly cleaned, assembled and locked or sealed;

(c) the record required by section 115 is properly kept.

(2) All portable lamps shall be returned to the lamproom at the end of each shift by the persons to whom they were issued.

(3) All repairs to portable lamps at a coal mine or fiery mine shall be conducted in a separate room or in a separate compartment of the lamproom.

Record of lamps to be kept

115. At every coal mine and every fiery mine all portable lamps in use in the underground workings of the mine shall be numbered and a record kept in the lamproom of the persons to whom each lamp is issued in order that the user of any particular lamp can at any time be identified from the records.

Lamps not to be unlocked or unsealed

116. No person shall unlock or break the seal of a portable lamp in the underground workings of any coal mine or fiery mine.

Self-rescueing devices in coal mines and fiery mines

117. (1) At every coal mine or fiery mine no person may go underground or be permitted or forced to go underground, unless he is issued, free of charge, with self-rescueing device. Such device shall be—

(a) kept on this person at all times while he is underground;

(b) in good condition and ready for instant use;

(c) of the self-contained type with a duration of thirty minutes at a ventilation rate of thirty litres per minute; and

(d) of a design and construction approved by the Chief Government Mining Engineer.

(2) At every coal mine or fiery mine in the underground workings, the manager shall make adequate arrangements to ensure that adequate and sufficient refuge bays or other safe places are provided so that any person in any part of the mine where he may have to travel or work will be able, in the event of an explosion, fire or other emergency which may necessitate the use of self-rescueing devices, to reach such refuge bay or other safe place, without due exertion, within the limit of protection afforded by the self-rescueing device. Such refuge bays or other safe places shall be—

(a) equipped with means for reliable supply of breathable air;

(b) equipped with means for a reliable supply of portable water;

(c) supplied with adequate and suitable first aid equipment;

(d) of sufficient size to accommodate the greatest number of persons likely to be in the area at any one time;

(e) capable of being sealed off or equipped with alternative effective means to prevent the entry of noxious gases;

(f) equipped with a telephone or other means of communication with the surface; and

(g) constructed of fire resistant material.

(3) Every manager of every underground coal mine and fiery mine shall draw up a code of practice for rescue operations and he shall ensure that every person who goes underground on his mine is adequately trained in the use of self-rescueing devices and the procedure necessary to ensure his survival as far as possible in the event of an explosion, fire or other emergency.

(4) Training in the correct use of self-rescueing devices shall be repeated at intervals not exceeding one year, and shall be given to all persons who may have to go underground.

(5) Subsections (1), (2), (3) and (4) shall apply to a specific underground coal mine or fiery mine determined by the Chief Government Mining Engineer, as from a date specified in writing by the Chief Government Mining Engineer in respect of that mine and of which the Chief Government Mining Engineer has in writing given prior notice to the Manager or the owner of the mine concerned.

Contraband

118. (1) Except as otherwise provided by section 120, no person shall at any underground coal mine or fiery mine—

(a) take into the workings or have in his possession in the workings any device for the intentional creation of an arc, spark or flame or any match or appliance of any kind for striking a light; or

(b) smoke in the workings or take into the workings or have in his possession in the workings any pipe, cigar, cigarette, tobacco, other than chewing tobacco or snuff, or any contrivance or material for smoking.

(2) Subsection (1) shall not apply to the relighting device within an approved flame safety lamp.

Search of persons entering coal mine or fiery mine

119. (1) At every coal mine and every fiery mine the manager shall in writing appoint a person or persons to be present at each entrance to the workings of the mine at all times.

(2) Any person appointed in terms of subsection (1) shall when on duty ask every person about to enter the underground workings of the mine whether or not he is in possession of any of the prohibited articles referred to in section 118 or subsection (1) of section 120 and any person when asked that question shall immediately produce and hand over to such first-mentioned person any prohibited article which may be in his possession.

(3) Any person appointed in terms of subsection (1) shall also have the right to search any person about to enter the underground workings of the mine for any of the prohibited articles referred to in section 118 or subsection (1) of section 120 and to take possession of any prohibited article found in such search.

(4) An official shall have the right to search any person in the underground workings of any coal mine or fiery mine for prohibited articles referred to in section 118 or subsection (1) of section 120 if he suspects that such person has any such articles in his possession and to take possession of any prohibited article found in such search.

(5) No person shall hinder or obstruct any person appointed in terms of subsection (1) or any official in the carrying out of any serch authorized by this section.

(6) Subject to the provisions of any other law, any article taken possession of in terms of this section shall in due course be returned to the person from whom it was taken after he has left the underground workings of the mine.

Coal mines: restrictions on welding, flamecutting, et cetera

120. (1) No welding, flamecutting, grinding, vulcanizing, soldering or similar equipment shall be taken into or used in the underground workings of any coal mine or fiery mine except in a worshop established with the permission of an inspector in writing under conditions approved by the Chief Government Mining Engineer.

(2) An application for permission for the establishment of a workshop for the purposes of this section (hereinafter in this section called "a workshop") shall be made to an inspector and shall be accompanied by—

(a) three copies of a plan drawn to scale showing the location of the proposed workshop, its access roads and the quantity and direction of ventilating air currents; and

(b) three copies of a drawing showing the design and construction of the proposed workshop and its compartments.

(3) Every workshop shall be under the charge of a competent person, appointed in writing by the manager, who has satisfied an inspector as to his knowledge of gases and the testing thereof.

(4) The person appointed to be in charge of a workshop shall ensure that—

(a) the workshop is kept clean at all times; and

(b) any equipment to be welded, flamecut or flameheated is properly cleaned and free from oil.

(5) If for any reason the person appointed to be in charge of a workshop is required to leave the workshop, he shall satisfy himself that all gas and electrical welding, cutting, grinding,

vulcanizing, soldering or similar equipment is rendered inoperative and is securely locked in a box or compartment of robust construction in the workshop of which box or compartment he has the key.

(6) In each workshop an effective alarm system shall be installed and maintained in working order to give and alarm in the workshop whenever the main fan which serves the workings in which the workshop is situated ceases to operate and, when such alarm is given, the use of all equipment for any purpose referred to in subsection (1) shall cease forthwith.

(7) Each electric power-fed circuit into any workshop shall be controlled by a circuit breaker situated not more than one hundred metres outby of the workshop in an intake airway and every such circuit breaker shall incorporate effective "no volt", "overload" and "earth leakage" trips.

(8) A hose of sufficient length to reach from an adequate water supply to all points in the workshop shall be kept connected and ready for immediate use.

(9) For the intentional creation of an arc or spark for the lighting of welding or cutting torches in a workshop only lighters of the friction type may be taken into workings for use in the workshop.

(10) Each lighter referred to in subsection (9) shall bear a distinctive mark or number and shall be issued under signature of the manager to the person appointed to be in charge of the workshop and no lighter shall be taken to or from the workshop except personally by that person.

Coal mines and fiery mines machine operators and artisans to be able to test for gas

121. (1) At every coal mine and every fiery mine—

(a) every operator of an electrical machine used underground for drilling, cutting, breaking or loading; and

(b) every artisan working underground;

shall be instructed in testing for inflammable gas.

(2) An approved methanometer or approved flame safety lamp shall be provided for each machine referred to in paragraph (a) of subsection (1) and the operator thereof shall use the

methanometer or flame safety lamp at the machine to test for the presence of inflammable gas while the machine is in operation and, if he detects any inflammable gas, shall forthwith cut off the power supply to the machine and report the matter to the miner in charge of the working section or to an official.

(3) If an artisan while working underground detects any inflammable gas, he shall forthwith report the matter to the miner in charge of the working section or to an official.

Flexible electric trailing cables

122. (1) In every coal mine and fiery mine the operator of an electrically-driven coal cutter or other mobile or portable electrical machine used underground which is served by a flexible trailing cable shall—

(a) take all reasonable measures to safeguard the flexible cable against damage; and

(b) report immediately to the miner in charge any damage or defect he may observe in the cable; and

(c) not leave such machine while it is working; and

(d) before leaving the working place, ensure that the power supply to the flexible trailing cable is cut off.

(2) Every flexible electrical trailing cable in use in the working of a coal mine or fiery mine shall be examined at the beginning and again at least once in the course of each shift by the miner in charge or by a competent person appointed by the manager and if any such cable is damaged or defective, its use shall forthwith be discontinued and it shall not be further used until it has been sent to the surface and there properly repaired.

Work prohibited in vicinity of inflammable gas

123. (1) Subject to subsection (2), no person shall commence work or continue to work or cause or permit any other person to commence work or continue to work in any part of the workings of any coal mine or fiery mine if, in the same ventilating district or within a radius of thirty metres of such part, there is any place known to contain sufficient inflammable gas to show a distinct cap on the reduced flame of an approved flame safety lamp or to give a reading of one comma two five *per centum* on an approved methanometer.

(2) Subsection (1) shall not apply to the holder of an appropriate blasting licence who is engaged in the erection of brattice or in other work necessary for the clearing away of inflammable gas, or to any other person so engaged in the actual presence of, and under the direct supervision of, such holder.

(3) For the purpose of subsection (2) "holder of an appropriate blasting licence" means—

(a) in the case of a coal mine, the holder of—

(i) a coal blasting licence; or

(ii) a full blasting licence endorsed for use on a coal mine in terms of subsections (3) and (4) of section 12 of the Explosives Regulations, 1989;

(iii) a mine blasting licence valid for that mine;

(b) in the case of a fiery mine, the holder of—

(i) a full blasting licence endorsed for use on a fiery mine in terms of subparagraph (ii) of paragraph (a); or

(ii) a mine blasting licence valid for that mine.

Use of electrical apparatus prohibited where inflammable gas present in working place

124. (1) No person shall use or cause or permit any other person to use any electrical apparatus, other than an approved portable electric lamp, in any working place in a coal mine or fiery mine where there is sufficient inflammable gas to show a distinct cap on the reduced flame of an approved flame safety lamp or to give a reading of one comma two five *per centum* on an approved methanometer.

(2) In addition to the provisions of subsection (1), all electrical equipment and apparatus installed—

(a) at any place at or within two hundred and fifty metres of any working face in any intake airway; or

(b) at any place whatsoever in a return airway; or

(c) at any other place if in that place the representative methane content in the general body of the air exceeds nought comma five *per centum* by volume; or

(d) in any situation where there is likely to be heavy concentrations of coal dust; or

(e) in any place under such conditions as an inspector may determine;

shall be of an approved flameproof or intrinsically safe construction.

Only approved electrical apparatus permitted

125. (1) In every underground coal mine and fiery mine all electrical equipment apparatus shall be of approved design and construction and installed and maintained in an approved manner.

(2) In addition to the provisions of subsection (1), all electrical equipment and apparatus installed—

(a) at any place at or within two hundred and fifty metres of any working face in any intake airway; or

(b) at any place whatsoever in a return airway; or

(c) at any other place if in that place the representative methane content in the general body of the air exceeds nought comma five *per centum* by volume; or

(d) in any situation where there is likely to be heavy concentrations of coal dust; or

(e) in any place under such conditions as an inspector may determine;

shall be of an approved flameproof or intrinsically safe construction.

Plans of electrical installations to be maintained

126. (1) At every coal mine there shall be kept in the mine office a tracing or print taken from an underground plan drawn to a scale of not less than 1 : 5 000, on which the following information shall be clearly shown—

(a) the position of all main electrical apparatus in the mine; and

(b) the routes and sizes of all fixed feeder cables, branch feeders and final distribution cables; and

(c) the rating of all feeder control apparatus and equipment, whether or not it is a circuit breaker, switch, fuse or contactor starter unit and all motors and transformers; and

(d) the construction of apparatus, namely whether flameproof or otherwise.

(2) The plan required by subsection (1) shall be corrected as often as may be necessary and shall at all times be correct to within at most three months from date and a print thereof shall be submitted to an inspector at intervals not exceeding three months.

Electrical shot-firing apparatus to be used for firing of charges

127. (1) No person shall fire or cause or permit any person to fire explosive charges in any coal mine or fiery mine except by means of an efficient and properly mantained electrical shot-firing apparatus, cable and accessories, approved for the purpose by an inspector, which is provided with a movable operating handle or key or with a locking arrangement to secure it against unauthorized use.

(2) A removable operating handle or key referred to in subsection (1) shall not be placed in position until the explosive charge is about to be fired.

(3) No person shall open or tamper with any electrical shot-firing apparatus below ground.

(4) No person shall use cable which has been provided for shot-firing for any purpose other than shot-firing.

(5) All electrical shot-firing apparatus shall be brought to the surface, at intervals not exceeding three months, for thorough cleaning and examination by a competent person appointed for that purpose.

(6) All multi-shot-firing apparatus shall be brought to the surface, at intervals not exceeding seven days, for testing in an approved manner.

(7) No internal examination of any electrical shot-firing apparatus shall be carried out below ground.

(8) Each shot-exploder shall be marked with a serial number and a record of all examinations and tests carried out on it shall be recorded in ink in a book to be provided for the purpose.

(9) If any shot-firing apparatus appears to be defective, the blasting licence holder shall not use it further but shall cause it to be returned to the surface forthwith and shall report the circumstances to the manager or an official.

(10) No electrical shot-firing apparatus shall be taken or used underground unless on the last preceding test thereof it was found to be in satisfactory order.

Requirements for machines: allaying of dust

128. (1) In the underground workings of every coal mine every machine for ripping, picking, cutting, drilling or loading rock or coal shall be fitted with means or means shall be provided—

(a) by applying water, for effectively preventing dust from being created by the operation of the machines; or

(b) by the use of some suitable apparatus approved by an inspector, for effectively trapping any dust created by the operation of the machine.

(2) The Chief Government Mining Engineer may prohibit in writing the use of any type or make of machine for ripping, picking, cutting, drilling or loading rock or coal in coal mines if he considers that the use of such type or make of machine may seriously and materially endanger the health of workmen.

(3) No machine, the use of which has been prohibited in terms of subsection (2), shall be used in the underground workings of any coal mine.

Monthly report of inflammable gas to inspector

129. (1) The manager of every coal mine or fiery mine shall submit a monthly report in writing to an inspector giving details of all places where inflammable gas has been detected in a quantity to show a distinct cap on the reduced flame of an approved flame safety lamp or to give a reading of one comma two five *per centum* on an approved methanometer.

(2) Should an inspector so require an immediate report of inflammable gas in quantities as stipulated in subsection (1) shall be made to him.