

THE GENERAL ASSEMBLY OF PENNSYLVANIA

SENATE BILL**No. 949** Session of
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AND WOZNIAK, JANUARY 11, 2008

SENATOR ARMSTRONG, APPROPRIATIONS, RE-REPORTED AS AMENDED,
JANUARY 29, 2008

AN ACT

1 Providing for bituminous coal mines; and making a repeal.

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15 The General Assembly of the Commonwealth of Pennsylvania
16 hereby enacts as follows:

17 CHAPTER 1

18 PRELIMINARY PROVISIONS

19 Section 101. Short title.

20 This act shall be known and may be cited as the Bituminous
21 Coal Mine Safety Act.

22 Section 102. Application.

23 This act shall apply to all underground bituminous coal mines
24 in this Commonwealth, including all of the following:

25 (1) The construction, operation, maintenance and sealing
26 of underground bituminous coal mines.

27 (2) The operators of underground bituminous coal mines.

28 (3) All ~~persons~~ INDIVIDUALS at underground bituminous
29 coal mines.

30 Section 103. Findings and purpose.

1 (a) Findings.--The General Assembly finds that it is in the
2 public interest to establish a comprehensive scheme to protect
3 the lives, health and safety of those who work at mines in this
4 Commonwealth. This comprehensive scheme shall address all of the
5 following:

6 (1) The first priority and concern of all in the
7 bituminous coal mining industry must be the health and safety
8 of those who work in and at mines and others in and about
9 mines.

10 (2) Deaths and injuries from unsafe and unhealthful
11 conditions and practices at underground bituminous coal mines
12 cause grief and suffering to miners and their families.

13 (3) The efforts of mine operators, miners and the
14 Commonwealth, through the Department of Environmental
15 Protection, have over time significantly reduced the
16 occurrence of deaths and injuries in the underground
17 bituminous coal mining industry. This reduction in deaths and
18 injuries is due, in part, to the safety standards under the
19 act of July 17, 1961 (P.L.659, No.339), known as the
20 Pennsylvania Bituminous Coal Mine Act, and the grant of
21 authority to the department to approve underground bituminous
22 coal mining activity and equipment.

23 (4) The Pennsylvania Bituminous Coal Mine Act is
24 becoming outdated and lacks an effective mechanism to modify
25 existing standards and to adopt new standards.

26 (5) The Commonwealth must maintain a strong, independent
27 mine safety program.

28 (6) The operators at underground bituminous coal mines,
29 with the assistance of certified miners and mine officials
30 have the primary responsibility to prevent the existence of

1 unsafe and unhealthful conditions at underground bituminous
2 coal mines.

3 (7) Underground bituminous coal mining is highly
4 specialized, technical and complex and requires frequent
5 review, refinement and improvement of standards to protect
6 the health and safety of miners.

7 (8) The formulation of appropriate rules and practices
8 to improve health and safety and to provide increased
9 protection of miners can be accomplished more effectively by
10 ~~persons~~ INDIVIDUALS who have experience and expertise in <—
11 underground bituminous coal mining and underground bituminous
12 coal mine health and safety.

13 (9) Mine safety is enhanced through a rigorous program
14 for training and certifying ~~persons~~ INDIVIDUALS to work at <—
15 mines in this Commonwealth.

16 (10) It is imperative that the department have the
17 capability to coordinate and assist rescue operations in
18 response to accidents at underground bituminous coal mines.

19 (11) It is in the public interest to encourage the
20 underground bituminous coal mining industry to establish,
21 maintain and support mine rescue teams and other emergency
22 response capabilities.

23 (b) Purpose.--It is the purpose of this act to do all of the
24 following:

25 (1) To use the full extent of the Commonwealth's powers
26 to protect the lives, health and safety of miners and others
27 in and about underground bituminous coal mines.

28 (2) To establish and promulgate improved mandatory
29 health and safety standards to protect the health and safety
30 of miners and others in and about underground coal mines in

1 this Commonwealth.

2 (3) To establish a rulemaking process that enables the
3 expeditious updating of the interim mandatory health and
4 safety standards established under this act and to otherwise
5 protect the health, safety and welfare of miners and others
6 in and about mines.

7 (4) To require that operators at underground bituminous
8 coal mines and every ~~person~~ INDIVIDUAL at every mine comply ←
9 with these standards.

10 (5) To improve and expand research, development and
11 training programs aimed at preventing underground bituminous
12 coal mine accidents and occupationally caused diseases in the
13 industry.

14 (6) To enable the Commonwealth to respond as necessary
15 and appropriate to accidents and other emergencies at
16 underground bituminous coal mines.

17 Section 104. Definitions.

18 The following words and phrases when used in this act shall
19 have the meanings given to them in this section unless the
20 context clearly indicates otherwise:

21 "Abandoned workings." Excavations, either caved or sealed,
22 that are deserted and in which further mining is not intended.

23 "Accident." An unanticipated event, including any of the
24 following:

25 (1) A death of an individual at a mine.

26 (2) An injury to an individual at a mine, which has a
27 reasonable potential to cause death.

28 (3) An entrapment of an individual at a mine which has a
29 reasonable potential to cause death or serious injury.

30 (4) An unplanned inundation of a mine by a liquid or

1 gas.

2 (5) An unplanned ignition or explosion of gas or dust.

3 (6) An unplanned mine fire not extinguished within ten
4 minutes of discovery.

5 (7) An unplanned ignition or explosion of a blasting
6 agent or an explosive.

7 (8) An unplanned roof fall at or above the anchorage
8 zone in active workings where roof bolts are in use.

9 (9) An unplanned roof or rib fall in active workings
10 that impairs ventilation or impedes passage.

11 (10) A coal or rock outburst that causes withdrawal of
12 miners or which disrupts regular mining activity for more
13 than one hour.

14 (11) An unstable condition at an impoundment, refuse
15 pile or culm bank, which does any of the following:

16 (i) Requires emergency action in order to prevent
17 failure.

18 (ii) Causes individuals to evacuate an area.

19 (12) Failure of an impoundment, refuse pile or culm
20 bank.

21 (13) Damage to hoisting equipment in a shaft or slope
22 which endangers an individual or which interferes with use of
23 the equipment for more than 30 minutes.

24 (14) An event at a mine which causes death or bodily
25 injury to an individual not at the mine at the time the event
26 occurs.

27 "Active workings." All areas in a mine that are not sealed
28 and which must be ventilated and examined under this act.

29 "Advisory committee." The Technical Advisory Committee on
30 Diesel-Powered Equipment.

1 "Approval." A written document, issued by the Department of
2 Environmental Protection, which states that a technology,
3 material, machinery, tool, process, plan, device, equipment,
4 facility, method, supply, accessory or other item meets the
5 requirements of this act or of regulations promulgated under
6 this act.

7 "Board." The Board of Coal Mine Safety.

8 "Certified ~~person~~ INDIVIDUAL." An individual who is ←
9 qualified under the provisions of this act and who holds a
10 certificate from the Department of Environmental Protection to
11 perform a particular duty in connection with the operation at a
12 mine. The term includes all of the following:

- 13 (1) Mine foreman.
- 14 (2) Assistant mine foreman.
- 15 (3) Mine examiner.
- 16 (4) Mine electrician.
- 17 (5) Machine runner.
- 18 (6) Shot-firer.
- 19 (7) Miner.

20 "Check survey." The term shall have the same meaning as
21 closed-loop survey.

22 "Closed-loop survey." The method of establishing the
23 accuracy of a mine survey by conducting a loop traverse to the
24 point of beginning or to a known point of another closed-loop
25 survey. The term does not include a double angle, double
26 distance survey unless that method is used to complete a closed-
27 loop survey.

28 "Coal-producing shift." A shift primarily intended for coal
29 production rather than for purposes of construction, maintenance
30 and housekeeping even though some coal production may be

1 incident to such purposes.

2 "Department." The Department of Environmental Protection of
3 the Commonwealth.

4 "DPEP." Diesel-powered equipment package.

5 "Face." The solid coal at the inby end of a working place.

6 "Inactive workings." All portions of a mine in which
7 operations have been suspended for an indefinite period, but
8 have not been abandoned.

9 "Interim mandatory safety standards." The safety standards
10 under Chapters 2 and 3.

11 "Lateral and face take-ups." The individual measurements
12 left and right of the entry center line used to depict the
13 physical location of the coal ribs and pillars. The lateral
14 take-ups define the intersections, pillars' corners and the
15 significant variations in all excavations. The face take-ups
16 define the limits of mining in all face areas in advance of the
17 last station spad. Face take-ups and lateral take-ups in the
18 face area are not to exceed a distance greater than 300 feet
19 from the last survey station spad.

20 "Lost-time injury." When an individual is unable to report
21 for work at the individual's regularly scheduled job on the
22 individual's next regularly scheduled work shift due to a work-
23 related injury.

24 "Mine." The shafts, slopes or drifts of an underground
25 bituminous coal mine, either under construction, in use or
26 abandoned, connected with excavations penetrating or intended to
27 penetrate coal stratum or strata, which excavations are or were
28 ventilated by air currents and connected by a method of
29 transportation over which coal may be or was delivered to one or
30 more points outside the mine. The term shall not include any

1 surface coal mine.

2 "Mine examiner." An individual designated by the mine
3 foreman or superintendent to examine a mine for gas and other
4 dangers. The term shall include the title "fire boss."

5 "Mine foreman." An individual appointed by an operator or
6 superintendent to be in charge of all of the following:

7 (1) The inside workings of a mine.

8 (2) An individual in a mine.

9 (3) A visitor to the inside of a mine, except for
10 Federal and State Government representatives, MINE INSPECTORS ←
11 AND OTHER REPRESENTATIVES.

12 "Mine official." Any of the following:

13 (1) Superintendent.

14 (2) Mine foreman.

15 (3) Assistant mine foreman.

16 (4) Mine examiner.

17 (5) Mine electrician.

18 "Miner." An individual who is certified by the Department of
19 Environmental Protection to work in an underground mine.

20 "MSHA." The Mine Safety and Health Administration within the
21 United States Department of Labor.

22 "NIOSH." The National Institute for Occupational Safety and
23 Health within the United States Department of Health and Human
24 Services.

25 "Operator." An owner, lessee or other person who operates,
26 controls or supervises a coal mine.

27 "Permissible explosives." Explosives approved for use in
28 mines by the Mine Safety and Health Administration, the National
29 Institute for Occupational Safety and Health or their
30 predecessor agencies, notwithstanding the date of the approval.

1 "Permit boundary." The limits of the mine as established by
2 the coal mine activity permit issued under the act of April 27,
3 1966 (1st Sp. Sess., P.L.31, No.1), known as The Bituminous Mine
4 Subsidence and Land Conservation Act.

5 "Person." Any individual, partnership, association,
6 corporation, firm, subsidiary of a corporation or other
7 organization.

8 "Pointer spads." Additional spads set in the roof to
9 indicate the line of direction or bearing for future
10 excavations. Pointer spads may or may not be referenced in the
11 field notes. Pointer spads are not considered a permanent record
12 because they only indicate direction.

13 "Representative of the miners." ~~Any person or organization~~ <—
14 ~~which represents two or more miners at a coal mine for the~~
15 ~~purpose of this act. A representative who is a miner shall be~~
16 ~~employed at the mine and authorized and chosen by two or more of~~
17 ~~the miners employed at the same mine.~~ A MINER EMPLOYED AT THE <—
18 MINE WHO IS AUTHORIZED BY A VOTE OF TWO OR MORE MINERS WORKING
19 AT THE SAME MINE TO PERFORM THE DUTIES SPECIFIED IN THIS ACT.

20 "Return air." Air that has ventilated the last working place
21 on any split of any working section or any worked-out area
22 whether pillared or nonpillared. The term shall include all of
23 the following:

24 (1) Air that mixes with air that has ventilated the last
25 working place on any split of any working section or any
26 worked-out area, whether pillared or nonpillared.

27 (2) Any air that has passed or ventilated seal areas.

28 "Secretary." The Secretary of Environmental Protection of
29 the Commonwealth or the designee of the secretary.

30 "Shaft." A vertical opening through the strata that is or

1 may be used for the purpose of ventilation or drainage or for
2 hoisting men or material, or both, in connection with the mining
3 of coal or for other purposes related to mining.

4 "Slope and drift." An incline or opening used for the same
5 purpose as a shaft.

6 "Spad." A flat spike, firmly anchored in a hole drilled into
7 the mine ceiling from which is threaded a plumbline.

8 "Superintendent." An individual appointed by an operator to
9 manage a mine.

10 "Survey line." A representation of the line of survey from
11 survey station spad to survey station spad as shown on the
12 official mine map.

13 "Survey station spad." A permanent spad set in the roof that
14 has a unique identification number or designation.

15 "Underground bituminous coal mine." A mine and the surface
16 facilities that are physically connected to a mine, including
17 preparation plants and loadouts at a mine, in this Commonwealth
18 and not included in anthracite boundaries.

19 "Ventilation apparatus." All equipment, materials and
20 devices used to establish, provide or support movement of air
21 through a mine.

22 "Work area." Any place at a mine where work is being
23 performed. The term shall not include areas where individuals
24 are making examinations required under this act.

25 "Working place." The area in a mine from the last open
26 crosscut to and including the face.

27 "Working section." The area in a mine from the face
28 extending back 1,000 feet.

29 "Year of experience." For the purposes of issuing
30 certifications under this act, the term shall mean working 240

1 eight-hour days or the hourly equivalent within a 12-month
2 period beginning with the first day of employment in a mine.
3 Section 105. Powers and duties of department.

4 The department shall have the power and duty to administer a
5 mine safety program for ~~persons~~ INDIVIDUALS employed at mines. <—
6 The department has the power and duty to do all of the
7 following:

8 (1) Make inspections of public or private property as
9 are necessary or useful in determining compliance with the
10 provisions of this act, the rules and regulations promulgated
11 under this act and any order, approval or permit issued by
12 the department. The inspections may include examining or
13 copying any documents required by this act.

14 (2) Conduct investigations and interviews of ~~persons~~ <—
15 INDIVIDUALS at a mine or elsewhere. <—

16 (3) Issue orders to implement AND ENFORCE the provisions <—
17 ~~and effectuate the purposes~~ of this act. <—

18 (4) Institute proceedings and actions to implement the
19 provisions and effectuate the purposes of this act, including
20 suits seeking equitable relief or declaratory judgments and
21 suits to recover costs incurred by the department.

22 (5) Institute prosecutions against the operator or his
23 agent for a violation of any provision of this act.

24 (6) Determine whether ~~a person~~ AN INDIVIDUAL is <—
25 qualified to carry out a particular function or duty at a
26 mine and to issue appropriate certification.

27 (7) Disqualify ~~any person~~ AN INDIVIDUAL whose conduct <—
28 poses a threat to the health and safety of those who work at
29 mines or who interfere with the safe operation of any mine.

30 (8) Review and take appropriate action concerning safety

1 of miners and ~~persons~~ INDIVIDUALS in and about mines on all ←
2 permit applications submitted to the department.

3 (9) Receive and act upon complaints.

4 (10) Conduct, review and, if funds are allocated for
5 such purposes, commission scientific and other research
6 directed to the purposes of this act.

7 (11) Approve electrical equipment, machinery, materials,
8 methods and plans to be used at mines in this Commonwealth.

9 (12) Approve, on a mine-specific basis, the use of new
10 technology, methods, materials, machinery, equipment,
11 systems, tools, devices, processes and plans different from
12 those required or authorized under the provisions of this act
13 or the regulations promulgated under this act. The department
14 may only make approvals ~~where doing so would meet or exceed~~ ←

15 UNDER THIS PARAGRAPH, IF THE APPROVAL MEETS OR EXCEEDS the ←
16 protections afforded under this act or the regulations
17 promulgated under this act. Approvals under this ~~section~~ ←
18 PARAGRAPH shall have no precedent effect. All approvals in ←
19 effect as of the effective date of this ~~section~~ PARAGRAPH ←
20 shall remain in effect unless suspended, modified or revoked
21 by the department.

22 (13) Respond to, coordinate and assist responses to mine ←
23 accidents and other emergencies.

24 (14) Establish a mine map repository.

25 (15) Serve as the agency of the Commonwealth for the
26 receipt of funds from the Federal Government or other public
27 agencies and expend the funds for studies and research with
28 respect to and for the enforcement and administration of the
29 purposes and provisions of this act and the regulations
30 promulgated under this act.

1 (16) Assess civil penalties.

2 (17) Encourage and promote industry-based mine rescue
3 capabilities.

4 (18) Provide training for department personnel and
5 individuals who work in or who wish to work in the mining
6 industry.

7 (19) Administer, deposit and expend funds from the Mine
8 Safety Fund.

9 (20) Prepare and distribute to operators a mine
10 operator's questionnaire form.

11 (21) Perform any act not inconsistent with any provision
12 of this act, which it may deem necessary or proper for the
13 effective administration or enforcement of this act and the
14 rules or regulations promulgated under this act.

15 Section 106. Board of Coal Mine Safety.

16 (a) Establishment.--The Board of Coal Mine Safety is
17 established and shall develop all of the following ~~for~~ <—
18 ~~recommendation to the department:~~

19 (1) ~~Amendments that form the basis of~~ PROPOSED <—
20 AMENDMENTS TO the interim mandatory safety standards.

21 (2) Additional ~~rules~~ REGULATIONS with respect to mine <—
22 safety if the board determines that existing Federal and
23 State regulations do not adequately address a specific
24 hazard.

25 (3) Other ~~rules and~~ regulations as specifically <—
26 authorized under this act.

27 (b) Composition.--The board shall consist of the secretary,
28 who shall be the chairperson, and the following members
29 appointed by the Governor:

30 (1) Three members who represent the viewpoint of the

1 coal mine operators in this Commonwealth.

2 (2) Three members who represent the viewpoint of the
3 working miners in this Commonwealth.

4 (c) Terms.--All appointments shall be subject to the
5 following:

6 (1) The initial appointments after the effective date of
7 this section shall have staggered terms so that, for each
8 group of appointments under subsection (b), one member shall
9 serve a term of one year, one member shall serve a term of
10 two years and one member shall serve a term of three years.
11 All subsequent appointments shall be for terms of three
12 years.

13 (2) Members shall be eligible for reappointment.

14 (d) Representation.--For the initial appointments after the
15 effective date of this section, the following shall apply:

16 (1) The members appointed under subsection (b)(1) shall
17 be selected from a list containing six nominees submitted by
18 the major trade association representing coal mine operators
19 in this Commonwealth.

20 (2) The members appointed under subsection (b)(2) shall
21 be selected from a list containing six nominees submitted by
22 the highest-ranking official within the major labor
23 organization representing coal miners in this Commonwealth.

24 (e) Vacancies.--The following shall apply to vacancies on
25 the board:

26 (1) The members appointed under subsection (b)(1) shall
27 be selected from a list containing three nominees submitted
28 by the major trade association representing coal mine
29 operators in this Commonwealth.

30 (2) The members appointed under subsection (b)(2) shall

1 be selected from a list containing three nominees submitted
2 by the highest-ranking official within the major labor
3 organization representing coal miners in this Commonwealth.

4 (f) Employment.--Members of the board may continue in
5 employment in the coal industry while serving on the board.

6 (g) Service.--Members shall serve at the pleasure of the
7 Governor.

8 (h) Compensation.--Members of the board shall be compensated
9 at the appropriate per diem rate based on the prevailing formula
10 administered by the Commonwealth, but not less than \$150 per
11 day, plus reasonable expenses incurred while performing their
12 official duties. The compensation shall be adjusted annually by
13 the department to account for inflation based on the Consumer
14 Price Index published by the United States Department of Labor.
15 An individual board member may waive his or her right to all or
16 part of the compensation.

17 (i) Meetings.--The board shall meet within 180 days of the
18 effective date of this section for, at a minimum, organizational
19 purposes. Members of the board shall meet at least twice during
20 each calendar year or more often as may be necessary.

21 (j) Access.--In performing its functions, the board shall
22 have access to the services of the department. The department
23 shall make clerical support and assistance available to enable
24 the board to carry out its duties.

25 (k) Funding.--Funding for the operation of the board and
26 implementation of the provisions of this chapter shall be
27 derived from the general government appropriation of the
28 department.

29 (l) Nominations.--If a vacancy on the board occurs,
30 nominations and appointments shall be made in the following

1 manner:

2 (1) In the case of an appointment to fill a vacancy,
3 ~~nomination of a person for each vacancy~~ A LIST OF NOMINEES <—
4 UNDER SUBSECTION (E) shall be requested by and submitted to
5 the Governor within 30 days after the vacancy occurs by the
6 major trade association or major labor organization which
7 nominated the ~~person~~ INDIVIDUAL whose seat on the board is <—
8 vacant.

9 (2) The vacancy shall be filled by the Governor within
10 30 days of ~~his or her~~ THE receipt of the ~~nomination~~ LIST OF <—
11 NOMINEES.

12 (m) Quorum.--A quorum of the board shall consist of five
13 members. Actions of the board must be approved by an affirmative
14 vote of at least five members.

15 Section 106.1. Rulemaking.

16 (a) Authority.--The board shall have the authority to
17 promulgate regulations that are necessary or appropriate to
18 implement the requirements of this act and to protect the
19 health, safety and welfare of miners and other ~~persons~~ <—
20 INDIVIDUALS in and about mines. <—

21 (b) Consideration.--The board shall consider promulgating as
22 regulations any Federal mine safety standards that are either:

23 (1) Existing as of the effective date of this section
24 and that are not included in interim mandatory safety
25 standards.

26 (2) New standards, except for standards concerning
27 diesel equipment, promulgated after the effective date of
28 this section.

29 (c) Regulations.--Within 250 days of the effective date of
30 this section, the board shall begin to consider the standards

1 under subsection (b)(1) for promulgation as regulations. If
2 final regulations are not promulgated by the board within three
3 years of the effective date of this section, the ~~secretary~~ ←
4 DEPARTMENT may promulgate final regulations consistent with ←
5 Federal standards.

6 (d) New standards.--Within 70 days of the effective date of
7 new mine safety standards under subsection (b)(2), the board
8 shall begin to consider standards for promulgation as
9 regulations. If the regulations are not promulgated as final by
10 the board within three years of the effective date of the
11 promulgation of the new standards, the ~~secretary~~ DEPARTMENT may ←
12 promulgate final regulations consistent with Federal standards.

13 (e) Justification for regulations.--Regulations shall be
14 based upon consideration of the latest scientific data in the
15 field, the technical feasibility of standards, experience gained
16 under this and other safety statutes, information submitted to
17 the board in writing by any interested person or the
18 recommendation of any member of the board, if the board
19 determines that a regulation should be developed in order to
20 serve the objectives of this act.

21 (f) Topic.--Without limiting the scope of the board's
22 authority under this section, regulations may address any of the
23 following:

24 (1) Revisions to an interim mandatory safety standard to
25 address a new technology or method of mining.

26 (2) Hazards not addressed by existing safety standards.

27 (3) The identification of positions not listed under
28 this act requiring a certificate of qualification.

29 (4) The establishment of fees for services in amounts
30 sufficient to cover the department's costs of administering

1 this act. The fees established by the board may be increased
2 each year after implementation by the percentage, if any, by
3 which the Consumer Price Index for the most recent calendar
4 year exceeds the Consumer Price Index for the calendar year
5 1989. For the purposes of this paragraph, the Consumer Price
6 Index for any calendar year shall mean the average of the
7 Consumer Price Index for All Urban Consumers, published by
8 the United States Department of Labor, as of the close of the
9 12-month period ending on August 31 of each calendar year.

10 (g) Safety.--No regulation promulgated by the board shall
11 reduce or compromise the level of safety or protection afforded
12 mine workers under this act. The ~~secretary~~ DEPARTMENT may <—
13 disapprove a final regulation approved by the board which the
14 ~~secretary~~ DEPARTMENT determines would reduce or compromise the <—
15 level of safety or protection afforded mine workers under this
16 act if the ~~secretary~~ DEPARTMENT describes the basis for the <—
17 disapproval.

18 (h) MINER Act.--With regard to the adoption of Federal
19 standards established pursuant to the Mine Improvement and New
20 Emergency Response Act of 2006 (Public Law 109-236, 120 Stat.
21 493), the following shall apply:

22 (1) The board is specifically authorized to promulgate
23 regulations that the board deems appropriate, including
24 accelerated compliance schedules and additional requirements.

25 (2) The board shall consider promulgating regulations
26 regarding flammability standards for conveyor belts.

27 (3) If MSHA fails to promulgate regulations regarding
28 emergency shelters and chambers, the board shall promulgate
29 regulations.

30 (4) Regulations shall be no less stringent than the

1 Federal mine safety standards

2 (i) Action.--The board shall take action on the tests and
3 evaluations performed by the mining industry under section
4 334(b) and (c).

5 (j) Fees.--The department may set reasonable interim fees
6 pending adoption of fee regulations under this section.

7 Section 106.2. Emergency shelters and chambers.

8 The board's emergency shelter or chamber regulations shall
9 consider all of the following:

10 (1) Provide a minimum of 48 hours of life support,
11 including air, water, emergency medical supplies and food,
12 for the maximum number of miners reasonably expected to be on
13 the working section.

14 (2) Be capable of surviving an initial event with a peak
15 over pressure of 15 ~~psi~~ POUNDS PER SQUARE INCH for three ←
16 seconds and a flash fire, as defined by National Fire
17 Protection Association standard NFPA-2113, of 300 degrees
18 Fahrenheit for three seconds.

19 (3) Be constructed in a manner that the emergency
20 shelter or chamber will be protected under normal handling
21 and pre-event mine conditions.

22 (4) Provide for rapidly establishing and maintaining an
23 internal shelter atmosphere of oxygen above 19.5%, carbon
24 dioxide below 0.5%.

25 (5) Provide for carbon monoxide below 50 ~~ppm~~ PARTS PER ←
26 MILLION and an apparent-temperature of 95 degrees Fahrenheit.

27 (6) Provide the ability to monitor carbon monoxide and
28 oxygen inside and outside the shelter or chamber.

29 (7) Provide a means for entry and exit that maintains
30 the integrity of the internal atmosphere.

1 (8) Provide a means for MSHA-certified intrinsically
2 safe power if power is required.

3 (9) Provide a minimum of eight quarts of water per
4 miner.

5 (10) Provide a minimum of 4,000 calories of food per
6 miner.

7 (11) Provide a means for disposal of human waste to the
8 outside of the shelter or chamber.

9 (12) Provide a first aid kit.

10 (13) Have provisions for inspection of the shelter or
11 chamber and its contents.

12 (14) Contain manufacturer-recommended repair materials.

13 (15) Provide a battery-powered, occupant-activated
14 strobe light, of a model approved by the board, that is
15 visible from the outside indicating occupancy.

16 (16) Provide provisions for communication to the
17 surface.

18 (17) Provide proof of current approval for all items and
19 materials subject to approval.

20 Section 106.3. Notice to operators and miners.

21 The department shall send a copy in writing or electronically
22 of every proposed regulation and final regulation, at the time
23 of publication in the Pennsylvania Bulletin, to the operator of
24 each ~~coal~~ mine and, WHERE APPLICABLE, the representative of the <—
25 miners at the mine, and the copy shall be immediately posted on
26 the bulletin board of the mine by the operator or ~~his or her~~ THE <—
27 OPERATOR'S agent. Failure to receive the notice shall not
28 invalidate the final regulation or relieve anyone of the
29 obligation to comply with final regulation.

30 Section 106.4. Standards for surface facilities.

1 The department shall use the applicable standards contained
2 in 30 CFR Part 77 (relating to mandatory safety standards,
3 surface coal mines and surface work areas of underground coal
4 mines) regarding the sinking of shafts and slopes and surface
5 facilities that are part of mines, pending promulgation of
6 regulations by the board regarding those activities and
7 facilities.

8 Section 107. Safety issues.

9 The department shall consider the safety of miners in
10 reviewing and acting on applications for permits issued to and
11 for mines and shall include conditions addressing safety in
12 issuing the permits. If the department determines that any
13 aspect of the contemplated activity at an existing or proposed
14 mine might constitute a threat to the health and safety of
15 miners or ~~persons~~ INDIVIDUALS in and about mines, the department ←
16 shall require the applicant or operator to eliminate the threat.
17 If the applicant or operator does not eliminate the threat to
18 the department's satisfaction, the department shall deny the
19 application or applications or shall unilaterally modify the
20 terms of the permit or suspend or revoke the permit.

21 Section 108. Inspections.

22 The department shall make frequent inspections of mines. Each
23 mine shall be inspected at least semiannually for electrical
24 purposes and at least quarterly for general purposes.

25 Inspections shall be conducted more frequently when the
26 department determines that more frequent inspections are
27 necessary or desirable. Inspections shall be conducted for the
28 purposes of:

- 29 (1) Obtaining, utilizing and disseminating information
30 relating to health and safety conditions, the causes of

1 accidents and the causes of diseases and physical impairments
2 originating in mines.

3 (2) Gathering information with respect to health or
4 safety standards established or regulations promulgated under
5 this act.

6 (3) Determining whether a danger exists.

7 (4) Determining whether the mine is in compliance with
8 the provisions of this act, the mine safety regulations and
9 any ~~citation~~, order, permit or decision issued by the
10 department under this act. ←

11 Section 109. Accidents.

12 (a) Duties of operator.--In the event of an accident
13 occurring at a mine, an operator shall do all of the following:

14 (1) Notify the department no later than 15 minutes of
15 discovery of the accident.

16 (2) Take appropriate measures to prevent the destruction
17 of evidence which would assist in investigating the cause of
18 the accident. Unless granted permission by the department, no
19 operator may alter an accident site or an accident-related
20 area until completion of all investigations pertaining to the
21 accident, except to rescue any individual and prevent
22 destruction of mine equipment.

23 (3) Obtain the approval of the department for any plan
24 to recover ~~any person~~ AN INDIVIDUAL in the mine, to recover ←
25 the coal mine or to return the affected areas of the mine to
26 normal operations.

27 (4) Conduct its own investigation of the accident and
28 develop a written report of the investigation. The report
29 shall include all of the following:

30 (i) The date and hour of the accident.

- 1 (ii) The date the investigation began.
- 2 (iii) The names of the individuals participating in
- 3 the investigation.
- 4 (iv) A description of the accident site.
- 5 (v) An explanation of the accident or injury,
- 6 including a description of any equipment involved and
- 7 relevant events before and after the accident.
- 8 (vi) An explanation of the cause of the accident.
- 9 (vii) An explanation of the cause of any injury
- 10 sustained due to the accident.
- 11 (viii) The name, occupation and experience of any
- 12 miner involved in the accident.
- 13 (ix) A sketch depicting the accident, including
- 14 dimensions where pertinent.
- 15 (x) A description of steps taken to prevent a
- 16 similar accident in the future.

17 (b) Duties of department.--In the event of an accident
18 occurring at a mine, the department shall do all of the
19 following:

20 (1) Take whatever action it deems appropriate, including
21 the issuance of orders, to protect the life, health or safety
22 of ~~any person~~ AN INDIVIDUAL, including coordinating and <—
23 assisting rescue and recovery activities in the mine.

24 (2) Promptly decide whether to conduct an investigation
25 of the accident and inform the operator and the ~~miners'~~ <—
26 representative OF THE MINERS of its decision. <—

27 (c) Report.--Each operator shall report to the department
28 each accident and lost-time injury.

29 (1) The operator shall report within ten working days of
30 the accident or lost-time injury. An operator may meet the

1 requirements of this paragraph by submitting a copy of the
2 MSHA Mine Accident, Injury and Illness Report Form 7000-1
3 required by 30 CFR § 50.20 (relating to preparation and
4 submission of MSHA Report Form 7000-1--Mine Accident, Injury,
5 and Illness Report) in use on the date of the accident.

6 (2) Each accident and lost-time injury shall be reported
7 on a separate form. If more than one miner is injured in the
8 same accident, the operator shall submit a separate form for
9 each miner affected.

10 Section 110. Mine officials' certification.

11 (a) Administration.--After evaluating the examinations, the
12 department shall issue certificates to those candidates who have
13 met the established criteria for each certification category.

14 (b) Committee.--

15 (1) The department shall appoint a committee to annually
16 review and update the department's database of examination
17 questions and answers. The committee shall be made up of an
18 equal number of persons representing the viewpoints of the
19 department, operators and miners.

20 (2) Members of the committee shall be compensated in the
21 same manner as members of the board under section 106(h). An
22 individual committee member may waive ~~his or her~~ THE right to <—
23 all or part of the compensation under this paragraph.

24 (3) Members of the committee shall, after the committee
25 has been duly organized, take and subscribe the following
26 oath before an officer authorized to administer oaths:

27 We, the undersigned, do solemnly swear that we will
28 perform the duties of members of this committee, and we
29 will not divulge or make known to ~~any person~~ AN <—

30 INDIVIDUAL any question prepared for the mine officials,

1 or in any manner assist any applicant to pass the
2 examination.

3 (c) Confidential records.--Records pertaining to
4 certification examinations shall not constitute a public record
5 under the act of June 21, 1957 (P.L.390, No.212), referred to as
6 the Right-to-Know Law.

7 Section 111. Classification of mines as gassy.

8 Notwithstanding any other provision of law, the distinction
9 between gassy and nongassy mines is eliminated, and all
10 underground bituminous mines shall comply with the requirements
11 for gassy mines.

12 Section 112. Reports.

13 (a) Questionnaire.--The operator of an underground mine
14 shall submit to the department a completed or revised deep mine
15 questionnaire in the following instances:

16 (1) Prior to the commencement of any work for the
17 purpose of opening of a new underground mine or reopening an
18 underground mine that has closed.

19 (2) Upon change of the information reflected on the most
20 recently submitted operator's questionnaire.

21 (a.1) Notice.--Upon discontinuance of the operation of an
22 underground mine, the operator shall immediately notify the
23 department.

24 (b) Quarterly reports.--

25 (1) Each operator of an active mine shall submit
26 quarterly reports within 15 days after the end of each
27 quarter. The report shall contain information reflecting the
28 activities of the previous quarter and shall include all of
29 the following:

30 (i) The name and address of the mine.

1 (ii) Identification of the mine superintendent and
2 mine foreman.

3 (iii) The employment, employee hours and coal
4 production statistics for the mine.

5 (iv) A detailed description of the reportable
6 injuries or accidents that occurred at the mine.

7 (2) An operator may meet the requirements of paragraph
8 (1) by submitting a copy of the MSHA Quarterly Employment and
9 Coal Production Report in use on the date of the quarterly
10 report.

11 (c) Corrections.--By February 15 of each year, an operator
12 must submit any corrections to the quarterly reports submitted
13 during the prior year and must certify the accuracy of the
14 corrected quarterly reports.

15 (d) Additional duties.--In addition to any records required
16 under this act, a mine operator shall establish and maintain
17 records, make reports and provide information as the department
18 may require from time to time. The department is authorized to
19 compile, analyze and publish, either in summary or detail form,
20 the reports or information obtained. All records, information,
21 reports, findings, notices, orders or decisions required or
22 issued pursuant to or under this act may be published from time
23 to time, may be released to any interested person and shall
24 constitute a public record under the act of June 21, 1957
25 (P.L.390, No.212), referred to as the Right-to-Know Law.

26 (e) Copies.--An operator of a mine shall maintain a copy of
27 the reports required by this section at the mine office closest
28 to the mine for a period of not less than five years after
29 submission of the reports.

30 Section 113. Mine rescue program.

1 (a) Establishment.--The department is authorized to
2 establish and administer a mine rescue program for mines not
3 able to provide a mine rescue crew for themselves. The
4 department shall establish a program to do the following:

5 (1) Instruct mine employees how to care for ~~persons~~ <—
6 INDIVIDUALS injured in and about the mines. <—

7 (2) Train mine employees who may voluntarily seek
8 training in the use of self-contained breathing apparatus,
9 gas masks, first aid to the injured and other things or
10 practices essential to the safe and efficient conduct of the
11 work of first aid and mine rescue.

12 (b) Equipment.--The department shall purchase and maintain
13 adequate quantities of emergency response vehicles, specialized
14 equipment, supplies and services necessary to assure rapid and
15 effective response to mine emergencies, including mine fires,
16 mine explosions, mine inundations, entrapments and mine recovery
17 operations.

18 (c) Contracts.--In the event of an emergency response, the
19 department may use the emergency contracting provisions of 62
20 Pa.C.S. § 516 (relating to emergency procurement) to lease
21 additional services or equipment as is needed to respond to a
22 mine emergency. The department, with the consent of the
23 Governor, may use funds available to the Commonwealth for the
24 purpose of responding to a mine emergency.

25 Section 114. Direction of mine rescue work.

26 The department shall coordinate and assist in all responses
27 to a mine emergency conducted in this Commonwealth. The extent
28 of coordination and assistance shall depend on the nature of the
29 mine emergency and the operator's ability to respond to the mine
30 emergency. This authority shall include directing responses to

1 mine emergencies and assigning mine rescue crews and mine rescue
2 and recovery work to mine inspectors or other qualified
3 employees of the department.

4 Section 115. Recovery of funds.

5 The department is authorized to seek from an operator
6 reimbursement of funds expended by the department to rent
7 equipment and obtain services in responding to a mine emergency.

8 Section 116. Mine Safety Fund.

9 There is created a special fund known as the Mine Safety
10 Fund. All ~~funds~~ MONEYS received by the department ~~from fees,~~ <—
11 ~~including those from fines and certificates of qualification,~~
12 ~~all civil penalties collected~~ under this act and all funds <—
13 MONEYS recovered from operators for expenses incurred in <—
14 responding to a mine emergency shall be deposited by the State
15 Treasurer into the Mine Safety Fund ~~and shall be used by the~~ <—
16 ~~department for mine safety activities.~~ FUND. ALL MONEYS <—
17 DEPOSITED IN THE FUND ARE HEREBY APPROPRIATED, UPON APPROVAL OF
18 THE GOVERNOR, TO THE DEPARTMENT FOR MINE SAFETY ACTIVITIES AND
19 THE ADMINISTRATION OF THIS ACT.

20 Section 117. Bituminous mine inspector.

21 Notwithstanding the act of August 5, 1941 (P.L.752, No.286),
22 known as the Civil Service Act, in order to become eligible for
23 employment as a bituminous mine inspector, ~~a person~~ AN <—
24 INDIVIDUAL must, at a minimum, meet the following
25 qualifications:

- 26 (1) Be a resident of this Commonwealth.
- 27 (2) Be ~~a person~~ AN INDIVIDUAL of good moral character <—
28 and known temperate habits.
- 29 (3) Be physically capable of entering and inspecting a
30 coal mine.

1 (4) Have at least a high school diploma.

2 (5) Be at least 30 years of age.

3 (6) Have had at least ten years' experience in an
4 underground bituminous coal mine.

5 (7) Hold a current, valid certificate as a bituminous
6 mine foreman, assistant mine foreman or mine examiner.

7 (8) Pass, with at least a score of 90%, the mine
8 inspector's examination as conducted by the State Civil
9 Service Commission in accordance with the Civil Service Act.

10 Section 118. Bituminous mine electrical inspector.

11 Notwithstanding the act of August 5, 1941 (P.L.752, No.286),
12 known as the Civil Service Act, in order to become eligible for
13 employment as a bituminous mine electrical inspector, ~~a person~~ <—

14 AN INDIVIDUAL must meet at least the following qualifications: <—

15 (1) Be a resident of this Commonwealth.

16 (2) Be ~~a person~~ AN INDIVIDUAL of good moral character <—
17 and known temperate habits.

18 (3) Be physically capable of entering and inspecting a
19 coal mine.

20 (4) Have at least a high school diploma.

21 (5) Be at least 30 years of age.

22 (6) Have had at least ten years' experience in an
23 underground bituminous coal mine.

24 (7) Hold a current, valid certificate as a bituminous
25 mine electrician.

26 (8) Pass, with at least a score of 90%, the mine
27 electrical inspector's examination as conducted by the State
28 Civil Service Commission in accordance with the Civil Service
29 Act.

30 Section 119. Availability of mine maps.

1 (a) Authorization.--The department is authorized and
2 directed to obtain and copy all maps of mining conducted in this
3 Commonwealth.

4 (b) Inspection and copying.--~~Any person~~ AN INDIVIDUAL who <—
5 has possession of a mine map shall make the map available to the
6 department for inspection and copying. The map shall be returned
7 to its owner within 30 days.

8 (c) Liability.--No ~~person~~ INDIVIDUAL shall, solely on the <—
9 basis of supplying a mine map to the department, be attributed
10 or divested of liability.

11 Section 120. Mine map repository.

12 The department shall develop and maintain a repository of all
13 mine maps it has obtained or has had an opportunity to copy. The
14 department shall organize and catalog the mine maps in the
15 repository to enable the department, other government agencies,
16 mine operators and the general public to review the mine maps
17 and to determine the location of mine workings. All mine maps
18 and copies of mine maps held by the department shall be open for
19 public inspection and made available for review upon request
20 during the department's normal business hours.

21 Section 121. Applicability.

22 The provisions of Chapters 2 and 3 shall not apply to the
23 construction of shafts and slopes.

24 CHAPTER 2

25 GENERAL REQUIREMENTS FOR UNDERGROUND BITUMINOUS MINES

26 Section 201. General safety requirements.

27 The following are general safety requirements:

28 (1) All work must be performed in a safe manner.

29 (2) All equipment must be maintained in safe operating
30 condition.

1 (3) No ~~person~~ INDIVIDUAL shall be employed as a mine ←
2 foreman, assistant mine foreman, mine examiner, mine
3 electrician, mining machine operator, shot-firer or miner
4 unless that ~~person~~ INDIVIDUAL holds a current, valid ←
5 certification from the department to work in that capacity. A ←
6 ~~person~~ AN INDIVIDUAL who holds a current, valid certification ←
7 to be a mine foreman may also work as an assistant mine
8 foreman or mine examiner. Only a mine official shall direct
9 the work force in matters involving the safety of employees.
10 ~~A person~~ AN INDIVIDUAL who holds a current, valid ←
11 certification as an assistant mine foreman may also work as a
12 mine examiner.

13 (4) It shall be the duty of the operator and all mine
14 officials to comply with and see that others comply with the
15 provisions of this act, the regulations promulgated pursuant
16 to this act, all orders and approvals and the safety
17 conditions in permits issued to the mine. It shall also be
18 the duty of the operator and all mine officials to cooperate
19 with the department in implementing the provisions of this
20 act and effectuating the purposes of this act.

21 (5) The operator and all mine officials shall comply
22 with and follow all mining plans, approvals and orders issued
23 by the department, rules and regulations of the operator, all
24 provisions of law that are in harmony with this act and all
25 other applicable laws. The operator is responsible for
26 assuring that all activities in and around the mine,
27 including those conducted by contractors, are conducted in
28 compliance with this act, regulations promulgated under this
29 act, approvals and orders issued by the department and any
30 safety conditions included in permits.

1 (6) During coal production, an assistant mine foreman
2 shall be assigned to only one working section. The assistant
3 mine foreman shall supervise ~~persons~~ INDIVIDUALS engaged in <—
4 the coal-cutting operation. The assistant mine foreman may
5 perform additional duties provided that he spends a majority
6 of his time supervising ~~persons~~ INDIVIDUALS engaged in the <—
7 coal-cutting operation.

8 (7) Every superintendent, mine foreman, assistant mine
9 foreman, mine electrician and mine examiner shall represent
10 the Commonwealth in the mine in which he ~~or she~~ is employed <—
11 and shall be deemed an officer of the Commonwealth in
12 enforcing the provisions of this act and performing ~~his or~~ <—
13 ~~her~~ THE MINE OFFICIAL'S duties under this act. ~~He or she~~ THE <—
14 SUPERINTENDENT, MINE FOREMAN, ASSISTANT MINE FOREMAN, MINE
15 ELECTRICIAN OR MINE EXAMINER shall perform these duties
16 during such times as the mine is in operation and at such
17 other times as the department deems to be necessary or
18 appropriate to make the mine safe and to protect the health
19 and safety of those who work in and around the mine.

20 Section 202. Qualifications for certification.

21 (a) General requirements.--

22 (1) Except as set forth under paragraph (2), in order to
23 be eligible to sit for a certification examination, the
24 following shall apply:

25 (i) An applicant must demonstrate the following
26 levels of work experience in an underground bituminous
27 coal mine:

28 (A) Mine foreman or mine electrician, five
29 years.

30 (B) Assistant mine foreman, four years.

1 (C) Mine examiner, three years.

2 (ii) For each certification category in subparagraph
3 (i), a minimum of two years' experience must have been in
4 a working section.

5 (2) If an applicant holds a bachelor's degree in mining
6 engineering or an associate degree in mining technology from
7 a recognized institution of higher education in the case of a
8 mine foreman, assistant mine foreman or mine examiner, or a
9 bachelor's degree in electrical engineering or an associate
10 degree in electrical technology from a recognized institution
11 of higher ~~learning~~ EDUCATION in the case of a mine ←
12 electrician, in order to be eligible to sit for a
13 certification examination, the following shall apply:

14 (i) An applicant must demonstrate the following
15 levels of work experience in an underground bituminous
16 coal mine:

17 (A) Mine foreman or mine electrician, four
18 years.

19 (B) Assistant mine foreman, three years.

20 (C) Mine examiner, two years.

21 (ii) For each certification category in subparagraph
22 (i), a minimum of one year's experience must have been in
23 a working section.

24 (b) Additional requirements.--The following additional
25 requirements shall apply:

26 (1) All applicants shall be able to read and write the
27 English language intelligently, and shall furnish the
28 department with certificates as to their character and
29 temperate habits, and a notarized statement from previous
30 employers setting forth the length of service and type of

1 work performed in the different mines.

2 (2) Certificates of qualification as mine foremen shall
3 be granted to ~~persons~~ INDIVIDUALS who have given to the <—
4 department satisfactory evidence of their ability to perform
5 the duties of mine foreman and who have received training by
6 ~~persons~~ INDIVIDUALS approved by the department in determining <—
7 the presence of explosive and noxious gases, and in the use
8 and mechanics of all gas detection devices, and who have
9 received an average of at least 80% in the examination.

10 (3) Certificates of qualification as assistant mine
11 foremen shall be granted to ~~persons~~ INDIVIDUALS who have <—
12 given to the department satisfactory evidence of their
13 ability to perform the duties of assistant mine foreman and
14 who have received training by ~~persons~~ INDIVIDUALS approved by <—
15 the department in determining the presence of explosive and
16 noxious gases, and in the use and mechanics of all gas
17 detection devices, and who have received an average of at
18 least 70% in the examination.

19 (4) Certificates of qualification as mine examiners
20 shall be granted to ~~persons~~ INDIVIDUALS who have given to the <—
21 department satisfactory evidence of their ability to perform
22 the duties of mine examiners and who have received training
23 by ~~persons~~ INDIVIDUALS approved by the department in <—
24 determining the presence of explosive and noxious gases, and
25 in the use and mechanics of all gas detection devices, and
26 who have received an average of at least 75% in the mine
27 examiners examination.

28 (5) Certificates of qualification as mine electrician
29 shall be granted to ~~persons~~ INDIVIDUALS who have given to the <—
30 department satisfactory evidence of their ability to perform

1 the duties of mine electrician and received training by
2 ~~persons~~ INDIVIDUALS approved by the department in determining ←
3 the presence of explosive and noxious gases, and in the use
4 and mechanics of all gas detection devices, and who have
5 received an average of 75% in the mine electrician's
6 examination.

7 (6) Certificates of qualification or service granted
8 prior to the effective date of this act shall have equal
9 value with certificates of qualification granted under this
10 act.

11 (7) All applicants who have satisfactorily passed
12 examinations, after being certified but before assuming their
13 duties as mine foremen, mine electricians, assistant mine
14 foremen or mine examiners, shall accompany a certified mine
15 foreman or certified assistant mine foreman for not less than
16 two weeks for training purposes in accordance with a training
17 program submitted by the operator and approved by the
18 department. Any applicant who has been granted a ~~prior~~ mine ←
19 official certificate PRIOR TO THE EFFECTIVE DATE OF THIS ACT ←
20 need not undergo this training. The record of such training
21 shall be maintained at the mine.

22 Section 203. Emergency use of mine examiner as assistant mine
23 foreman.

24 The mine foreman may appoint a mine examiner who is willing
25 to act as assistant mine foreman for not more than one month if
26 all of the following apply:

27 (1) There is an emergency. As used in this paragraph,
28 the term "emergency" means a condition which could not have
29 been foreseen and requires immediate action.

30 (2) There is no assistant mine foreman available in the

1 mine who is willing to act as AN assistant mine foreman. <—

2 (3) A mine foreman may act as an assistant mine foreman,
3 a mine examiner or a miner. An assistant mine foreman may act
4 as a mine examiner or a miner. A mine examiner may act as a
5 miner.

6 (4) Foreman trainees, where used, shall not direct the
7 work force in matters involving directly or indirectly the
8 safety of employees nor make tests or examinations required
9 to be made by mine officials.

10 Section 204. Certification of miners.

11 No ~~person~~ INDIVIDUAL shall be employed or engaged as a miner <—
12 in any bituminous coal mine in this Commonwealth without first
13 having obtained a certificate of competency and qualification,
14 except that any miner holding such certificate may have a
15 maximum of two ~~persons working for him and~~ INDIVIDUALS WORKING <—
16 under his direction as noncertified miners for the purpose of
17 learning the business of mining, and such noncertified miner or
18 noncertified miners shall be permitted to work under the
19 direction of such miner without a certificate. The miner shall
20 provide adequate oversight to keep the uncertified individual
21 out of harm's way.

22 Section 205. Qualifications for certification as miners.

23 The following shall apply:

24 (1) Miners shall be examined and granted certificates
25 under regulations of the department.

26 (2) No ~~person~~ INDIVIDUAL shall be qualified to take the <—
27 examination unless the ~~person~~ INDIVIDUAL produces evidence of <—
28 having had not less than one year's experience in bituminous
29 coal mines.

30 (3) All ~~persons~~ INDIVIDUALS possessing certificates of <—

1 qualification issued by the Commonwealth entitling them to
2 act as mine foremen, assistant mine foremen, mine examiners
3 or mine electricians shall be eligible to engage at any time
4 as miners in bituminous coal mines of this Commonwealth.

5 Section 206. Issuance of miners' certificates.

6 The form and manner of issuing miners' certificates shall be
7 designated by the department. Certificates granted shall entitle
8 the certificate holder to be employed as and do the work of a
9 miner in the bituminous coal mines of this Commonwealth. A
10 certificate granted shall not be transferable and a transfer
11 shall be deemed a violation of this act.

12 Section 207. Certification of mining machine operators and
13 shot-firers.

14 (a) General rule.--It shall be unlawful to employ as a
15 mining machine operator or shot-firer in any bituminous coal
16 mine any ~~person~~ INDIVIDUAL who has not given evidence to the ←
17 department as to his fitness and competency to handle and use an
18 approved gas detection device and his ability to determine the
19 presence or absence of explosive gas and other dangerous
20 conditions. The manner of determining fitness and competency
21 shall be prescribed by the department. The department shall
22 issue a certificate to those found competent, on a form
23 prescribed by the department. The cost of the examination and
24 certification shall be borne by the candidates.

25 (b) Eligibility.--An individual possessing a certificate of
26 qualification issued by the Commonwealth entitling the
27 individual to act as a mine foreman, assistant mine foreman,
28 mine examiner or mine electrician is eligible to engage as a
29 mining machine operator in a bituminous coal mine.

30 Section 208. Employment of mine foremen.

1 In order to secure efficient management and proper
2 ventilation of mines, to promote the health and safety of ~~the~~ <—
3 ~~persons~~ INDIVIDUALS employed in mines and to protect and <—
4 preserve the property connected with mines, the operator or
5 superintendent shall employ a competent and practical mine
6 foreman for every mine, who shall be under the supervision and
7 control of the operator or superintendent. The operator or
8 superintendent of a mine shall be held as fully responsible as
9 the individual appointed to act as mine foreman. The mine
10 foreman shall have full charge of all the inside workings and
11 the ~~persons~~ INDIVIDUALS employed in the mine, subject, however, <—
12 to the supervision and control of the operator or
13 superintendent, in order that all the provisions of this act so
14 far as they relate to his duties shall be complied with, and the
15 regulations prescribed for each class of workmen under his
16 charge are carried out in the strictest manner possible.

17 Section 209. Employment of mine electricians.

18 Each mine shall employ a certified mine electrician, who
19 shall have full charge of the electrical apparatus at the mine,
20 but shall be subject to the authority of the mine foreman. It
21 shall be the duty of the mine electrician to assist the mine
22 foreman in carrying out all the provisions of the bituminous
23 mining laws bearing on the use and installation of electricity
24 inside bituminous coal mines and the equipment powered thereby,
25 and the mine electrician shall be subject to the same penalties
26 as the mine foreman for any violation of these laws.

27 Section 210. Employment of assistant mine foremen.

28 When mine workings become so extensive that the mine foreman
29 is unable personally to carry out the requirements of this act
30 pertaining to duties, the mine foreman shall have the right to

1 employ a sufficient number of competent ~~persons~~ INDIVIDUALS to ←
2 act as his assistants, who shall be under his instruction and
3 the operator's or the superintendent's instruction in carrying
4 out the provisions of this act. In each mine the mine foreman's
5 assistants must possess assistant mine foreman certificates. In
6 case of the necessary temporary absence of the mine foreman, the
7 mine foreman may deputize his responsibilities, for the time
8 being, to an assistant mine foreman, who shall perform all the
9 duties of the mine foreman. Any mine foreman, assistant mine
10 foreman, mine examiner or mine electrician may supervise and
11 direct the work of a maximum of two noncertified miners, and
12 shall instruct the ~~persons~~ INDIVIDUALS how safely and properly ←
13 to perform their work.

14 Section 211. Ventilation responsibilities of mine foreman.

15 The following shall apply:

16 (1) A mine foreman shall devote the whole of his time to
17 his duties in the mine when the mine is in operation, shall
18 keep careful watch over the ventilating apparatus, the
19 ventilation, airways and travelways and shall see that all
20 stoppings along airways are properly built.

21 (2) A mine foreman shall ensure that proper cut-throughs
22 are made in the pillars of all rooms and entries, and that
23 they are closed when necessary or when required by the
24 department, so that the ventilating current can be conducted
25 in sufficient quantity through the last cut-through to the
26 face of each room and entry. A mine foreman shall not permit
27 any room or entry to be turned in advance of the ventilating
28 current or in advance of the last cut-through in the entry.

29 (3) A mine foreman or an assistant mine foreman shall
30 measure the air current at or near the main inlet and outlet

1 airway at least once each week, and also in the last cut-
2 through in the last room and in the entry beyond the last
3 room turned in each entry. A record shall be made of daily
4 measurements in the assistant mine foreman's daily report
5 book. The measurements shall be taken on days when
6 individuals are at work, and for making the measurements an
7 anemometer shall be provided and kept in good condition by
8 the superintendent of the mine.

9 (4) The following pertain to fan stoppage:

10 (i) If a main mine fan stops and the ventilating
11 quantity provided by the fan is not maintained by a
12 backup fan system, the following actions shall be taken:

13 (A) The power inby the loading point shall be
14 immediately disconnected and all men shall be
15 withdrawn from the face areas of the mine to a point
16 out by the loading point on the main travelway with
17 established communications.

18 (B) As soon as it is known that the ventilation
19 has been interrupted, all permissible battery-powered
20 equipment shall be removed from the immediate face
21 area and moved to a safe location out by the last
22 open crosscut. All other battery-powered mobile
23 equipment, except transportation equipment necessary
24 for evacuation if located in a safe area, shall not
25 be used after a ventilation interruption occurs. If
26 possible, battery terminal leads shall be
27 disconnected. If leads are not disconnected, all
28 switches shall be turned off.

29 (C) If the interruption is less than 15 minutes,
30 the working places, adjacent places and all other

1 active working areas where methane may accumulate
2 will be examined by a certified mine foreman,
3 assistant mine foreman or mine examiner to determine
4 if methane in the amount of 1.0 volume percent or
5 more exists before power is restored and the men are
6 permitted to resume mining operations.

7 (ii) If the ventilation is not restored within 15
8 minutes, the following precautions shall be taken:

9 (A) The power to all underground areas shall be
10 disconnected.

11 (B) All ~~persons~~ INDIVIDUALS shall be withdrawn ←
12 from the mine on foot under proper supervision.

13 (C) If ventilation is restored before the
14 evacuation is completed, the certified mine foreman,
15 assistant mine foreman or mine examiner may start the
16 reexamination of the mine, but all other ~~persons~~ ←
17 INDIVIDUALS must continue to evacuate. ←

18 (D) In order to provide for worker safety, power
19 for communications may be left on.

20 (iii) As an alternative to evacuating the men on
21 foot, a mine operator may propose to utilize mechanical
22 equipment during the evacuation. To justify this proposal
23 the operator must perform a survey that shows explosive
24 gas will not migrate to or accumulate in the designated
25 haulageways that will be used to evacuate the mine. The
26 duration of the survey shall be at least twice the travel
27 time from the farthest face to the surface. The operator
28 shall provide the representative of the miners, if
29 applicable, an opportunity to participate in the survey.
30 The department will approve the survey criteria. Trolley

1 equipment will not be used during a fan stoppage. If the
2 survey provides affirmative results, which shall be
3 provided to the department, the department shall approve
4 a plan that provides:

5 (A) That permissible transportation equipment
6 shall be used if available.

7 (B) That evacuations shall begin within 15
8 minutes after a ventilation interruption and shall
9 proceed in an orderly and expedient manner.

10 (C) That the minimum number of vehicles will be
11 used for the evacuation.

12 (D) That, during transportation, a certified
13 ~~person~~ INDIVIDUAL qualified to perform methane ←
14 examinations riding in each vehicle shall
15 continuously monitor for methane using a handheld
16 detector and at specific locations designated by the
17 operator based on the survey results. The speed of
18 the vehicles shall not be so fast as to negate the
19 detector's ability to accurately measure methane
20 levels.

21 (E) That, if at any time during the evacuation
22 methane is detected in an amount of .25% or more, the
23 transportation vehicles will be deenergized and the
24 evacuation completed on foot.

25 (F) That the operator, the department and the
26 representative of the miners, if applicable, shall
27 review the plan annually or more frequently if
28 conditions warrant.

29 (iv) If ventilation is restored to normal water
30 gauge before the evacuation is completed, a certified

1 mine foreman, assistant mine foreman or mine examiner may
2 start the reexamination of the mine, but all ~~persons~~ ←
3 INDIVIDUALS must continue to evacuate. ←

4 (v) The reexamination shall be made of the mine in
5 the same manner as a preshift examination for a coal-
6 producing shift before any power underground is
7 energized, including battery-powered or diesel-powered
8 equipment, or before ~~persons~~ INDIVIDUALS are permitted to ←
9 enter the mine. The examination shall be made on foot,
10 except an operator may use permissible transportation
11 equipment on intake travelways only for reexamination
12 after a fan stoppage if the examination is started within
13 the time period established by the survey. The
14 examination shall be recorded in the official mine record
15 books used for examinations under section 218.

16 (5) The mine foreman shall notify the superintendent in
17 writing whenever in his opinion the mine is becoming
18 dangerous through the lack of ample ventilation at the face
19 of entries, rooms and other portions of the mine, caused by
20 the undue length of entries and airways or from any other
21 cause, resulting in the accumulation of gas or coal dust, or
22 both, in various portions of the mine. The superintendent
23 shall thoroughly investigate the mine foreman's report and,
24 if substantiated, order necessary work done to put the
25 affected area in safe operating condition. It shall be the
26 duty of the superintendent to immediately notify the
27 department of the condition.

28 (6) The mine foreman shall see that every mine releasing
29 explosive gas is kept free of standing methane, but any
30 accumulation of explosive or noxious gases in the worked-out

1 or abandoned portions of any mine shall be removed as soon as
2 possible after its discovery, if it is practicable to remove
3 it. No ~~person~~ INDIVIDUAL endangered by the presence of ←
4 explosive or noxious gases shall be allowed in that portion
5 of the mine until the gases have been removed. The mine
6 foreman shall direct and see that all dangerous places and
7 the entrance or entrances to worked-out and abandoned places
8 in all mines are properly fenced off across the openings so
9 that no ~~person~~ INDIVIDUAL can enter, and that danger signals ←
10 are posted upon said fencing to warn ~~persons~~ INDIVIDUALS of ←
11 the existing danger.

12 (7) When operations are temporarily suspended in a mine,
13 the mine foreman shall see that danger signals are placed
14 across the mine entrance, which signals shall be sufficient
15 warning for unauthorized ~~persons~~ INDIVIDUALS not to enter the ←
16 mine. If the circulation of air through the mine be stopped,
17 each entrance to the mine shall be fenced off in such a
18 manner as will ordinarily prevent ~~persons~~ INDIVIDUALS from ←
19 entering the mine, and a danger signal shall be displayed
20 upon the fence at each entrance and maintained in good
21 condition. The mine foreman shall see that all danger signals
22 used in the mine are in good condition and if any become
23 defective, he shall notify the superintendent.

24 Section 212. Mine foreman's responsibility for working place
25 safety.

26 The following shall apply:

27 (1) The mine foreman or assistant mine foreman shall
28 direct and see that every working place is properly secured
29 and shall see that no ~~person~~ INDIVIDUAL is directed or ←
30 permitted to work in an unsafe place, unless it be for the

1 purpose of making it safe. The mine foreman shall see that
2 workmen are provided with sufficient roof support materials
3 delivered to their working place or places. When timbers are
4 used for roof support, they shall be cut square on both ends
5 and as near as practicable to proper length.

6 (2) Every workman in need of roof support materials
7 shall notify the mine foreman or the assistant mine foreman
8 of the fact at least one day in advance, stating the roof
9 support materials are required. In case of emergency, roof
10 support materials may be ordered immediately upon the
11 discovery of danger. If for any reason the necessary roof
12 support materials cannot be supplied when required, the mine
13 foreman or assistant mine foreman shall instruct the workmen
14 to vacate the place until the material needed is supplied.

15 (3) The mine foreman or assistant mine foreman shall
16 direct and see that, as the miners advance in their
17 excavation, all dangerous and doubtful pieces of coal, slate
18 and rock are taken down or immediately carefully secured
19 against falling on the workmen. Any workman who neglects to
20 carry out or disobeys the instructions of the mine foreman or
21 assistant mine foreman, in regard to securing his working
22 place, shall be suspended or discharged by the mine foreman,
23 and if such negligence or disobedience results in serious
24 injury or loss of life to any ~~person~~ INDIVIDUAL, the mine <—
25 foreman shall report the name of that workman to the
26 department for prosecution under the requirements of this
27 act.

28 (4) The mine foreman shall give prompt attention to the
29 removal of all dangers reported to him by his assistants, the
30 mine examiner or any other ~~person~~ INDIVIDUAL working in the <—

1 mine, and in case it is impracticable to immediately remove
2 the danger, he shall notify every ~~person~~ INDIVIDUAL whose ←
3 safety is threatened to remain away from the area of the mine
4 where the dangerous conditions exist.

5 (5) The mine foreman, his assistant or the mine examiner
6 shall, once each week, travel and examine all the air
7 courses, roads and openings that give access to old workings
8 or falls and make a record in ink of the condition of all
9 places in the book provided for that purpose.

10 (6) It shall be the duty of the mine foreman to see that
11 approved gas detection devices are used when and where
12 required by this act. No approved gas detection device shall
13 be entrusted to any ~~person~~ INDIVIDUAL for use in a mine until ←
14 the ~~person~~ INDIVIDUAL has given satisfactory evidence to the ←
15 mine foreman that he understands the proper use of the device
16 and the danger of tampering with the device. The
17 transportation of tools into and out of the mine shall be
18 under the direction of the mine foreman or an assistant mine
19 foreman.

20 (7) Instructions shall be given by the mine foreman,
21 assistant mine foreman or mine examiner, or other authorized
22 ~~person~~ INDIVIDUAL, as to when, where and how roof supports ←
23 shall be placed in order to avoid accidents from falls and to
24 mine coal with safety to themselves and others. In addition,
25 the mine foreman or assistant mine foreman shall give special
26 care and attention to drawing pillars, particularly when
27 falls are thereby being made.

28 Section 213. Mine foreman's responsibilities for blasting.

29 The following shall apply:

30 (1) The mine foreman shall direct that the coal is

1 properly mined before it is blasted, shot or broken. For
2 purposes of this paragraph, the term "properly mined" shall
3 mean that the coal shall be undercut, centercut, overcut or
4 sheared by pick or machine, and in any case the cutting shall
5 be as deep as the holes are laid.

6 (2) The mine foreman or assistant mine foreman, under
7 instructions from the mine foreman, shall direct that the
8 holes for blasting shall be properly placed and shall
9 designate the angle and depth of holes, which shall not be
10 deeper than the undercutting, centercutting, overcutting or
11 shearing, the maximum quantity of explosives required for
12 each hole and the method of charging and tamping.

13 (3) The mine foreman shall employ a sufficient number of
14 competent and legally certified ~~persons~~ INDIVIDUALS to act as ←
15 shot-firers.

16 Section 214. Mine foreman's responsibilities for drainage.

17 The following shall apply:

18 (1) The mine foreman shall see that the work areas are
19 kept as free from water as practicable during working hours.
20 Except for individuals necessary to correct the condition,
21 individuals shall not enter an area with such accumulations.

22 (2) ~~A~~ WHENEVER ANY WORKING PLACE IN A MINE APPROACHES ←
23 WITHIN 50 FEET OF ABANDONED WORKINGS, AS SHOWN BY SURVEYS
24 CERTIFIED BY A REGISTERED ENGINEER OR SURVEYOR, OR WITHIN 500
25 FEET OF ANY OTHER ABANDONED WORKINGS OF THE MINE, WHICH
26 CANNOT BE INSPECTED AND WHICH MAY CONTAIN DANGEROUS
27 ACCUMULATIONS OF WATER OR GAS, OR WITHIN 500 FEET OF ANY
28 WORKINGS OF AN ADJACENT MINE, A test drilling plan which
29 provides for the safety of all individuals must be submitted
30 by the operator to the department for approval. The

1 department may increase the setback distances under this
2 paragraph. ~~Whenever any working place in a mine approaches~~ <—
3 ~~within 50 feet of abandoned workings, as shown by surveys~~
4 ~~certified by a registered engineer or surveyor, or within 500~~
5 ~~feet of any other abandoned workings of such mine, which~~
6 ~~cannot be inspected and which may contain dangerous~~
7 ~~accumulations of water or gas, or within 500 feet of any~~
8 ~~workings of an adjacent mine.~~

9 (3) No mining may occur within the setback distances
10 under paragraph (2) unless the department approves the test
11 drilling plan and gives permission to proceed.

12 (4) No water or gas from any portion of an abandoned
13 mine, or from any idle portion of an active mine, and no
14 borehole from the surface shall be tapped except under the
15 immediate instruction and direction of the mine foreman with
16 the use of approved gas detection equipment. It shall be
17 unlawful to work or employ individuals to work in any portion
18 of a bituminous coal mine in which a body of water is dammed
19 or held back at a higher elevation in the same mine by
20 natural or artificial means, unless approval is given in
21 writing by the department.

22 (5) The department shall not accept from an operator a
23 six-month mine subsidence map as required by the act of April
24 27, 1966 (1st Sp.Sess. P.L.31, No.1), known as The Bituminous
25 Mine Subsidence and Land Conservation Act, unless the map
26 includes the information required by paragraphs (2), (3) and
27 (4).

28 Section 215. Mine foreman's responsibility for employment of
29 competent ~~persons~~ INDIVIDUALS. <—

30 A noncertified ~~person~~ INDIVIDUAL may not be employed to <—

1 operate equipment in a mine until the individual has completed a
2 training program approved by the department and has given the
3 mine foreman satisfactory proof that the individual can do the
4 assigned work without endangering anyone.

5 Section 216. Mine foreman's responsibilities for inspections
6 and reports.

7 The following shall apply:

8 (1) In all mines, the mine foreman shall employ a
9 sufficient number of assistants to ensure a visit to each
10 employee during each shift, except mine officials and miners
11 whose normal duties require travel throughout the mine,
12 either by ~~himself~~ THE MINE FOREMAN or his assistants. ←

13 (2) The mine foreman shall each day enter plainly and
14 sign in ink a report of the condition of the mine in a book
15 provided for that purpose. The report shall clearly state any
16 danger that may have come under his observation during the
17 day or any danger reported by the assistant mine foreman or
18 the mine examiners. The report shall also state whether or
19 not a proper supply of material is on hand for the safe
20 working of the mine, and whether or not the requirements of
21 law are complied with. The mine foreman shall also, once each
22 week, enter plainly in ink in the book a true report of all
23 weekly air measurements required by this act, designating the
24 place, the area of each cut-through and entry separately, the
25 velocity of the air in each cut-through and entry, the
26 quantity of the air in each cut-through and entry and the
27 number employed in each separate split of air, with the date
28 when measurements were taken. The book shall at all times be
29 kept in the mine office, for examination by the department OR ←
30 any ~~person~~ INDIVIDUAL working in the mine ~~or authorized~~ ←

1 ~~representatives of the employees of the mine~~, in the presence
2 of the superintendent or the mine foreman. The mine foreman
3 shall also each day read carefully and countersign in ink all
4 reports entered in the record book of the mine examiners.

5 (3) When assistant mine foremen are employed, their duty
6 shall be to assist the mine foreman in complying with the
7 provisions of this act, and they shall be liable to the same
8 penalties as the mine foreman for any violation of this act
9 in parts or portions of the mine under their jurisdiction. At
10 the end of each shift, each assistant mine foreman shall make
11 a report in a book provided for that purpose, giving the
12 general condition as to safety of the working places visited,
13 and shall make a note of any unusual occurrence observed
14 during the shift. The mine foreman shall read carefully the
15 daily report of each assistant mine foreman and shall sign
16 the report in ink daily. Where more than one portal is being
17 used for the entrance of miners into a mine, the mine foreman
18 may designate an assistant who holds a mine foreman
19 certificate to sign the assistant mine foreman's and mine
20 examiner's daily report books at each portal other than the
21 main portal.

22 (4) It shall be the duty of the mine foreman or
23 assistant mine foreman, or an authorized ~~person~~ INDIVIDUAL <—
24 designated by the mine foreman, to examine daily ~~in a general~~ <—
25 ~~way~~ all electrical equipment and other machinery under his
26 jurisdiction to see that it is in safe operating condition
27 and make a report in the assistant mine foreman's daily
28 report book. It shall be the duty of the mine electrician to
29 make and sign a written report once each week in a record
30 book provided for that purpose, stating the condition of

1 electrical equipment and other machinery in the mine. The
2 report shall be countersigned by the mine foreman.

3 Section 217. Employment of mine examiners.

4 The mine foreman shall employ a sufficient number of mine
5 examiners ~~in order~~ TO ENSURE that each mine can be examined in <—
6 accordance with the provisions of this act. The mine foreman or
7 the assistant mine foreman shall ~~see~~ ENSURE that the mine <—
8 examiner has ~~left his initials and~~ INITIALED, INCLUDING date and <—
9 time, ~~in~~ THE places examined or reported as examined. <—

10 Section 218. Duties of mine examiners.

11 (a) Examination of mine.--Within three hours immediately
12 preceding the beginning of a coal-producing shift and before any
13 workmen in such shift, other than those who may be designated to
14 make the ~~examinations prescribed in this section, enter the~~ <—
15 ~~underground areas of the mine, the mine foreman, assistant mine~~
16 ~~foreman or examiners designated by the mine foreman of the mine~~
17 ~~to do so shall make an examination, as prescribed in this~~
18 ~~section, of the areas. Each person designated to act as a mine~~
19 ~~examiner shall be directed to examine a definite underground~~
20 ~~area of such mine, and in making his examination, the mine~~
21 ~~examiner shall inspect every active working place and places~~
22 EXAMINATION UNDER THIS SECTION, ENTER THE UNDERGROUND AREAS OF <—
23 THE MINE, THE MINE FOREMAN, ASSISTANT MINE FOREMAN OR MINE
24 EXAMINER DESIGNATED BY THE MINE FOREMAN SHALL MAKE AN
25 EXAMINATION OF THE AREAS. EACH INDIVIDUAL DESIGNATED TO ACT AS A
26 MINE EXAMINER SHALL BE DIRECTED TO EXAMINE A DEFINITE
27 UNDERGROUND AREA OF THE MINE AND SHALL INSPECT EVERY ACTIVE
28 WORKING PLACE AND PLACES immediately adjacent in the area and
29 make tests with an approved gas detection device for
30 accumulations of methane and oxygen-deficiency in the air. The

1 mine examiner shall examine seals and doors to determine whether
2 they are functioning properly; inspect and test the roof, face
3 and rib conditions in the working places; inspect active
4 roadways, every unfenced roadway, travelways, approaches to
5 abandoned workings, and accessible falls in active sections for
6 explosive gas and other hazards; and inspect to determine
7 whether the air in each split is traveling in its proper course
8 and in normal volume. The mine examiner shall initial and date
9 the face of each place he examines or in a nearby location. If
10 the mine examiner ~~in making his examination,~~ finds a condition <—
11 which ~~he~~ THE MINE EXAMINER considers to be dangerous to ~~persons~~ <—
12 INDIVIDUALS who may enter or be in such area, he shall ~~indicate~~ <—
13 ~~such dangerous place by posting~~ POST a "danger" sign <—
14 conspicuously at a point which ~~persons~~ INDIVIDUALS entering such <—
15 dangerous place would be required to pass. No ~~person~~ INDIVIDUAL, <—
16 other than Federal or State mine inspectors, or the mine foreman
17 or ~~his~~ assistant MINE FOREMAN, or ~~persons~~ INDIVIDUALS authorized <—
18 by the mine foreman or assistant mine foreman to enter the place
19 for the purpose of eliminating the dangerous condition, shall
20 enter the place while the sign is posted.

21 (b) Record book.--A suitable record book shall be kept at
22 the mine office, on the surface, of every mine where mine
23 examiners are employed, and immediately after the examination of
24 the mine or any portion thereof by a mine examiner, whose duty
25 it is to make the examination, he shall enter in the book, with
26 ink, a record of the examination, and sign the same. This record
27 shall show the time taken in making the examination, and also
28 clearly state the nature and location of any danger that may
29 have been discovered in any room or entry or other place in the
30 mine, and if any danger has been discovered, the mine examiners

1 shall immediately report the location thereof to the mine
2 foreman. No ~~person~~ INDIVIDUAL shall enter the mine until the <—
3 mine examiners return to the mine office on the surface, or to a
4 station located in the intake entry of the mine, where a record
5 book as provided for in this section shall be kept in a
6 fireproof vault and signed by the ~~person~~ INDIVIDUAL making the <—
7 examination, and report to the mine foreman or the assistant
8 mine foreman, by telephone or otherwise, and a written report
9 made thereof by the ~~person~~ INDIVIDUAL receiving the report, that <—
10 the mine is in safe condition for individuals to enter. When a
11 station is located in any mine, it shall be the duty of the mine
12 examiners to sign the report entered in the record book in the
13 mine office on the surface. The record books of the mine
14 examiners shall at all times during working hours be accessible
15 to the ~~mine inspector~~, DEPARTMENT AND any ~~person~~ INDIVIDUAL <—
16 working in the mine. ~~and authorized representatives of the~~ <—
17 ~~employees of the mine.~~

18 (c) Second examination.--A second examination by the same or
19 other mine examiner shall be made during working hours of every
20 working place where men are employed, and a report of the
21 examination shall be made in the mine examiner report book in
22 the same manner as the first examination. No ~~person~~ INDIVIDUAL <—
23 on a noncoal-producing shift, other than a certified ~~person~~ <—
24 INDIVIDUAL designated under this ~~subsection~~ SECTION, shall enter <—
25 any underground area in a mine, unless the area, which shall
26 include all places on that particular split of air, has been
27 examined as prescribed in this section within three hours
28 immediately preceding his entrance into the area.

29 Section 219. Management of mine.

30 The right to hire and discharge employees, management of the

1 mine and the direction of the working forces are vested
2 exclusively in the ~~operator, and no person or persons~~ OPERATOR. <—
3 NO INDIVIDUAL, association ~~or associations~~, organization ~~or~~ <—
4 ~~organizations~~ or corporation ~~or corporations~~ shall interfere <—
5 with or attempt to interfere with, abridge or attempt to
6 abridge, in any manner whatsoever, ~~such right~~ THESE RIGHTS, <—
7 provided that ~~this does~~ THESE RIGHTS DO not invalidate any <—
8 existing or future contract.

9 Section 220. Duties of superintendent.

10 (a) General rule.--It shall be the duty of every
11 superintendent, on behalf and at the expense of the operator, to
12 keep on hand at each mine at all times a sufficient quantity of
13 all materials and supplies required to preserve the health and
14 safety of the employees, as ordered by the mine foreman and
15 required by this act. If, for any reason, the superintendent
16 cannot procure the necessary materials or supplies, he shall
17 immediately notify the mine foreman, whose duty it shall be to
18 withdraw all individuals from the mine, or portion of the mine,
19 until the materials or supplies are received.

20 (b) Examination.--The superintendent shall, at least once
21 every week, read, examine and countersign all reports entered in
22 the mine record book. ~~, and if he finds on examination~~ IF THE <—
23 SUPERINTENDENT DETERMINES that the law is being violated, the
24 superintendent shall order the mine foreman to stop the
25 violation and ~~shall see that the order is complied with.~~ ENSURE <—
26 COMPLIANCE WITH THAT ORDER.

27 Section 221. Qualifications and general responsibility of
28 superintendent.

29 The following shall apply:

30 (1) Beginning one year after the effective date of this

1 paragraph, no ~~person~~ INDIVIDUAL may be appointed as a <—
2 superintendent at any mine in this Commonwealth unless the
3 ~~person~~ INDIVIDUAL holds a current, valid mine foreman <—
4 certificate. In the event that a superintendent is found by
5 the department to be in breach of his or her responsibilities
6 as superintendent, the department may suspend or revoke the
7 superintendent's mine foreman certificate.

8 (2) No ~~person~~ INDIVIDUAL may serve as the superintendent <—
9 for more than one mine.

10 ~~(3) The superintendent shall not obstruct the mine <—~~
11 ~~foreman or other officials in the fulfillment of any of their~~
12 ~~duties as required by this act, but shall direct, provide the~~
13 ~~means and see to it that the mine foreman and all the other~~
14 ~~employees under him comply with the law. The superintendent~~
15 ~~shall give immediate attention to any violation of the law~~
16 ~~called to his attention by the department. The superintendent~~
17 ~~shall be responsible for all the outside workings and all the~~
18 ~~persons there employed. At any mine where a superintendent is~~
19 ~~not employed, the duties that are prescribed for the~~
20 ~~superintendent shall devolve upon the mine foreman, in~~
21 ~~addition to his regular duties.~~

22 (3) THE SUPERINTENDENT SHALL NOT OBSTRUCT THE MINE <—
23 FOREMAN OR OTHER OFFICIAL IN THE FULFILLMENT OF HIS DUTIES AS
24 REQUIRED BY THIS ACT. THE SUPERINTENDENT SHALL ENSURE THAT
25 THE MINE FOREMAN AND ALL OTHER EMPLOYEES OF THE MINE COMPLY
26 WITH THE LAW. THE SUPERINTENDENT SHALL IMMEDIATELY RESPOND TO
27 A VIOLATION OF THIS ACT UPON NOTIFICATION BY THE DEPARTMENT.
28 THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR ALL THE OUTSIDE
29 WORKINGS AND ALL INDIVIDUALS EMPLOYED AT THE MINE. AT A MINE
30 WHERE A SUPERINTENDENT IS NOT EMPLOYED, THE MINE FOREMAN

1 SHALL HAVE ALL THE DUTIES AND RESPONSIBILITIES OTHERWISE
2 GIVEN TO THE SUPERINTENDENT IN ADDITION TO THE REGULAR DUTIES
3 OF THE MINE FOREMAN.

4 Section 222. Danger signals.

5 The superintendent of every mine shall provide a sufficient
6 number of danger signals, upon request of the mine foreman,
7 which the mine foreman or the assistant mine foreman shall
8 distribute in the mine at places convenient for the use of the
9 mine examiners and other officials in the fulfillment of their
10 duties. Danger signals in all mines shall be uniform and of a
11 design approved by the department. All danger signals shall be
12 kept in good condition and no defective signal shall be used in
13 any mine.

14 Section 223. Supply of record books.

15 The superintendent shall keep on hand at the mine a supply of
16 the record books required by this act and shall ~~see~~ ENSURE that <—
17 record books are delivered to the proper ~~persons~~ INDIVIDUALS at <—
18 the mine and that they are properly cared for.

19 Section 224. Mapping requirements and surveying standards.

20 (a) General rule.--The operator or superintendent of each
21 mine shall cause to be made by a registered mining engineer or
22 registered professional surveyor an accurate, professional
23 quality map of the mine, on a scale of not less than 200 feet to
24 the inch. At a minimum, the map shall show:

25 (1) A complete legend identifying all features
26 represented on the map and a title block including all
27 changes of mine ownership and the dates of those changes.

28 (2) An accurate delineation of the current extent of the
29 workings of the mine and all mines or coal lands, or both,
30 inside the permit boundary and all mines or coal lands, or

1 both, within 1,000 feet of the outside of the permit
2 boundary. The delineation must show all workings of all mines
3 above and below the mine within the permit boundary and
4 within 1,000 feet of the outside of the permit boundary.

5 (3) Barrier pillars for all mine workings inside the
6 permit boundary and all mine workings adjacent to the permit
7 boundary.

8 (4) Two permanent baseline points coordinated with the
9 underground and surface traverse points, and two permanent
10 elevation benchmarks referencing mine elevation surveys. The
11 baseline points and elevation benchmarks shall be prepared
12 using the Pennsylvania State Plan Coordinate System (NAD83
13 Datum). In the alternative, the map shall include coordinate
14 transformation equations converting the baseline points shown
15 to correlate to the Pennsylvania State Plan Coordinate
16 System.

17 (5) All openings, excavations, shafts, slopes, drifts,
18 tunnels, entries, crosscuts, rooms, boreholes and all other
19 excavations, including surface pits and auger holes in each
20 seam.

21 (6) Areas where the pillars or longwall panels have been
22 removed.

23 (7) The name or number of each butt, room and section,
24 if available.

25 (8) Ventilation controls, air splits and the direction
26 of air currents using arrows.

27 (9) USGS elevation at the top and bottom of each shaft,
28 slope, drift and borehole.

29 (10) Bottom of coal elevations, taken at intervals not
30 to exceed 300 feet apart, in one entry of each section and in

1 one entry of each set of rooms off such sections.

2 (11) Bottom of coal elevations taken in the last open
3 crosscut of all sections and each set of rooms off such
4 section before they are abandoned.

5 (12) Elevation contour lines at whole number ten-foot
6 increments, unless the seam is steeply pitching, after which
7 it may be 25-foot intervals.

8 (13) The number or designation of each survey station
9 and the date of the last survey in the entries, as they are
10 represented on the map.

11 (14) The location and elevation of any body of water
12 dammed or held back in any portion of the mine, giving the
13 volume in gallons of the body of water.

14 (15) The location of streams, rivers, lakes, dams or any
15 other bodies of water on the surface, with their surface
16 elevations accurately and plainly marked.

17 (16) The location of permanent surface features such as
18 railroad tracks, public highways, permanent buildings and oil
19 and gas wells.

20 (17) All seals and bulkheads within the mine.

21 (b) Accuracy standards.--The following accuracy standards
22 must be met:

23 (1) A minimum elevation closure of plus or minus one
24 foot per 5,000 feet is required.

25 (2) Mine traverse, advanced by closed loop method of
26 survey or other equally accurate method of traversing.

27 Minimum angular and coordinate ties for raw data would be an
28 angular tie of less than one minute and a coordinate time of
29 greater than 1 to 10,000 for any given closed loop survey.

30 (c) Surveying standards.--The extent of surveying shown on

1 the map shall be acceptable where the following minimum
2 underground surveying standards are met:

3 (1) Every entry must be surveyed at intervals not to
4 exceed 300 lineal feet. Survey station spads shall be
5 established in each entry of all mains, sections, butts,
6 rooms and other excavations. Survey lines may extend from
7 adjacent entries as long as the interval between survey
8 station spads within an entry does not exceed 300 lineal
9 feet. Continuous survey lines must be maintained in at least
10 one entry.

11 (2) Lateral take-ups, left and right, must be taken in
12 every entry at all intersections and must denote the location
13 of all intersections and define the corners and the location
14 of the rib line within each entry. For any excavation greater
15 than 20% from the planned excavation, additional lateral
16 take-ups must be taken to define this area. All of the
17 information must be accurately portrayed on the mine map.

18 (3) All workings not surveyed and taken from a working
19 map or other unofficial record shall be shown on the map with
20 dashed lines. The legend shall identify that these areas have
21 not been surveyed.

22 (4) A survey station spad is required to be within 300
23 feet of the deepest penetration of the final faces of each
24 mining section, butt or room. The number or designation of
25 the last survey station spad and the date of such survey of
26 the entries are to be shown on the mine map. The area from
27 this spad to the face will be considered surveyed provided
28 that lateral and face take-ups have been completed and
29 recorded in the field book and shown on the mine map. Field
30 books shall be available for inspection. If lateral and face

1 take-ups are not completed, the area inby the last survey
2 station spad must be identified on the map with dashed lines.
3 The survey station spads located in each mining section, butt
4 or room shall be tied to a check survey station.

5 (5) Check survey stations shall be advanced to within
6 300 feet of the deepest penetration of all mains, submains,
7 sections and butts. Check survey stations shall be advanced
8 to within 600 feet of the deepest penetration of all rooms.

9 (6) Check survey stations shall be advanced to within
10 100 feet of the deepest penetration of all mining sections,
11 butts, rooms and excavations adjacent to the permit or
12 property boundary lines.

13 (d) Verification.--Prior to each area's being sealed, the
14 operator or superintendent shall verify in writing that the map
15 of the sealed area meets the requirements of this act. To the
16 extent that any areas in the mine cannot be surveyed, these
17 areas shall be indicated on the map.

18 Section 225. Availability of copy of map.

19 A true copy of the map made pursuant to section 224 shall be
20 kept in the mine office for the use of the mine officials and
21 ~~mine inspector in the district~~ DEPARTMENT, and for the <—
22 inspection, in the presence of the superintendent or mine
23 foreman, of any ~~person~~ INDIVIDUAL working in the mine, or of <—
24 authorized representatives of the employees of the mine,
25 whenever the ~~person~~ INDIVIDUAL or representative fears that any <—
26 working place is becoming dangerous by reason of its proximity
27 to other workings that may contain dangerous accumulations of
28 water or noxious gases.

29 Section 226. Excavations on map.

30 At least once every six months, the operator or

1 superintendent of every mine shall cause to be shown accurately
2 on the original map of the mine, and on the copy of the map in
3 the mine office, all the excavations made during the time that
4 elapsed since the excavations were last shown.

5 Section 227. Furnishing copies of maps.

6 A copy of the mine map shall be furnished every six months to
7 the department. When more than one seam of coal is being worked
8 in any mine, the department shall be provided with a separate
9 copy of the original map of the complete workings of each seam
10 as provided for under this act. The copies shall remain in the
11 care of the department. When one mine is working a seam of coal
12 under another mine that is working an overlying seam and the two
13 mines are operated by different operators, the operators shall
14 exchange with each other copies of their respective mine maps,
15 showing such portions of their respective mines as may be
16 directly above or below the other mine.

17 Section 228. Duties upon abandonment of mine.

18 (a) General rule.--If a mine is inactive for a period of 60
19 days or more or if the operator intends to cease ventilation of
20 the mine, the operator or the superintendent shall notify the
21 department at once and shall, within 60 days, extend the
22 official map to show clearly all worked-out or abandoned
23 territory with all excavations, property and boundary lines,
24 elevations and map features as required under this act or, if
25 the workings are not accessible, provide a copy of the most
26 recent map available that is clearly marked to state that the
27 workings shown were not surveyed. The owner or operator of the
28 mine shall also, within 45 days after its change in status, send
29 to the department a tracing, print or digital map in a format
30 acceptable to the department of the complete original map. The

1 registered mining engineer or registered surveyor shall certify
2 that the tracing, print or digital map is a true and correct
3 copy of the original map of the mine and that the original map
4 is a true, complete and correct map and survey of all the
5 excavations made in the inactive or abandoned mine. A dated
6 statement signed by a company or corporate officer stating that
7 the map represents a complete and accurate representation of all
8 underground excavations and is the final map of the mine, or
9 stating that the map provided is not a surveyed final map due to
10 inaccessibility of the workings, shall be included.

11 (b) Violation.--If the operator, superintendent or company
12 or corporate officer fails to provide the certified final map or
13 recklessly or intentionally submits an inaccurate certified map,
14 the violation shall be a felony subject to prosecution under
15 section 505. Costs incurred by the Commonwealth as a result of a
16 violation of this subsection may be recovered as restitution.

17 Section 229. Survey by department.

18 If the department has reasonable cause to believe that a map
19 of any mine furnished under the provisions of this act is
20 inaccurate or imperfect, the department may require the operator
21 to make a survey and a new map of the mine.

22 Section 230. Ventilation requirements.

23 (a) General rule.--The operator or superintendent of a mine
24 shall provide and maintain ample means of ventilation to furnish
25 a constant and adequate supply of pure air for the employees.
26 The quantity and velocity of the current of air shall be
27 sufficient to dilute so as to render harmless and carry away
28 flammable or harmful gases.

29 (b) Specification.--The quantity of air reaching the last
30 open crosscut in any pair or set of entries shall not be less

1 than 9,000 cubic feet per minute. All active underground work
2 areas in a mine shall be ventilated by a current of air
3 containing not less than 19.5% oxygen and not more than .5%
4 carbon dioxide and no harmful quantities of other noxious or
5 poisonous gases.

6 (c) Ventilating belt entries.--A belt conveyor entry shall
7 be isolated from the adjacent entries.

8 (1) The following requirements apply:

9 (i) The quantity of air traveling in the belt
10 conveyor shall be kept to the minimum quantity necessary
11 for effective ventilation by means of permanent stoppings
12 and regulators.

13 (ii) The belt conveyor entry shall be provided with
14 a separate split of intake air.

15 (iii) The belt conveyor entry shall provide an
16 intake escapeway to the main air current.

17 (2) If an operator proposes to use entries in common
18 with the belt conveyor entry, the operator must submit a plan
19 to and obtain approval by the department that addresses the
20 following criteria:

21 (i) The belt conveyor is cleaned and maintained to
22 minimize float dust in the common entries.

23 (ii) Stoppings and regulators are arranged to reduce
24 the quantity of air traveling in the belt and common
25 entries to a minimum for effective ventilation of the
26 belt and common entries and to provide an intake air
27 split as an escapeway to the main air current.

28 (iii) Fire protection is installed and maintained on
29 all belt conveyors in compliance with appropriate
30 standards.

1 (iv) There is an early warning fire detection system
2 and carbon monoxide (CO) or smoke sensors that meet the
3 requirements of 30 CFR § 75.351 (relating to atmospheric
4 monitoring systems). The spacing of the CO/smoke sensors
5 shall not exceed 1,000 feet. The belt air velocity shall
6 be a minimum of 50 fpm or CO/smoke sensor spacing shall
7 be reduced to provide an adequate alarm time not to
8 exceed 20 minutes. The CO/smoke sensors shall be set to
9 alarm at the lowest practicable setting and be positioned
10 in the ventilation current to provide the most effective
11 detection.

12 (v) The number of common entries may not exceed
13 three entries, including the belt entry.

14 (vi) Development for common entries is designed to
15 be at a lower ventilation pressure than the main intake
16 escapeway.

17 (vii) If a condition develops that causes the belt
18 and common entries to be at a higher ventilation pressure
19 than the main intake escapeway, efforts are undertaken to
20 immediately correct the condition. If the condition
21 cannot practicably be corrected, the mine operator must
22 notify the department of the condition, the specific
23 cause, the area affected and the steps that will be taken
24 to maintain the pressure in the belt and common entries
25 at the lowest attainable level.

26 (viii) When the belt ventilation current travels
27 away from the working section, no ignition sources,
28 except equipment necessary to maintain the escapeway and
29 personnel carriers, shall be permitted in the intake
30 escapeway unless CO/smoke sensors that meet Federal fire

1 detection standards are installed in the intake
2 escapeway. Equipment operated in the intake escapeway
3 shall be equipped with an automatic fire suppression
4 system, or comply with 30 CFR § 75.380(f)(4) (relating to
5 escapeways; bituminous and lignite mines). CO detectors
6 shall give an audible alarm over the mine communication
7 system. The alarm shall indicate the conveyor belt flight
8 where the alarm occurred. Both visual and audible alarm
9 signals must automatically be provided at all affected
10 working sections and affected areas where mechanized
11 mining equipment is being installed or removed and on the
12 surface at a monitored location. Two-way underground
13 communications shall be maintained between the monitored
14 surface location and all underground working sections and
15 areas where mechanized mining equipment is being
16 installed or removed.

17 (ix) A copy of the mine's federally approved
18 firefighting and evacuation plan is included with the
19 plan.

20 (d) Actions to detect and respond to excess methane.--The
21 following actions are required to detect and respond to excess
22 methane:

23 (1) Location of tests. Tests for methane concentrations
24 under this section shall be made at least 12 inches from the
25 roof, face, ribs and floor.

26 (2) Working places and intake air courses.

27 (i) When 1% or more methane is present in a working
28 place or an intake air course, including an air course in
29 which a belt conveyor is located or in an area where
30 mechanized mining equipment is being installed or

1 removed:

2 (A) Except intrinsically safe atmospheric
3 monitoring systems (AMS), electrically powered
4 equipment in the affected area shall be deenergized
5 and other mechanized equipment shall be shut off.

6 (B) Changes or adjustments shall be made
7 immediately to the ventilation system to reduce the
8 concentration of methane to less than 1%.

9 (C) No other work shall be permitted in the
10 affected area until the methane concentration is less
11 than 1%.

12 (ii) When 1.5% or more methane is present in a
13 working place or an intake air course, including an air
14 course in which a belt conveyor is located or in an area
15 where mechanized mining equipment is being installed or
16 removed:

17 (A) Except for Federal or State mine inspectors,
18 the mine foreman or assistant mine foreman or ~~persons~~ <—
19 INDIVIDUALS authorized by the mine foreman or <—
20 assistant mine foreman, all ~~persons~~ INDIVIDUALS shall <—
21 be withdrawn from the affected area.

22 (B) Except for intrinsically safe AMS,
23 electrically powered equipment in the affected area
24 shall be disconnected at the power source.

25 (3) Return air split.

26 (i) When 1% or more methane is present in a return
27 air split between the last working place on a working
28 section and where that split of air meets another split
29 of air or the location at which the split is used to
30 ventilate seals or worked-out areas, changes or

1 adjustments shall be made immediately to the ventilation
2 system to reduce the concentration of methane in the
3 return air to less than 1%.

4 (ii) When 1.5% or more methane is present in a
5 return air split between the last working place on a
6 working section and where that split of air meets another
7 split of air or the location where the split is used to
8 ventilate seals or worked-out areas, except for Federal
9 or State mine inspectors, the mine foreman or assistant
10 mine foreman or ~~persons~~ INDIVIDUALS authorized by the <—
11 mine foreman or assistant mine foreman, all ~~persons~~ <—
12 INDIVIDUALS shall be withdrawn from the affected area. <—

13 (iii) Other than intrinsically safe AMS, equipment
14 in the affected area shall be deenergized, electric power
15 shall be disconnected at the power source and other
16 mechanized equipment shall be shut off.

17 (iv) No other work shall be permitted in the
18 affected area until the methane concentration in the
19 return air is less than 1%.

20 (4) Return air split alternative.

21 (i) The provisions of this paragraph may apply if:

22 (A) The quantity of air in the split ventilating
23 the active workings is at least 27,000 cubic feet per
24 minute in the last open crosscut or the quantity
25 specified in the approved ventilation plan, whichever
26 is greater.

27 (B) The methane content of the air in the split
28 is continuously monitored during mining operations by
29 an AMS that gives a visual and audible signal on the
30 working section when the methane in the return air

1 reaches 1.5% and the methane content is monitored as
2 specified in the approved ventilation plan.

3 (C) Rock dust is continuously applied with a
4 mechanical duster to the return air course during
5 coal production at a location in the air course
6 immediately outby the most inby monitoring point.

7 (ii) When 1.5% or more methane is present in a
8 return air split between a point in the return opposite
9 the section loading point and where that split of air
10 meets another split of air or where the split of air is
11 used to ventilate seals or worked-out areas:

12 (A) Changes or adjustments shall be made
13 immediately to the ventilation system to reduce the
14 concentration of methane in the return air less than
15 1.5%.

16 (B) Except for Federal or State mine inspectors,
17 the mine foreman or assistant mine foreman or ~~persons~~ <—
18 INDIVIDUALS authorized by the mine foreman or <—
19 assistant mine foreman, all ~~persons~~ INDIVIDUALS shall <—
20 be withdrawn from the affected area.

21 (C) Except for intrinsically safe AMS, equipment
22 in the affected area shall be deenergized, electric
23 power shall be disconnected at the power source and
24 other mechanized equipment shall be shut off.

25 (D) No other work shall be permitted in the
26 affected area until the methane concentration in the
27 return air is less than 1.5%.

28 (e) Changes and adjustments in ventilation.--

29 (1) If either the concentration of methane in a bleeder
30 split of air immediately before the air in the split joins

1 another split of air, or in a return air course other than as
2 described in subsection (d)(3) and (4), contains methane gas
3 in an amount of 2% or greater as detected by an approved gas
4 detection device, changes or adjustments shall be made
5 immediately in the ventilation in the mine so that returning
6 air contains less than 2% of methane gas.

7 (2) When 2% of methane is exceeded beyond the mixing
8 point with another split in the main return, the operator
9 shall submit a written plan to abate the problem to the
10 department for approval.

11 (f) Submittal of detailed ventilation plan to department.--

12 (1) A mine operator shall submit a detailed ventilation
13 plan and any addendums to the department for review and
14 comment. The mine operator shall review the plan with the
15 department and address concerns to the extent practicable.
16 The department shall submit any concern that is not addressed
17 to MSHA through comments to the plan. The mine operator shall
18 provide a copy of the plan to the department and the
19 representative of the miners, if applicable, ten days prior
20 to the submittal of the plan to MSHA.

21 (2) The operator shall give the department a copy of the
22 MSHA-approved plan and any addendums as soon as the operator
23 receives the approval.

24 (3) In the event of an unforeseen situation requiring
25 immediate action on a plan revision, the operator shall
26 submit the proposed revision to the department and the
27 representative of the miners when the proposed revision is
28 submitted to MSHA. The department shall work with the
29 operator to review and comment on the proposed plan revision
30 to MSHA as quickly as possible.

1 (4) Upon approval by MSHA, the plan is enforceable by
2 the department.

3 Section 231. Crosscuts and stoppings.

4 (a) Maximum distance.--

5 (1) The distance driven to establish ventilation
6 connections between entries or rooms shall not exceed 200
7 linear feet. Where adequate ventilation is provided, the
8 entry or room may be driven in conjunction with the new air
9 connection, provided that the distance to either face does
10 not exceed 200 linear feet when the new air connection is
11 established.

12 (2) In no case shall any place be driven a total of more
13 than 200 linear feet unless ventilation connections have been
14 established, except as provided under this act.

15 (3) Where adequate ventilation can be provided, the
16 department may give written permission to authorize a greater
17 distance.

18 (b) Closure of crosscuts.--Crosscuts between intakes and
19 return air courses shall be closed, except the one nearest the
20 face. Crosscuts between rooms shall be closed, where necessary
21 or when required by the department, to provide adequate
22 ventilation at the working face.

23 (c) Air connections.--Where practicable, an air connection
24 shall be provided at or near the face of each entry or room
25 before the place is abandoned.

26 (d) Excavations.--Excavations shall not exceed 18 feet in
27 depth, unless permission is obtained from the department to
28 drive a greater distance beyond the last open crosscut, if such
29 excavations are kept free of accumulations of methane by use of
30 line brattice or other adequate means.

1 (e) Construction materials of stoppings.--A permanent
2 stopping shall be built of solid, substantial, incombustible
3 material, including, but not limited to, concrete, concrete
4 blocks, bricks, steel or tile, provided that, where physical
5 conditions exist because of caving that makes the use of
6 concrete, concrete blocks, brick, steel or tile impracticable,
7 timber laid longitudinally skin-to-skin or an approved
8 substitute may be used. A temporary stopping may be erected in
9 cut-throughs near the working face. A stopping shall be
10 reasonably airtight.

11 (f) Building and maintenance.--A permanent stopping or other
12 permanent ventilation control device shall be built and
13 maintained as follows:

14 (1) Between intake and return air courses, except
15 temporary controls may be used in rooms that are 600 feet or
16 less from the centerline of the entry from which the room was
17 developed, including where continuous face haulage systems
18 are used in the rooms. Unless otherwise approved in the
19 ventilation plan, the stopping or control shall be maintained
20 to and including the third connecting crosscut outby the
21 working face.

22 (2) To separate belt conveyor haulageways from intake
23 air courses when the air in the intake air courses is used to
24 provide air to active working places, temporary ventilation
25 controls may be used in rooms that are 600 feet or less from
26 the centerline of the entry from which the rooms were
27 developed, including where continuous face haulage systems
28 are used in the rooms. When continuous face haulage systems
29 are used, a permanent stopping or other device shall be built
30 and maintained to the outby most point of travel of the dolly

1 or 600 feet from the point of deepest penetration in the
2 conveyor belt entry, whichever distance is closer to the
3 point of deepest penetration, to separate the continuous
4 haulage entry from the intake entries.

5 Section 232. Overcasts and undercasts.

6 (a) Arrangement of ventilation.--Ventilation shall be so
7 arranged by means of air locks, overcasts or undercasts that the
8 passage of trips or ~~persons~~ INDIVIDUALS along the entries will <—
9 not cause interruptions of the air current. In face areas where
10 it is impracticable to install air locks, single doors may be
11 used with the permission of the department. An air lock shall be
12 ventilated sufficiently to prevent accumulations of methane in
13 it.

14 (b) Doors.--

15 (1) A door controlling ventilation shall be kept closed,
16 except when men or equipment are passing through the doorway.
17 Motor crews and other ~~persons~~ INDIVIDUALS who open a door <—
18 shall see that the door is closed before leaving it.

19 (2) It shall be unlawful for ~~a person~~ AN INDIVIDUAL to <—
20 knowingly leave a door or a check-curtain open.

21 (c) Hanging of doors.--A door controlling ventilation shall
22 be hung in such a manner as to be self-closing.

23 (d) Construction materials.--Overcasts and undercasts shall
24 be constructed tightly of incombustible material, such as
25 masonry, concrete, concrete blocks or fire-resistant
26 prefabricated material of sufficient strength to withstand
27 possible falls from the roof. Overcasts and undercasts shall be
28 of ample area to pass the required quantity of air and shall be
29 kept clear of obstructions.

30 Section 233. Line brattice.

1 (a) General rule.--Substantially constructed line brattice
2 shall be used from the last open crosscut of an entry or room
3 when necessary or required by the department to provide adequate
4 ventilation for the workmen and to remove gases and explosive
5 fumes. When damaged by falls or otherwise, line brattice shall
6 be repaired promptly.

7 (b) Spacing.--The space between the line brattice and the
8 rib shall be large enough to permit the flow of a sufficient
9 volume of air to keep the working face clear of flammable and
10 noxious gases.

11 (c) Construction material.--Brattice cloth used underground
12 shall be constructed of approved flame-resistant material.

13 Section 234. Auxiliary blowers and fans.

14 (a) Procedure.--

15 (1) The operator of a mine who desires to use in the
16 mine an auxiliary blower or exhaust fan shall submit to the
17 department a ventilation plan showing the proposed use of the
18 auxiliary blower or exhaust fan.

19 (2) The department shall review the plan and take one of
20 the following actions:

21 (i) Approve the plan.

22 (ii) Request additional information.

23 (iii) Disapprove the plan and set forth in writing
24 its reasons for the disapproval.

25 (3) In approving a plan, the department shall require
26 that an auxiliary blower or exhaust fan shall be:

27 (i) Powered by an approved motor when installed
28 underground.

29 (ii) Operated continuously while any work is being
30 performed in the area being ventilated by the blower or

1 fan.

2 (iii) Be so placed that recirculation of the air is
3 not possible.

4 (b) Time period for review.--The department shall approve or
5 disapprove a plan within 60 days after being initially submitted
6 by the operator.

7 Section 235. Unused and abandoned parts of mines.

8 An area that is not sealed shall be ventilated. Return air
9 may be used to ventilate the area. The department shall approve
10 a ventilation plan for an abandoned, unused or sealed part of a
11 mine.

12 Section 236. Sewage dumping prohibited.

13 If any ~~person~~ INDIVIDUAL shall construct or cause to be <—
14 constructed for use after the effective date of this section a
15 sewer or other method of drainage from a building or dwelling
16 house for the carrying of sewage, offal, refuse or other
17 offensive matter into any portion of an operating or abandoned
18 mine, the ~~person~~ INDIVIDUAL commits a misdemeanor of the third <—
19 degree.

20 Section 237. Fans.

21 (a) General rule.--The ventilation of a mine that extends
22 more than 200 feet underground and is opened after the effective
23 date of this section shall be produced by a mechanically
24 operated fan or fans. The fan or fans shall be kept in
25 continuous operation unless written permission to do otherwise
26 is granted by the department.

27 (b) Location.--Except as otherwise provided under subsection

28 (c), a main fan shall be:

29 (1) Located on the surface in fireproof housing offset
30 not less than 15 feet from the nearest side of the mine

1 opening.

2 (2) Equipped with fireproof air ducts provided with
3 explosion doors or a weakwall.

4 (3) Operated from a separate power circuit.

5 (c) Exception.--In lieu of the requirements for the location
6 of fans and pressure-relief facilities, a fan may be directly in
7 front of or over a mine opening if:

8 (1) The opening is not in direct line with possible
9 forces coming out of the mine if an explosion occurs.

10 (2) There is another opening having a weakwall stopping
11 or explosion doors that would be in direct line with forces
12 coming out of the mine.

13 All main fans shall be provided with pressure-recording gauges
14 or water gauges.

15 (d) Recordkeeping and inspections.--

16 (1) A record of the charts shall be kept for one year.

17 (2) A daily inspection shall be made of all main fans
18 and connected machinery by a competent ~~person~~ INDIVIDUAL and ←
19 a record kept of the inspection in a book prescribed for that
20 purpose.

21 (e) Warning of fan interruption.--Approved facilities shall
22 be provided at a point or points under observation while men are
23 in the mine and shall give warning of an interruption to a fan.
24 Where such facilities are not provided, an attendant shall be
25 constantly kept on duty while individuals are working in the
26 mine.

27 Section 238. Measurement of methane.

28 The mine foreman or superintendent shall once each week
29 direct and see that the methane content of the ventilating
30 current or currents is determined by analyses or by an

1 instrument capable of accuracy to .1%. The samples or the
2 determinations shall be taken on the return end of the air
3 circuit or circuits just beyond the last working place, unless
4 otherwise directed by the department, and a correct report of
5 these determinations shall be promptly furnished to the
6 department. The determinations or samples shall be taken on days
7 when individuals are working and recorded in a book provided for
8 that purpose.

9 Section 239. Control of coal dust and rock dusting.

10 (a) Method of removal.--

11 (1) Dangerous accumulations of fine, dry coal dust shall
12 be removed from a mine or neutralized by the application of
13 rock dust, and all dry and dusty operating sections and
14 haulageways and the back entries for at least 1,000 feet
15 outby the first active working place in each operating
16 section shall be kept watered down, rock dusted or dust
17 allayed by such other methods as may be approved by the
18 department.

19 (2) A mine or location in a mine that is too wet or too
20 high in incombustible content to initiate or propagate a coal
21 dust ignition need not be rock dusted during the time any of
22 those conditions prevail.

23 (3) Coal dust and other dust in suspension in unusual
24 quantities shall be allayed by sprinkling or other dust
25 allaying or collecting devices.

26 (b) Specifications.--

27 (1) In a dry and dusty mine or section thereof, rock
28 dust shall be applied and maintained upon the roof, floor and
29 sides of all operating sections, haulageways and parallel
30 entries connected thereto by open crosscuts. Back entries

1 shall be rock dusted for at least 1,000 feet out by the
2 junction with the first active working place.

3 (2) Rock dust shall be so applied to include the last
4 open crosscut of rooms and entries and to within 40 feet of
5 the faces. In mines where mining is done by continuous-type
6 mining machinery, the distances from the face to which rock
7 dust shall be applied shall be the mining distance for one
8 shift if:

9 (i) The active working place shall be kept from damp
10 to wet.

11 (ii) After coal production on any shifts has ceased,
12 an application of rock dust shall be made in the exposed
13 area to within 40 feet of the face before additional
14 mining is performed in the area.

15 (3) Rock dust shall be maintained in such quantity that
16 the incombustible content of the mine dust shall not be less
17 than 65%.

18 (c) Composition of rock dust.--Rock dust shall not contain
19 more than 5% by volume of quartz or free silica particles and
20 shall be pulverized so that 100% will pass through a 20-mesh
21 screen and 70% or more will pass through a 200-mesh screen.

22 Section 240. Instruction of employees and examination of
23 working areas.

24 (a) General rule.--The mine foreman or assistant mine
25 foreman shall ascertain that all workmen are trained in the
26 proper methods of testing roof, face and ribs. The mine foreman
27 shall designate the tool or tools to be used for testing.

28 Employees whose work exposes them to hazards or falls of roof
29 and coal shall thoroughly test the roof, face and ribs before
30 starting to work or before starting a machine, and frequently

1 thereafter.

2 (b) Examination for date marks.--A miner shall examine his
3 place to determine whether the mine examiner has left the date
4 marks indicating his examination thereof. If date marks cannot
5 be found, the miner shall notify the mine foreman or assistant
6 mine foreman of that fact.

7 (c) Correction of unsafe roof, face or rib conditions.--

8 (1) If roof, face or rib conditions are found to be
9 unsafe, they shall be corrected by taking down loose material
10 or shall be securely supported before work is started.

11 (2) If roof, face or rib conditions are found to be
12 unsafe and normal taking down or supporting practices cannot
13 correct the unsafe condition, the place shall be vacated and
14 guarded or a danger sign erected to prevent unauthorized
15 entrance and the certified mine official in charge promptly
16 shall be notified. Only individuals capable of correcting the
17 dangerous condition may be delegated to do such work.

18 (3) The certified mine official in charge shall examine
19 for unsafe conditions and the roof, faces, ribs and timbers
20 or supports of all working places each time they visit a
21 place. Unsafe conditions found shall be corrected promptly.
22 All employees shall notify the mine foreman or assistant mine
23 foreman of an unsafe condition in the mine when the condition
24 is known to them.

25 Section 241. Roof support.

26 (a) General rule.--The roof in an underground area shall be
27 supported as necessary for the protection of the employees and
28 equipment. A roof control plan suitable to the roof conditions
29 of each mine or part of a mine shall be adopted and complied
30 with by the operator. The department shall be notified of the

1 adoption of the plan of roof support, shall review the plan and:

2 (1) approve it;

3 (2) request additional information; or

4 (3) disapprove the plan and state in writing its reason
5 for the disapproval.

6 (b) Roof support plans to be posted.--Workmen whose work
7 involves roof support shall be informed of approved roof support
8 plans and the plans shall be posted. Additional roof supports
9 shall be used when and where necessary.

10 (c) Periodic revision and update of roof control plan.--
11 Every mine operator shall revise and update the roof control
12 plan every six months or more frequently if required to do so by
13 the department. A copy of the plan shall be provided to the
14 representative of the miners ten days prior to submitting it to
15 the department for review and comment.

16 Section 242. Authorized explosives.

17 Permissible explosives, approved breaking devices or approved
18 blasting devices shall be used in underground mines.

19 Section 243. (Reserved).

20 Section 244. Underground storage of explosives.

21 (a) Placement.--Explosives and detonators stored underground
22 shall be:

23 (1) Kept in section boxes or magazines of substantial
24 construction with no metal exposed on the inside.

25 (2) Located at least 25 feet from roadways and power
26 wires in a well-rock-dusted location protected from falls of
27 roof.

28 (b) Separation.--If not kept in separate boxes or magazines
29 not less than five feet apart, the explosives and detonators may
30 be kept in the same box or magazine if separated by at least a

1 four-inch hardwood partition or the equivalent. The boxes or
2 magazines shall be kept at least 300 feet from the faces and out
3 of the direct line of blasting and shall be installed outby the
4 last permanent stopping and on intake air.

5 Section 245. Preparation of shots, blasting practices and
6 multiple shooting.

7 (a) Requirements.--

8 (1) Only certified shot-firers shall be permitted to
9 handle explosives and conduct blasting.

10 (2) Only electric detonators of proper strength fired
11 with approved shot-firing units shall be used, and drillholes
12 shall be solidly stemmed with at least 24 inches of
13 incombustible material or at least one-half of the length of
14 the hole shall be solidly stemmed if the hole is less than
15 four feet in depth unless other approved stemming devices or
16 methods are used.

17 (3) Drillholes shall be of ample size and shall not be
18 drilled beyond the limits of the cut, and, as far as
19 practicable, cuttings and dust shall be cleaned from the
20 holes before the charge is inserted. Charges of explosives
21 exceeding one and one-half pounds shall be used only if
22 drillholes are six feet or more in depth.

23 (4) Ample warning shall be given before shots are fired,
24 and care shall be taken to determine that all ~~persons~~ <—
25 INDIVIDUALS are in the clear before firing. Individuals shall <—
26 be removed from adjoining areas and other areas when there is
27 danger of shots blowing through.

28 (5) No shots shall be fired:

29 (i) In any area until the area has been properly
30 examined by the shot-firer.

1 (ii) In any area where 1% of gas is detected by an
2 approved gas detection device.

3 (6) After firing any shot, the shot-firer shall make a
4 careful examination of the work area before leaving the area
5 or before performing any other work in the area.

6 (b) Plan to be submitted to department.--An operator of a
7 mine who desires to conduct multiple shooting shall submit to
8 the department for approval a plan indicating the manner and
9 details proposed to engage in multiple shooting.

10 (c) Prohibitions.--

11 (1) While boreholes are being charged, electrical
12 equipment shall not be operated in the work area, and only
13 work in connection with roof support and general safety shall
14 be performed. Shots shall be fired promptly after charging.

15 (2) Mudcaps, adobes or any other unconfined shots shall
16 not be permitted in any bituminous coal mine.

17 (3) No solid shooting shall be permitted without
18 approval from the department. Where solid shooting is
19 practiced, blasting holes shall be stemmed the full length of
20 the hole.

21 (e) Blasting and shooting cables.--

22 (1) Blasting cables shall be well-insulated and shall be
23 at least 125 feet in length to permit ~~persons~~ INDIVIDUALS ←
24 authorized to fire shots to get in a safe place out of the
25 line of blasting.

26 (2) Shooting cables shall be kept away from power wires
27 and all other sources of electric current, connected to the
28 leg wires by the ~~person~~ INDIVIDUAL who fires the shot, ←
29 staggered as to length or well-separated at the detonator leg
30 wires and shunted at the battery end until ready to connect

1 to the blasting unit.

2 (3) Detonator leg wires shall be kept shunted until
3 ready to connect to the blasting cable.

4 Section 246. Transportation of explosives.

5 (a) Construction of containers.--

6 (1) Individual containers used to carry permissible
7 explosives or detonators shall be constructed of substantial,
8 nonconductive materials approved by the department, kept
9 closed and maintained in good condition. When explosives or
10 detonators are transported underground in cars moved by means
11 of powered haulage equipment, they shall be in cars having a
12 substantial covering or in special substantially built
13 covered containers used specifically for transporting
14 detonators or explosives.

15 (2) Explosives or detonators shall not be hauled into or
16 out of the mine within five minutes preceding or following
17 individuals being transported.

18 (b) Prohibitions.--

19 (1) Neither explosives nor detonators shall be
20 transported on flight or shaking conveyors, mechanical
21 loading machines, locomotives, scrapers, cutting machines,
22 drill trucks or any self-propelled mobile equipment.

23 (2) No shot-firer shall carry into or have delivered to
24 him any larger quantity of explosives or detonators than the
25 shot-firer may reasonably expect to use in any one shift.

26 (c) Separation of explosives and detonators.--If explosives
27 and detonators are transported in the same explosives car or in
28 the same special container, they shall be separated by at least
29 four inches of hardwood partition or the equivalent. The bodies
30 of the cars or containers shall be constructed or lined with

1 nonconductive material.

2 Section 247. Electrical shot-firing.

3 Electricity from any grounded circuit shall not be used for
4 firing shots.

5 Section 248. General shot-firing rules.

6 (a) Ignited gas.--When gas is ignited by a blast or a fire
7 occurs, the shot-firer shall immediately extinguish it, if
8 possible, and if unable to do so shall immediately notify the
9 mine foreman of the fact and warn other ~~persons~~ INDIVIDUALS in <—
10 the vicinity who might be endangered.

11 (b) Shot-firer to provide notice to others.--When a shot-
12 firer is about to fire a blast, he shall notify all ~~persons~~ <—
13 INDIVIDUALS who may be endangered and shall give sufficient <—
14 alarm so that any ~~person~~ INDIVIDUAL approaching may be warned of <—
15 the danger.

16 (c) Construction of charging and tamping tools.--All
17 charging and tamping tools shall be constructed of nonsparking
18 materials.

19 (d) Disconnection from electricity.--Immediately after the
20 firing of a shot, the firing leads shall be disconnected from
21 the supply or source of electricity and shunted.

22 (e) Preconditions to firing machine or battery.--No firing
23 machine or battery shall be connected to the shot-firing leads
24 unless:

25 (1) All other steps preparatory to the firing of a shot
26 have been completed.

27 (2) All ~~persons~~ INDIVIDUALS have been moved to a place <—
28 of safety.

29 (3) No ~~person~~ INDIVIDUAL other than the shot-firer has <—
30 made the connection.

1 (f) Firing machine or battery in possession of shot-firer.--
2 The shot-firer shall keep the firing machine or battery in his
3 possession at all times while blasting.

4 (g) Testing of blasting devices.--Frequent tests shall be
5 made of all blasting devices to see that their capacity has not
6 been decreased by use or accident.

7 (h) Examinations for gas.--The shot-firer shall examine the
8 place for gas and other dangers before and after firing each
9 shot or blast.

10 Section 249. Hoisting equipment and operations.

11 (a) General duties of operator or superintendent.--

12 (1) The operator or superintendent of a bituminous coal
13 mine worked by shaft shall provide and maintain:

14 (i) A telephone or other means of communication from
15 the top to the bottom and intermediate landings of the
16 shaft.

17 (ii) A standard means of signaling.

18 (iii) An effective safety catch, bridle chains,
19 automatic stopping device and automatic overwind.

20 (iv) A sufficient cover on every cage used for
21 lowering or hoisting ~~persons~~ INDIVIDUALS. <—

22 (v) An effective safety gate at the top of the cage
23 shaft and intermediate landings controlled by the cage.

24 (vi) An adequate brake on the drum of every machine
25 used to lower or hoist ~~persons~~ INDIVIDUALS in the shaft. <—

26 (2) The operator shall have the machinery used for
27 lowering and hoisting ~~persons~~ INDIVIDUALS into or out of the <—
28 mine kept in safe condition and equipped with a reliable
29 indicator. Cages and elevators shall be inspected once in
30 each 24 hours by a competent ~~person~~ INDIVIDUAL of the company <—

1 or by a manufacturer's representative and a safety catch test
2 made every two months, a record kept thereof and a copy sent
3 to the ~~mine inspector~~ DEPARTMENT. ←

4 (3) (i) Where a hoisting engineer is required, he shall
5 be readily available at all times when individuals are in
6 the mine. The hoisting engineer shall operate the empty
7 cage up and down the shaft at least one round trip at the
8 beginning of each shift, after material has been lowered
9 or hoisted and after the hoist has been idle for one hour
10 or more before hoisting or lowering individuals.

11 (ii) Subparagraph (i) shall not apply to elevators
12 used exclusively for hoisting and lowering individuals.

13 (4) There shall be cut out around the side of the
14 hoisting shaft, or driven through the solid strata at the
15 bottom thereof, a travelingway not less than five feet high
16 and three feet wide to enable ~~a person~~ AN INDIVIDUAL to pass ←
17 the shaft in going from one side to the other without passing
18 over or under the cage or other hoisting apparatus.

19 (5) Positive stop blocks or derails shall be placed near
20 the top and bottom, at all intermediate landings of slopes
21 and surface inclines and at approaches to all shaft landings.

22 (6) A waiting station with sufficient room, ample
23 clearance from moving equipment and adequate seating
24 facilities shall be provided where individuals are required
25 to wait for man-trips or cages. The individuals shall remain
26 in the station until the man-trip or cage is available.

27 (7) No hoisting engineer shall be required for
28 automatically operated cages or elevators.

29 (b) Duties of mine foreman.--

30 (1) When hoisting or lowering of individuals occurs

1 during darkness, at any mine operated by shaft, the mine
2 foreman shall provide and maintain, at the shaft mouth, a
3 light of stationary character sufficient to show the landing
4 and all surrounding objects distinctly and sufficient light
5 of a stationary character shall be located at the bottom of
6 the shaft so that ~~persons~~ INDIVIDUALS going to the bottom may ←
7 clearly discern the cages, elevators and other objects
8 contiguous thereto.

9 (2) The mine foreman shall see that:

10 (i) No cages or elevators on which individuals ride
11 are lifted or lowered at a rate of speed greater than 900
12 feet per minute.

13 (ii) No mine cars, either empty or loaded, are
14 hoisted or lowered on cages while individuals are being
15 lowered or hoisted.

16 (iii) No cage having an unstable self-dump platform
17 shall be used for carrying individuals unless the cage is
18 provided with some device by which it may be securely
19 locked when individuals are being hoisted or lowered into
20 the mine.

21 (c) Ropes, links and chains.--

22 (1) In shafts where coal is hoisted and individuals
23 lowered into or hoisted from the mine, the ropes, links and
24 chains shall be of ample strength, with a factor of safety of
25 not less than five to one of the maximum load.

26 (2) In shafts used exclusively for lowering or hoisting
27 individuals and material, the factor of safety of ropes,
28 links and chains shall not be less than ten to one of the
29 maximum load.

30 (3) All ropes, links and chains shall be carefully

1 examined at least once every 24 hours by a competent ~~person~~ <—
2 INDIVIDUAL delegated for that purpose by the superintendent. <—

3 (4) Any defect found from the examination, by which life
4 and limb may be endangered, shall be reported at once in
5 writing to the superintendent, who shall immediately proceed
6 to remedy the defect. Until that is accomplished, the
7 superintendent shall prohibit any ~~person~~ INDIVIDUAL from <—
8 being lowered into or hoisted from the mine by the defective
9 apparatus.

10 (5) The ~~person~~ INDIVIDUAL making the examination shall <—
11 keep a daily record of each inspection, in ink, in a book
12 kept at the mine office for that purpose.

13 (d) Cage requirements.--

14 (1) (i) The operator or superintendent shall provide
15 every cage used for lowering or hoisting ~~persons~~ <—
16 INDIVIDUALS with handrails at sides or overhead or <—
17 additional suitable devices and with a bar or gate at
18 ends.

19 (ii) Subparagraph (i) shall not apply to elevators
20 used exclusively for lowering and hoisting individuals.

21 (2) The ropes shall be securely attached to the sides of
22 the drum of every machine that is used for lowering and
23 hoisting ~~persons~~ INDIVIDUALS or material into and out of the <—
24 mine, and the flanges shall have a clearance of not less than
25 four inches when the whole of the rope is wound on the drum.

26 (e) Signaling system.--

27 (1) In all shafts and slopes where ~~persons~~ INDIVIDUALS, <—
28 coal and other materials are hoisted by machinery, a system
29 of signaling approved by the department shall be in effect.

30 The following code of signals shall be used:

- 1 (i) One signal to hoist the car or cage.
- 2 (ii) One signal to stop the car or cage when in
3 motion.
- 4 (iii) Two signals to lower the car or cage.
- 5 (iv) Three signals to hoist ~~persons~~ INDIVIDUALS. <—
- 6 (2) The hoist operator shall signal back when ready,
7 after which the ~~person~~ INDIVIDUAL shall get on the car or <—
8 cage and then one signal shall be given to hoist.
- 9 Section 250. Bottom person.
- 10 (a) Duties.--At every shaft or slope where ~~persons~~ <—
11 INDIVIDUALS are lowered into or hoisted from the mine, a bottom <—
12 person, who shall be over 21 years of age, shall be designated
13 by the mine foreman. The bottom person shall:
- 14 (1) Be on duty when individuals are being hoisted or
15 lowered at the beginning and end of each shift.
- 16 (2) Personally attend to the signals and see that the
17 provisions of this act in respect to hoisting ~~persons~~ <—
18 INDIVIDUALS in shafts or slopes are complied with. <—
- 19 (3) Not allow any tools to be placed on the same cage
20 with ~~persons~~ INDIVIDUALS or on either cage when they are <—
21 being hoisted out of the mine, except for the purpose of
22 repairing the shaft or machinery in the shaft. Individuals
23 shall place their tools in containers or cars provided for
24 that purpose, which containers or cars shall be hoisted
25 before or after the individuals have been hoisted.
- 26 (4) Immediately inform the mine foreman of any
27 violation.
- 28 (5) Not attempt to withdraw the car until the cage comes
29 to a rest.
- 30 (6) When putting the full car on the cage, see that the

1 springs or catches are properly adjusted so as to keep the
2 car in its proper place, before giving the signal to the
3 hoist operator.

4 (b) When bottom person not required.--No bottom person shall
5 be required for automatically operated cages or elevators.

6 Section 251. Number of ~~persons~~ INDIVIDUALS to be hoisted. <—

7 (a) General rule.--No greater number of ~~persons~~ INDIVIDUALS <—
8 shall be lowered or hoisted at any one time in any shaft or
9 slope than is permitted by the department. Whenever the number
10 of ~~persons~~ INDIVIDUALS returning from work shall arrive at the <—
11 bottom of the shaft or slope in which ~~persons~~ INDIVIDUALS are <—
12 regularly hoisted or lowered, they shall be promptly furnished
13 with an empty cage, car or elevator and be hoisted to the
14 surface. In cases of emergency, a lesser number than permitted
15 shall be promptly hoisted.

16 (b) Posting of notice.--A notice of the number permitted to
17 be lowered or hoisted at any one time shall be posted by the
18 operator or superintendent in conspicuous places at the top and
19 bottom of the shaft, and the cage or cages or other safe means
20 of egress shall be available at all times for the ~~persons~~ <—
21 INDIVIDUALS employed in any mine that has no second outlet <—
22 available.

23 Section 252. Top person.

24 (a) Duties.--At every shaft or slope where ~~persons~~ <—
25 INDIVIDUALS are lowered into or hoisted from a mine, a top <—
26 person or trip rider, who shall be over 21 years of age, shall
27 be designated by the superintendent. The top person shall:

28 (1) Be on duty when individuals are being hoisted or
29 lowered at the beginning and end of each shift.

30 (2) Personally attend to the signals and see that the

1 provisions of this act in respect to lowering and hoisting
2 ~~persons~~ INDIVIDUALS in shafts or slopes are complied with. ←
3 The trip rider may also perform this duty.

4 (3) Not allow any tools to be placed on the same cage
5 with persons or on either cage when persons are being lowered
6 into the mine, except for the purpose of repairing the shaft
7 or the machinery in the shaft. Individuals shall place their
8 tools in containers or cars provided for that purpose, which
9 containers or cars shall be lowered before or after the
10 individuals have been lowered.

11 (4) If located on a slope or incline plane, close the
12 safety block or other device as soon as the cars have reached
13 the landing in order to prevent any loose or runaway cars
14 from descending the slope or incline plane, and in no case
15 shall the safety block or other device be withdrawn until the
16 cars are coupled to the rope or chain and the proper signal
17 given.

18 (5) Carefully inspect each day all the machinery in and
19 about the headframe and the rope used, promptly report to the
20 superintendent any defect discovered and securely attach the
21 cars to the rope before lowering them down the incline.

22 (6) Ring the alarm bell in case of an accident and, when
23 necessary, immediately set free the drop logs or safety
24 switch to act.

25 (7) If located in a shaft, see that the springs or keeps
26 for the cage rest upon and are kept in good working order.

27 (8) When taking off the full car, see that no coal or
28 other material falls down the shaft.

29 (b) When top person not required--No top person shall be
30 required for automatically operated cages or elevators.

1 (c) Reporting of ~~persons crowding or pushing.~~ Any person <—
2 INDIVIDUALS CROWDING OR PUSHING.--ANY INDIVIDUAL crowding or <—
3 pushing to get on or off a cage, elevator or car, thereby
4 endangering life, shall be reported by any ~~person~~ INDIVIDUAL to <—
5 the superintendent, who in turn shall report the incident to the
6 department for appropriate action.

7 Section 253. Use of competent hoist operators.

8 (a) Prohibitions.--

9 (1) No operator or superintendent of any bituminous coal
10 mine worked by shaft, slope or incline shall place in charge
11 of any hoist used for lowering or hoisting ~~persons~~ <—
12 INDIVIDUALS in the mine competent hoisting operators who are <—
13 under 21 years of age.

14 (2) No hoist operator in charge of such machinery shall
15 allow any ~~person~~ INDIVIDUAL, except as may be designated for <—
16 this purpose by the operator or superintendent, to interfere
17 with any part of the machinery.

18 (3) No ~~person~~ INDIVIDUAL shall interfere with or <—
19 intimidate the hoist operator in the discharge of the duties
20 of the hoist operators.

21 (4) No ~~person~~ INDIVIDUAL shall ride on a loaded cage or <—
22 car in any shaft, slope or incline. This paragraph shall not
23 be construed to prevent a trip rider from riding during the
24 performance of his authorized duties.

25 (b) Special precautions.--When individuals are being lowered
26 or raised, the hoist operator shall take special precautions to
27 keep the hoist well under control.

28 Section 254. Clearances and shelter holes.

29 (a) Specifications for clearances.--

30 (1) Track switches, except room and entry development

1 switches, shall be provided with properly installed throws,
2 bridle bars and guard rails.

3 (2) Switch throws and stands, where possible, shall be
4 placed on the clearance side.

5 (3) Haulage roads shall have a continuous unobstructed
6 clearance of at least 30 inches from the widest extension of
7 regular coal transportation equipment on the clearance side.
8 On haulage roads where trolley lines are used, the clearance
9 shall be on the side opposite the trolley lines. The
10 clearance space on all haulage roads shall be kept free of
11 loose rock, coal, supplies or other materials, provided that
12 not more than 30 inches need be kept free of such
13 obstructions.

14 (4) Ample clearance shall be provided at all points
15 where supplies are loaded or unloaded along haulage roads or
16 conveyors.

17 (b) Specifications for shelter holes.--

18 (1) (i) Shelter holes shall be provided on the
19 clearance side along designated travelways, which are
20 also used as haulage entries, other than belt conveyor
21 haulage entries.

22 (ii) Subparagraph (i) shall not apply to face area
23 or room haulageways.

24 (2) Shelter holes shall be spaced not more than 105 feet
25 apart unless otherwise approved by the department. Shelter
26 holes shall be at least five feet in depth, not more than
27 four feet in width, level with the roadway and at least four
28 feet in height.

29 (3) Crosscuts may be used as shelter holes even though
30 their width exceeds four feet and they shall be kept clear

1 for a depth of at least six feet.

2 (4) Shelter holes shall be kept clear of refuse and
3 other obstructions.

4 (5) Shelter holes shall be provided at switch throws and
5 at manually operated permanent doors.

6 Section 255. Underground haulage equipment.

7 (a) Maintenance.--Underground haulage equipment shall be
8 maintained in a safe operating condition. An audible warning
9 device and headlights shall be provided on each locomotive and
10 each shuttle car. Rerailing devices shall be provided on all
11 locomotives.

12 (b) Warnings to be sounded.--Operators of haulage equipment
13 shall sound a warning on approaching curves, intersections,
14 doors, curtains, manway crossings or any other location where
15 ~~persons~~ INDIVIDUALS are likely to travel. ←

16 Section 256. Operation of haulage equipment.

17 (a) Duties of motormen and trip riders.--Motormen and trip
18 riders shall:

19 (1) Use care in handling locomotives and cars.

20 (2) See that the entire trip is coupled before starting.

21 (3) See that there is a conspicuous light or other
22 device approved by the department, properly maintained, on
23 the front and rear of each trip or train of cars when in
24 motion.

25 (b) Prohibitions.--

26 (1) No ~~person~~ INDIVIDUAL shall ride on locomotives ←
27 unless granted permission by the mine foreman.

28 (2) No ~~person~~ INDIVIDUAL shall ride on any loaded car or ←
29 on the outside of any car.

30 (3) No motorman or trip rider shall get on or off a

1 locomotive while it is in motion.

2 (4) No ~~person~~ INDIVIDUAL shall fly or run switches or ←
3 ride on the front bumper of a car. Back poling shall be
4 permitted only to the nearest turning point or when going up
5 extremely steep grades and then only cautiously and at slow
6 speed. The operator of a shuttle car shall face in the
7 direction of travel except during the loading operation when
8 he may face the loading machine.

9 (c) Duties of motormen.--Motormen shall:

10 (1) See that properly maintained safety devices are
11 placed on the last car of any trip being hauled upgrade, as
12 designated by the mine foreman and approved by the
13 department, on the front and rear of each trip or train of
14 cars when in motion.

15 (2) Inspect locomotives and report any mechanical
16 defects found to the proper mine official prior to operation.
17 The locomotive may not be operated until the defects are
18 corrected.

19 (3) If there is reason to leave a trip, see that the
20 trip is left in a safe place, secure from cars, locomotives
21 or other dangers and where it will not endanger the operators
22 of other trips or other ~~persons~~ INDIVIDUALS. ←

23 (d) System of signals, methods or devices.--A system of
24 signals, methods or devices shall be used to provide protection
25 for trips, locomotives and other equipment coming out onto
26 tracks used by other equipment. Where a dispatcher is employed
27 to control trips, traffic shall move only at his direction.

28 Section 257. Trip rider and hooker-on on rope haulage.

29 (a) Duties of trip rider.--The trip rider shall see that all
30 hitchings are safe for use and that the trip is coupled before

1 starting. If at any time the trip rider sees any material defect
2 in the rope, link or chain, he shall immediately remedy the
3 defect or, if he is unable to do so, shall detain the trip and
4 report the matter to the mine foreman or the assistant.

5 (b) Duties of hooker-on.--The hooker-on at the bottom of any
6 slope shall see that cars are properly coupled to a rope or
7 chain and that the safety catch or other device is properly
8 attached to the rear car before giving the signal to the
9 hoisting operator. The hooker-on shall not allow any ~~person~~ <—
10 INDIVIDUAL to ride up the slope other than the trip rider. <—

11 Section 258. Transportation of individuals.

12 (a) General rule.--The speed of mantrips shall be governed
13 by the mine foreman, and mantrips shall be operated at safe
14 speeds consistent with the condition of roads and type of
15 equipment used. Each mantrip shall be under the charge of a
16 competent ~~person~~ INDIVIDUAL designated by the mine foreman or <—
17 the assistant mine foreman and operated independently of any
18 loaded trip of coal or other heavy material, but may transport
19 tools, small machine parts and supplies.

20 (b) Prohibition.--No ~~person~~ INDIVIDUAL shall: <—

21 (1) Ride under the trolley wire unless suitable covered
22 mantrips are used.

23 (2) Load or unload before the cars in which they are to
24 ride or are riding come to a full stop. Individuals shall
25 proceed in an orderly manner to and from mantrips.

26 (c) Adequate clearance and proper illumination.--Adequate
27 clearance and proper illumination shall be provided where
28 individuals load or unload mantrips.

29 (d) Adequate precautions.--Adequate precautions shall be
30 taken so that moving trips and standing cars are subject to

1 proper control by derailing or braking devices.

2 Section 259. Conveyor belts and conveyor equipment.

3 (a) Specifications.--

4 (1) Except as otherwise provided under paragraph (2),
5 all conveyor entries shall be provided with a minimum width
6 and height of not less than four feet for travel and, in
7 conveyor entries in which track is installed, the minimum
8 amount of clearance width shall not be less than two and one-
9 half feet, which clearance width shall be continuous
10 throughout the entry.

11 (2) In lieu of maintaining four feet of height in
12 conveyor entries, a minimum height of three feet and a
13 minimum width of four feet may be maintained, provided the
14 operator furnishes a mode of conveyance for men and material
15 other than on the conveyor. All such travel space and
16 clearance space shall be kept free of all forms of
17 obstruction underfoot and from electric wires and electric
18 cables. A space of not less than four feet in width shall be
19 provided for travel from the immediate entrance of each
20 working place to the face thereof, which space shall be kept
21 free of all forms of obstruction underfoot and free from
22 electric wires and electric cables.

23 (b) Cross points.--At all points where individuals must of
24 necessity cross conveyors, the conveyor at the point where the
25 crossing is made shall be so arranged that individuals can cross
26 safely and conveniently without coming into contact with the
27 conveyor.

28 (c) Automatic stop control.--Conveyors shall be equipped
29 with an automatic control that will stop the driving motor in
30 case of slipping on the drive pulley, and the control shall be

1 tested each operating shift to ascertain that it is in good
2 operating condition.

3 (d) Electric wires and cables.--All electric wires or
4 electric cables in completed portions of conveyor entries shall
5 be carried on insulators.

6 (e) Control lines.--Control lines shall be installed the
7 full length of the belt.

8 ~~(g)~~ (F) Point type heat sensors.--Point type heat sensors ←
9 shall not be used as the primary type of fire sensors in any
10 mine opened more than six months after the effective date of
11 this section.

12 Section 260. Blowtorches and fuel.

13 No blowtorch may be used in a mine.

14 Section 261. Oxygen and gas containers.

15 (a) General rule.--A substantial insulated container
16 provided with a cover and specially designed for safe
17 transportation of the cylinders shall be used in transporting
18 oxygen and gas tanks or cylinders in all bituminous coal mines.

19 (b) Identification.--All oxygen and gas tanks or cylinders
20 shall be clearly identified.

21 Section 262. Transportation of oxygen and gas.

22 (a) General rule.--Transportation of oxygen and gas tanks or
23 cylinders shall be permitted on self-propelled machinery or belt
24 conveyors specially equipped for safe holding of the containers
25 in transportation. In no instance shall such transportation be
26 permitted in conjunction with any mantrip.

27 (b) Marking of empty tanks and cylinders.--Empty oxygen and
28 gas tanks or cylinders shall be marked "empty" and shall be
29 removed from the mine promptly in proper containers. The valve
30 protection caps shall be placed on all tanks or cylinders for

1 which caps are provided when not in use and when being
2 transported. No oxygen and gas tanks or cylinders shall be
3 transported with the hoses and gauges attached.

4 (c) Identification of tanks and cylinders.--All oxygen and
5 gas tanks or cylinders shall be clearly identified.

6 Section 263. Storage of oxygen and gas.

7 (a) General rule.--All oxygen and gas tanks or cylinders
8 shall be properly secured and protected against possible damage
9 when stored in and about bituminous coal mines. When oxygen and
10 gas tanks or cylinders are stored in underground shops or
11 surface structures, they shall be protected from damage by
12 falling material and secured in an upright position. Not more
13 than a one-week supply of oxygen or gas shall be stored in any
14 underground or surface shop. This quantity shall be determined
15 in agreement with the department.

16 (b) Valves and hoses.--The valves on oxygen and gas tanks or
17 cylinders shall be closed. The hoses shall be removed when not
18 in actual use, except in a properly ventilated and protected
19 underground machine shop or surface structure. Valves on empty
20 tanks or cylinders shall be kept closed.

21 Section 264. Use of oxygen and gas.

22 (a) General rule.--Oxygen and gas tanks or cylinders and
23 their contents must be used solely for their intended purposes.

24 (b) Training and clothing.--~~A person~~ AN INDIVIDUAL assigned <—
25 to use and work with oxygen or gas shall be properly trained and
26 skilled in its use and shall be fully conversant with the danger
27 of its misuse. Any ~~person~~ INDIVIDUAL using oxygen or gas in and <—
28 about a bituminous coal mine shall be provided with goggles or
29 shields, and the clothing of such ~~person~~ INDIVIDUAL shall be <—
30 reasonably free of oil and grease.

1 (c) Lighting of torches.--Only a safe type of spark-lighter
2 shall be used for lighting torches. The use of matches,
3 cigarette lighters, electric arcs or hot metal to light or
4 relight a torch is prohibited.

5 (d) Maintenance.--The oxygen or gas hose lines, gauges and
6 similar equipment shall be maintained in safe operating
7 condition. Defective tanks, cylinders, gauges, hose lines,
8 torches and similar equipment shall be taken out of service upon
9 discovery and shall not be put into use until corrected and made
10 safe.

11 (e) Multiple units permitted.--

12 (1) Multiple units consisting of one gas tank and one
13 oxygen tank are permitted in a working section when
14 necessary. When not in use, the tanks shall be removed to a
15 point outby the last open crosscut and kept away from power
16 wires and electric equipment. A proper storage area must be
17 provided.

18 (2) This subsection does not apply to oxygen tanks used
19 to provide breathable air in the event of an emergency.

20 (f) Pressure.--Neither oxygen nor gas shall be used under
21 direct pressure from tanks or cylinders but must be used under
22 reduced pressure not exceeding pressures recommended by the
23 manufacturer of the oxygen or gas.

24 (g) Working sections.--Oxygen or gas cutting, burning or
25 welding shall be done in fresh intake air only in working
26 sections. The area where the work is to be done shall be
27 examined by a mine official before, during and after the welding
28 or burning to assure that no fire or other danger exists. In the
29 event the equipment to be repaired cannot be removed from the
30 face area to outby the last open crosscut, the following shall

1 be satisfied:

2 (1) Fresh intake air shall be established to a point
3 inby where the cutting or welding is to be performed.

4 (2) An approved gas detection device shall be used by a
5 mine official for gas detection during the cutting and
6 welding operation.

7 (3) No ~~person~~ INDIVIDUAL shall be permitted inby the
8 point in the working section where cutting or welding
9 operations are being performed.

<—

10 (h) Safety requirements.--

11 (1) When oxygen or gas cutting, burning or welding is
12 being done, a suitable fire extinguisher shall be kept on
13 hand and ready for use. In dry or dusty locations, a water
14 line and tap under pressure or an adequate supply of rock
15 dust shall be available in the area where such work is
16 performed.

17 (2) Neither oxygen nor gas shall be used near oil,
18 grease or fine coal dust unless the oil, grease or fine coal
19 dust is adequately cleaned or made inert by the use of rock
20 dust or the area where the work is to be done is thoroughly
21 wetted.

22 (i) Intake air activity.--Oxygen or gas cutting, burning or
23 welding shall be done in intake air only. Underground shops
24 where oxygen gas burning occurs shall be on a separate split of
25 air.

26 (j) Tests for leaks.--Tests for leaks on hose valves or
27 gauges shall be made only with a soft brush and soapy water or
28 soapsuds.

29 (k) Torch-tip cleaners.--An efficient and proper type torch-
30 tip cleaner shall be kept on hand and used to maintain each

1 torch in safe operating condition. A suitable wrench designed
2 for oxygen and gas tanks shall be in the possession of the
3 ~~person~~ INDIVIDUAL authorized to use the equipment. ←

4 (l) Manifolding cylinders.--The practice known as
5 "manifolding cylinders" shall be permitted if the installation
6 is solidly grounded and operation thereof is in accordance with
7 recognized safe procedures.

8 (m) Protection from power lines.--Oxygen and gas tanks or
9 cylinders shall be protected from power lines or energized
10 electrical machinery or equipment, and such tanks or cylinders
11 shall be kept away from the place where the cutting is being
12 done in order to prevent damage or accident and to prevent heat
13 from affecting such tanks or cylinders.

14 Section 265. Duties of ~~persons~~ INDIVIDUALS subject to this act. ←

15 It shall be the duty of each operator, superintendent, mine
16 foreman, assistant mine foreman and mine examiners and other
17 officials to comply with and to see that others comply with the
18 provisions of this act. It shall be the duty of all employees to
19 comply with this act and to cooperate with management and the
20 department in carrying out its provisions. Reasonable rules and
21 regulations of an operator for the protection of employees and
22 preservation of property that are in harmony with the provisions
23 of this act and other applicable laws shall be complied with.

24 Section 266. Protective clothing.

25 (a) Goggles.--Welders and helpers shall use proper shields
26 or goggles to protect their eyes. All employees shall have
27 approved goggles or eye shields and use them where there is a
28 hazard from flying particles or other eye hazards.

29 (b) Snug-fitting clothing.--Employees engaged in haulage
30 operations and all other ~~persons~~ INDIVIDUALS employed around ←

1 moving equipment on the surface and underground shall wear snug-
2 fitting clothing.

3 (c) Gloves.--Protective gloves shall be worn when material
4 which may injure hands is handled, but gloves with gauntlet
5 cuffs shall not be worn around moving equipment.

6 (d) Protective hats.--All ~~persons~~ INDIVIDUALS shall wear <—
7 protective hats while underground and while on the surface where
8 falling objects may cause injury.

9 (e) Protective footwear.--Protective footwear shall be worn
10 by employees, officials and others while on duty in and around a
11 bituminous coal mine.

12 Section 267. Checking systems.

13 Each bituminous coal mine shall have a check-in and check-out
14 system that will provide positive identification ~~upon the person~~ <—
15 of every individual underground. An accurate record of the
16 individuals in the mine, which shall consist of a written
17 record, a check board, a time clock record or another approved
18 method shall be kept on the surface in a place that will not be
19 affected in the event of an emergency. The record shall bear a
20 number or name identical to the identification check carried by
21 or fastened to the belt of all ~~persons~~ INDIVIDUALS going <—
22 underground.

23 Section 268. Prohibitions regarding endangering security of
24 mine.

25 (a) Prohibitions regarding ventilation.--No miner, worker or
26 other ~~person~~ INDIVIDUAL shall knowingly damage, obstruct or <—
27 remove any shaft, lamp, instrument, air course or other
28 equipment, obstruct or disrupt any portion of the mine's
29 ventilation, carry open lights, open a door closed for directing
30 ventilation and not close it again or enter any part of a mine

1 that has been damaged off. No ~~person~~ INDIVIDUAL shall deface, <—
2 pull down or destroy any notice boards, record books or mine
3 maps.

4 (b) Smoking prohibition.--Open lights, smoking and smokers'
5 articles, including matches, are prohibited in bituminous coal
6 mines. No ~~person~~ INDIVIDUAL shall at any time enter a mine with <—
7 or carry into the mine any matches, pipes, cigars, cigarettes or
8 any device for making lights or fire not approved. In all mines
9 the operator may search or cause to be searched any ~~person~~ <—
10 INDIVIDUAL, including his clothing and material belongings, <—
11 entering or about to enter the mine, or inside the mine, to
12 prevent such ~~person~~ INDIVIDUAL from taking or carrying into the <—
13 mine any of the articles prohibited by this subsection.

14 (c) Intoxicated ~~persons~~.--~~No person~~ INDIVIDUALS.--NO <—
15 INDIVIDUAL under the influence of alcohol or a controlled
16 substance shall enter into or loiter about any mine. No ~~person~~ <—
17 INDIVIDUAL shall have in his possession alcohol or controlled <—
18 substances while in or about the mine premises. This provision
19 shall not apply to the use of medication as prescribed for that
20 ~~person~~ INDIVIDUAL. <—

21 Section 269. Responsibility for care and maintenance of
22 equipment.

23 Equipment operators shall exercise reasonable care in the
24 operation of the equipment entrusted to them and shall promptly
25 report defects known to them.

26 Section 270. Control of dust and other inhalation hazards.

27 Individuals exposed for short periods to gas, dust, fume and
28 mist inhalation hazards shall wear approved respiratory
29 equipment. When exposure is for prolonged periods, dust shall be
30 controlled by the use of approved dust collectors or by water or

1 other approved methods.

2 Section 271. Safeguards for mechanical equipment.

3 (a) Locking.--The cutting devices of mining machines shall
4 be locked securely by mechanical means or electrical interlocks
5 while the machines are parked or being trammed. Loading machines
6 shall not be trammed with loading arms in motion except when
7 loading materials.

8 (b) Guarding.--Belt chain or rope drives and the moving
9 parts of machinery which are within seven feet of the floor,
10 ground or platform level, unless isolated, shall be guarded
11 adequately. Repair pits shall be kept covered or guarded at all
12 times when not in use. Machinery shall not be lubricated or
13 repaired while in motion, except where safe remote lubricating
14 devices are used. Machinery shall not be started until the
15 ~~person~~ INDIVIDUAL lubricating or repairing it has given a clear ←
16 signal. Guards that have been removed shall be replaced before
17 the machinery is again put into use. Provision shall be made to
18 prevent accumulation of spilled lubricants.

19 (c) Grinders.--Mechanically operated grinding wheels shall
20 be equipped with safety washers and substantial retaining hoods
21 covering two-thirds of the circumference of the wheel, and
22 goggles or eye shields shall be used. Where stationary grinders
23 are used, a tool rest shall be provided and the clearance
24 between the wheel and tool rest shall not exceed one thirty-
25 second of an inch.

26 Section 272. First aid equipment.

27 In every bituminous coal mine where individuals are employed
28 underground and in every active section of the mine, it shall be
29 the duty of the operator or superintendent of the mine to keep
30 on hand properly constructed stretchers, woolen and waterproof

1 blankets and all requisites for use in case of emergency. No
2 first aid material shall be removed or diverted without
3 authorization, except in case of accident in or about the mine.
4 It shall be the duty of the operator or superintendent to have
5 adequate ambulance service available promptly in the event of
6 injury to any employee.

7 Section 273. Fire protection.

8 (a) Firefighting equipment.--Each mine shall be provided
9 with suitable firefighting equipment adapted for the size and
10 conditions of the mine.

11 (b) Standards for firefighting equipment.--At a minimum,
12 firefighting equipment shall meet the following:

13 (1) Waterlines shall be capable of delivering 50 gallons
14 of water per minute at a nozzle pressure of 50 pounds per
15 square inch.

16 (2) A portable water car shall be of at least 1,000
17 gallons capacity and shall have at least 300 feet of fire
18 hose with nozzles. A portable water car shall be capable of
19 providing a flow through the hose of 50 gallons of water per
20 minute at a nozzle pressure of 50 pounds per square inch.

21 (3) A portable chemical car shall carry enough chemicals
22 to provide a fire extinguishing capacity equivalent to that
23 of a portable water car.

24 (4) A portable foam-generating machine or device shall
25 have facilities and equipment for supplying the machine with
26 30 gallons of water per minute at 30 pounds per square inch
27 for a period of 35 minutes.

28 (5) A portable fire extinguisher shall be either:

29 (i) A multipurpose dry chemical type containing a
30 nominal weight of five pounds of dry powder and enough

1 expellant to apply the powder.

2 (ii) A foam-producing type containing at least 2.5
3 gallons of foam-producing liquids and enough expellant to
4 supply the foam.

5 (6) Only fire extinguishers approved by the Underwriters
6 Laboratories, Inc., or Factory Mutual Research Corp.,
7 carrying appropriate labels as to the type and purpose shall
8 be used. All portable fire extinguishers shall have a 2A 10
9 BC or higher rating.

10 (7) The fire hose shall be lined with a flame-resistant
11 material. The cover shall be polyester or other material with
12 flame-spread qualities and mildew resistance equal or
13 superior to polyester. The bursting pressure shall be at
14 least four times the water pressure at the valve to the hose
15 inlet with the valve closed, and the maximum water pressure
16 in the hose nozzle shall not exceed 100 pounds per square
17 inch.

18 (c) Working sections.--

19 (1) Each working section of a mine producing 300 tons or
20 more per shift shall be provided with two portable fire
21 extinguishers and 240 pounds of rock dust in bags or other
22 suitable containers. Water lines shall extend to each section
23 loading point and be equipped with enough fire hose to reach
24 each working face unless the section loading point is
25 provided with one of the following:

26 (i) two portable water cars;

27 (ii) two portable chemical cars; or

28 (iii) one portable water car or one portable
29 chemical car, and either:

30 (A) a portable foam-generating machine; or

1 (B) a portable high-pressure rock-dusting
2 machine fitted with at least 250 feet of hose and
3 supplied with at least 60 bags of rock dust.

4 (2) Each working section of a mine producing less than
5 300 tons of coal per shift shall be provided with:

6 (i) Two portable fire extinguishers.

7 (ii) Two hundred and forty pounds of rock dust in
8 bags or other suitable containers.

9 (iii) At least 500 gallons of water and at least
10 three pails of ten-quart capacity. In lieu of the 500-
11 gallon water supply, a water line with sufficient hose to
12 reach the working places, a portable water car with a
13 500-gallon capacity or a portable all-purpose dry powder
14 chemical car of at least 125 pounds capacity may be
15 provided.

16 (d) Belt conveyors.--In all mines, water lines shall be
17 installed parallel to the entire length of belt conveyors and
18 shall be equipped with fire hose outlets with valves at 300-foot
19 intervals along each belt conveyor and at tailpieces. At least
20 500 feet of fire hose with fittings suitable for connection with
21 each belt conveyor water line system shall be stored at
22 strategic locations along the belt conveyor. Water lines may be
23 installed in entries adjacent to the conveyor entry belt as long
24 as the outlets project into the belt conveyor entry.

25 (e) Haulage tracks.--

26 (1) In a mine producing 300 tons of coal or more per
27 shift, water lines shall be installed parallel to all haulage
28 tracks using mechanized equipment in the track or adjacent
29 entry and shall extend to the loading point of each working
30 section. Water lines shall be equipped with outlet valves at

1 intervals of not more than 500 feet, and 500 feet of fire
2 hose with fittings suitable for connection with such water
3 lines shall be provided at strategic locations. Two portable
4 water cars, readily available, may be used in lieu of water
5 lines prescribed under this paragraph.

6 (2) In a mine producing less than 300 tons of coal per
7 shift, there shall be provided at 500-foot intervals in all
8 main and secondary haulage roads:

9 (i) a tank of water of at least 55-gallon capacity
10 with at least three pails of not less than ten-quart
11 capacity; or

12 (ii) not less than 240 pounds of bagged rock dust.

13 (f) Transportation.--Each track or off-track locomotive,
14 self-propelled mantrip car or personnel carrier shall be
15 equipped with one portable fire extinguisher.

16 (g) Electrical installations.--

17 (1) Two portable fire extinguishers or one extinguisher
18 having at least twice the minimum capacity specified for a
19 portable fire extinguisher specified in subsection (b)(5)
20 shall be provided at each permanent electrical installation.

21 (2) One portable fire extinguisher and 240 pounds of
22 rock dust shall be provided at each temporary electrical
23 installation.

24 (h) Oil storage stations.--Two portable fire extinguishers
25 and 240 pounds of rock dust shall be provided at each permanent
26 underground oil storage station. One portable fire extinguisher
27 shall be provided at each working section where 25 gallons or
28 more of oil is stored in addition to extinguishers required
29 under subsection (c).

30 (i) Welding, cutting and soldering.--One portable fire

1 extinguisher or 240 pounds of rock dust shall be provided at
2 locations where welding, cutting or soldering with arc or flame
3 is being done.

4 (j) Power lines.--At each wooden door through which power
5 lines pass, there shall be one portable fire extinguisher or 240
6 pounds of rock dust within 25 feet of the door on the intake air
7 side.

8 (k) Emergency materials.--

9 (1) At a mine producing 300 tons of coal or more per
10 shift, there shall be readily available the following
11 materials at locations not exceeding two miles from each
12 working section:

13 (i) One thousand board feet of brattice boards.

14 (ii) Two rolls of brattice cloth.

15 (iii) Two handsaws.

16 (iv) Twenty-five pounds of 8d nails.

17 (v) Twenty-five pounds of 10d nails.

18 (vi) Twenty-five pounds of 16d nails.

19 (vii) Three claw hammers.

20 (viii) Twenty-five bags of wood fiber plaster or ten
21 bags of cement, or equivalent material for stoppings.

22 (ix) Five tons of rock dust.

23 (2) At a mine producing less than 300 tons of coal per
24 shift, the materials set forth in this subsection shall be
25 available at the mine, provided, however, that the emergency
26 materials for one or more mines may be stored at a central
27 warehouse or building supply company and the supply must be
28 the equivalent of that required for all mines involved and
29 within an hour's delivery time from each mine. This exception
30 shall not apply where the active working sections are more

1 than two miles from the surface.

2 (l) Condition and examination of firefighting equipment.--

3 All firefighting equipment shall be maintained in a usable and
4 operative condition. Chemical extinguishers shall be examined
5 every six months, and the date of the examination shall be
6 written on a permanent tag attached to the extinguisher.

7 (m) Branch lines.--As a part of the deluge-type water spray
8 system, two or more branch lines of nozzles shall be installed.

9 The maximum distance between nozzles shall not exceed eight
10 feet.

11 (n) Installation of foam generator systems.--

12 (1) Foam generator systems shall be located so as to
13 discharge foam to the belt drive, belt take-up, electrical
14 controls, gear-reducing unit and conveyor belt.

15 (2) Foam generator systems shall be equipped with a fire
16 sensor which actuates the system, and each system shall be
17 capable of producing and delivering the following amounts of
18 foam within five minutes:

19 (i) At fire-resistant belt installations, an amount
20 which will fully envelop the belt drive, belt take-up,
21 electrical controls, gear-reducing unit and conveyor belt
22 over a distance of 50 feet.

23 (ii) At non-fire-resistant belt installations, an
24 amount which will fully envelop the belt drive, belt
25 take-up electrical controls, gear-reducing unit and
26 conveyor belt over a distance of 150 feet.

27 (3) The foam generator shall be equipped with a warning
28 device designed to stop the belt drive when a fire occurs,
29 and all such warning devices shall be capable of giving both
30 an audible and visual signal when actuated by fire.

1 (4) Water, power and chemicals required shall be
2 adequate to maintain water or foam flow for no less than 25
3 minutes.

4 (5) Water systems shall include strainers with a flush-
5 out connection and a manual shut-off valve.

6 (o) Water sprinkler systems.--Water sprinkler systems may be
7 installed to protect main and secondary belt-conveyor drives,
8 however, where such systems are employed, they shall be
9 installed and maintained in accordance with subsections (p),
10 (q), (r), (s) and (t).

11 (p) Installation of water sprinkler systems.--

12 (1) The fire-control components of each water sprinkler
13 system shall be installed, as far as practicable, in
14 accordance with the recommendations set forth in the National
15 Fire Protection Association, Code No. 13, entitled
16 "Installation of Sprinkler Systems," in effect at the time of
17 installation, and such systems' components shall be of a type
18 approved by the Underwriters Laboratories, Inc., Factory
19 Mutual Research Corporation.

20 (2) Each sprinkler system shall provide protection for
21 the motor drive belt take-up, electrical controls, gear-
22 reducing unit and 50 feet of fire-resistant belt or 150 feet
23 of non-fire-resistant belt adjacent to the belt drive.

24 (3) The components of each water sprinkler system shall
25 be located so as to minimize the possibility of damage by
26 roof fall or by the moving belt and its load.

27 (q) Arrangement of sprinklers.--

28 (1) At least one sprinkler shall be installed above each
29 belt drive, belt take-up, electrical control and gear-
30 reducing unit, and individual sprinklers shall be installed

1 at intervals of no more than eight feet along all conveyor
2 branch lines.

3 (2) Two or more branch lines, at least one of which
4 shall be above the top belt and one between the top and
5 bottom belt, shall be installed in each sprinkler system to
6 provide a uniform discharge of water to the belt surface.

7 (3) The water discharge rate from the sprinkler system
8 shall not be less than .25 gallon per minute per square foot
9 of the top surface of the top belt, and the discharge shall
10 be directed at both the upper and bottom surfaces of the top
11 belt and to the upper surface of the bottom belt. The supply
12 of water shall be adequate to provide a constant flow of
13 water for ten minutes with all sprinklers functioning.

14 (4) Each individual sprinkler shall be activated at a
15 temperature of not less than 150 degrees Fahrenheit and not
16 more than 300 degrees Fahrenheit.

17 (5) Water systems shall include strainers with a flush-
18 out connection and a manual shutoff valve.

19 (r) Backup water system.--One fire hose outlet together with
20 a length of hose capable of extending to the belt drive shall be
21 provided within 300 feet of each belt drive.

22 (s) Fire warning devices at belt drives.--Each water
23 sprinkler system shall be equipped with a device designed to
24 stop the belt drive in the event of a rise in temperature, and
25 each warning device shall be capable of giving both an audible
26 and visual warning when a fire occurs.

27 (t) Examination and test.--Each water sprinkler system shall
28 be examined weekly, and a functional test of the complete system
29 shall be conducted at least once each year.

30 (u) Equivalent dry-pipe system.--Where water sprinkler

1 systems are installed to protect main and secondary belt
2 conveyor drives and freezing temperatures prevail, an equivalent
3 dry-pipe system may be installed.

4 (v) Dry-powder chemical systems.--Self-contained dry-powder
5 chemical systems may be installed to protect main and secondary
6 belt conveyor drives; however, where self-contained dry-powder
7 chemical systems are employed, they shall be installed and
8 maintained in accordance with the provisions of subsections (w),
9 (x), (y), (z), (aa), (bb), (cc) and (dd).

10 (w) Installation of dry-powder chemical systems.--

11 (1) Self-contained dry-powder chemical systems shall be
12 installed to protect each beltdrive, belt take-up, electrical
13 controls, gear-reducing units and 50 feet of fire-resistant
14 belt or 150 feet of non-fire-resistant belt adjacent to the
15 belt drive.

16 (2) The fire control components of each dry-powder
17 chemical system shall be a type approved by the Underwriters
18 Laboratories, Inc., or Factory Mutual Engineering
19 Corporation.

20 (3) The components of each dry-powder chemical system
21 shall be located so as to minimize the possibility of damage
22 by roof fall or by the moving belt and its load.

23 (x) Construction of dry-powder chemical systems.--

24 (1) Each self-contained dry-powder system shall be
25 equipped with hose or pipe lines which are no longer than
26 necessary.

27 (2) Metal piping and hose between control valves and
28 nozzles shall have a minimum bursting pressure of 500 pounds
29 per square inch.

30 (3) Hose shall be protected by wire braid or its

1 equivalent.

2 (4) Nozzles and reservoirs shall be sufficient in number
3 to provide maximum protection to each belt, belt take-up,
4 electrical controls and gear-reducing unit.

5 (5) Each belt shall be protected on the top surface of
6 both the top and bottom belts and the bottom surface of the
7 top belt.

8 (y) Sensing and fire-suppression devices.--

9 (1) Each self-contained dry-powder chemical system shall
10 be equipped with sensing devices which shall be designed to
11 activate the fire control system, sound an alarm and stop the
12 conveyor drive motor in the event of a rise in temperature,
13 and provision shall be made to minimize contamination of the
14 lens of any optical sensing device installed in the system.

15 (2) Where sensors are operated from the same power
16 source as the belt drive, each sensor shall be equipped with
17 a standby power source which shall be capable of remaining
18 operative for at least four hours after a power cutoff.

19 (3) Sensor systems shall include a warning indicator or
20 test circuit which shows it is operative.

21 (4) Each fire suppression system shall be equipped with
22 a manually operated control valve which shall be independent
23 of the sensor.

24 (z) Dry powder requirements.--Each dry powder chemical
25 system shall contain the following minimum amounts of
26 multipurpose dry powder:

27 (1) One hundred and twenty-five pounds of dry powder for
28 fire resistant belts.

29 (2) Two hundred and twenty-five pounds of dry powder for
30 non-fire-resistant belts.

1 (aa) Nozzles, flow rate and direction.--The nozzles of each
2 dry-powder chemical system shall be capable of discharging all
3 powder within one minute after actuation of the system, and such
4 nozzles shall be directed so as to minimize the effect of
5 ventilation upon fire control.

6 (bb) Safeguards for dry-powder chemical systems.--Adequate
7 guards shall be provided along all belt conveyors in the
8 vicinity of each dry-powder chemical system to protect ~~persons~~ <—
9 INDIVIDUALS whose vision is restricted by a discharge of powder <—
10 from the system. Handrails shall be installed in these areas to
11 provide assistance to those passing along the conveyor after a
12 powder discharge.

13 (cc) Backup water system.--One fire hose outlet, together
14 with a length of hose capable of extending to the belt drive,
15 shall be provided within 300 feet of each belt drive.

16 (dd) Inspection of dry-powder chemical systems.--

17 (1) Each dry-powder chemical system shall be examined
18 weekly, and a functional test of the complete system shall be
19 conducted at least once each year.

20 (2) Where the dry-powder chemical system has been
21 actuated, all components of the system shall be cleaned
22 immediately by flushing all powder from pipes and hoses, and
23 all hose damaged by fire shall be replaced.

24 Section 274. Mine openings or outlets.

25 (a) Mine openings or outlets.--It shall be unlawful for the
26 operator, superintendent or mine foreman of a mine to employ any
27 ~~person~~ INDIVIDUAL to work in the mine unless there are two <—
28 openings or outlets to the surface from every seam of coal being
29 worked, and available from every seam of coal entry, which
30 openings or outlets shall have distinct means of ingress and

1 egress available at all times for the use by the employees. The
2 two openings to the surface required by this section shall not
3 be at a common shaft, slope, or drift opening, except that
4 multiple compartment shafts or slopes separated by substantially
5 constructed walls of noncombustible material shall be considered
6 as two separate and distinct openings. The distance between two
7 shafts shall not be less than 200 feet, the distance between the
8 openings to the surface of slopes shall not be less than 150
9 feet and the distance between drifts shall not be less than 50
10 feet, provided that the distance between the openings shall
11 apply only to mines opened after the effective date of this act.
12 The distances specified may be less with the written consent of
13 the department. The passageways between the two shafts shall at
14 all times be maintained in safe and available condition for the
15 employees to travel, and the pillars in entries between the
16 shafts shall not be removed without the approval of the
17 department.

18 (b) Openings.--The requirements of subsection (a) shall not
19 apply to the openings of a new mine, or to the openings of a new
20 entry of an existing mine, that is being worked for the purpose
21 of making connection between the two outlets, as long as not
22 more than 20 ~~persons~~ INDIVIDUALS are employed at any one time in <—
23 making the connection or driving the second opening. The
24 requirements of subsection (a) shall NOT apply to any mine in <—
25 which the second opening has been rendered unavailable by reason
26 of the final robbing or removing of pillars, as long as not more
27 than 20 ~~persons~~ INDIVIDUALS are employed in the mine at any one <—
28 time.

29 (c) Safe egress.--Safe means of egress shall be available at
30 all times for the ~~persons~~ INDIVIDUALS employed in a mine that <—

1 has no second outlet available.

2 (d) Entries.--Every mine shall have at least five main
3 entries, two of which shall lead from the main opening and two
4 of which shall lead from the second opening into the body of the
5 mine. The fifth, which may be connected with an opening to the
6 surface or with the intake airway at or near the main intake
7 opening, shall be used exclusively as a travelingway for the
8 employees.

9 (e) Intake and return entries.--The intake and return
10 entries shall be kept reasonably drained and reasonably free
11 from refuse and obstructions of all kinds, so that ~~persons~~ ←
12 INDIVIDUALS may safely travel throughout their whole length and ←
13 have a safe means of egress from workings in case of emergency.
14 The entries shall be separated by pillars of coal of sufficient
15 strength. When the coal seam height is less than four and one-
16 half feet, employees shall be provided a means of transportation
17 in and out of the mine.

18 (f) Passageway between workings.--In every slope with
19 workings on both sides, an overpass or underpass not less than
20 five feet wide and five feet high shall be provided as a
21 passageway for the use of employees to cross from one side of
22 the slope to the other. The overpass or underpass shall connect
23 with available passageways leading to the workings on both sides
24 of the slope. The intervening strata between the slope and the
25 overpass or underpass shall be of sufficient strength at all
26 points to insure safety to the employees, provided, however,
27 that if it is impracticable to drive an overpass or an underpass
28 in the solid, an overpass or underpass, if substantially built
29 with masonry or other incombustible material, will be deemed
30 sufficient.

1 (g) Shafts less than 100 feet deep.--If the opening or
2 outlet other than the main opening is a shaft not more than 100
3 feet in depth and is used by employees for the purpose of
4 ingress to or egress from the mine, it shall be kept available
5 and in safe condition, free from dangerous gases and all
6 obstruction, and shall be fitted with safe and convenient
7 stairways, with steps of an average tread of ten inches and a
8 rise of nine inches, not less than two feet in width and not to
9 exceed an angle of 45 degrees, and with landings not less than
10 24 inches in width and four feet in length, at easy and
11 convenient distances. Stairways shall be made safe by having
12 handrails of suitable material placed on one side, or on both
13 sides when requested by the department, and shall be inspected
14 every 24 hours by a certified mine official employed for that
15 purpose. Water that may come from the surface or from the strata
16 in the shaft shall be conducted away so it will not fall on the
17 stairways or on ~~persons~~ INDIVIDUALS while descending or <—
18 ascending them.

19 (h) Shafts more than 100 feet deep.--When a mine is operated
20 by a shaft more than 100 feet in depth, the ~~persons~~ INDIVIDUALS <—
21 employed in the shaft shall be lowered and hoisted by means of
22 machinery unless the second opening is a drift or a slope. When
23 the employees are lowered into or hoisted from the mine at the
24 main shaft opening, the second opening, if a shaft, shall be
25 supplied with a stairway, constructed in the manner designated
26 in this section or with suitable machinery for safely lowering
27 and hoisting ~~persons~~ INDIVIDUALS in case of an emergency. <—

28 (i) Slope openings.--At any mine where one of the openings
29 required is a slope and is used as a means of ingress and egress
30 by the employees, and where the angle of descent of the slope

1 exceeds 15 degrees and its length from the mouth of the opening
2 exceeds 1,000 feet, the employees shall be lowered into and
3 hoisted from the mine at a speed not to exceed six miles per
4 hour. At any mine where the angle of descent of the slope
5 averages from five to 15 degrees and its length exceeds 3,000
6 feet, the employees shall be lowered into and hoisted from the
7 mine at a speed not to exceed six miles per hour, provided,
8 however, that when a separate travelingway is provided at any
9 such slope, the owner or operator may, at the owner's or
10 operator's option, be exempt from the requirements of this
11 section if the angle of the travelingway does not exceed 20
12 degrees.

13 Section 275. Mining close to abandoned workings.

14 The superintendent shall not permit the mining of coal in any
15 seam the entire distance to a permit boundary, not including
16 boundaries around reservations or along crop lines, when on the
17 adjoining property there are mine workings in the seam within
18 3,000 feet of the permit boundary. A barrier pillar shall be
19 left, from the operation to the permit boundary, of not less
20 than ten feet plus two feet for every foot or part of a foot of
21 thickness of the bed measured from the roof to the floor, plus
22 five feet for each 100 feet or part of 100 feet of cover over
23 the bed at the permit boundary. If the coal on one side of the
24 permit boundary has been mined, prior to the effective date of
25 this section, closer to the permit boundary than permitted, the
26 barrier pillar to be left in the mine approaching the permit
27 boundary shall be at least equal, when added to that already
28 left in the adjoining mine, to that required on both sides of
29 the permit boundary. If, in the opinion of the department or the
30 superintendent of either mining property, the barrier pillar is

1 deemed insufficient, after due notice to the operator of the
2 adjoining mining property, one-half of the barrier pillar shall
3 be left on each side of the permit boundary, except as provided
4 in this section. The department, the superintendent or owner of
5 either mining property shall determine the thickness necessary
6 to afford safety and protection. If it is agreed by the
7 department and superintendents of the adjoining coal mining
8 properties that the permit boundary is so located that there is
9 no danger to property or lives in mining coal on either or both
10 sides of the permit boundary up to the permit boundary, then
11 mining to the permit boundary shall be lawful if all danger from
12 accumulated water and gas shall have first been removed by
13 driving a passageway to tap and drain off any accumulations of
14 water and gas, as provided for in this act.

15 Section 276. Lubrication and storage of flammable lubricants.

16 The oiling or greasing of any cars inside any mine is
17 strictly prohibited unless the place where the oil or grease is
18 used is thoroughly cleaned at least once a day to prevent the
19 accumulation of waste oil or grease. Not more than two days'
20 supply of flammable oil or lubricant shall be stored in any
21 portion of a mine unless it is kept in a fireproof building or a
22 structure cut out of solid rock. Oil or grease stored in the
23 face area shall be kept in approved containers and away from
24 power wires and electric equipment. Accumulations of spilled oil
25 or grease shall be rendered harmless. Excessive accumulations
26 shall be removed from the mine. Closed metal containers shall be
27 provided for the storage of oily rags or waste until removed for
28 disposal. If any flammable oil or lubricants are stored
29 underground, all reasonable safety practices shall be observed
30 in order to minimize any dangers of fire.

1 Section 277. Approved lighting and gas detection devices in
2 mines.

3 (a) Lighting.--It shall be unlawful to use open lights in
4 mines, and only approved electric cap lamps, approved
5 flashlights, approved safety lamps and other approved lighting
6 equipment shall be used in mines.

7 (b) Gas detection devices.--All approved gas detection
8 devices used for examining mines shall be in the care of the
9 mine foreman or some other competent ~~person~~ INDIVIDUAL appointed <—
10 by the mine foreman, who shall have a duty to examine, test and
11 deliver them in a safe condition to the individuals when
12 entering the mine and to receive gas detection devices from the
13 individuals when returning from work.

14 (c) Number of devices.--At every mine, a sufficient number
15 of approved gas detection devices shall be kept in good
16 condition for use in case of emergency.

17 (d) Entrusting of devices.--No approved gas detection
18 devices shall be entrusted to any ~~person~~ INDIVIDUAL for use in a <—
19 mine until the ~~person~~ INDIVIDUAL has given satisfactory evidence <—
20 to the mine foreman that he understands the proper use of the
21 gas detection device and the danger of tampering with the
22 device.

23 (e) Duty to return device.--It shall be the duty of every
24 ~~person~~ INDIVIDUAL who knows their approved gas detection device <—
25 is defective to return it immediately to a mine official.

26 Section 278. Unauthorized entry into mine.

27 Any ~~person~~ INDIVIDUAL who enters a mine without authorization <—
28 from the superintendent commits a misdemeanor of the second
29 degree. This section shall not be applicable to any ~~person~~ <—
30 INDIVIDUAL who enters a mine in the performance of any duty <—

1 imposed upon him by this act.

2 Section 279. Passing by or removing danger signals.

3 Except as specifically authorized in this act, no employee or
4 other ~~person~~ INDIVIDUAL shall pass by any danger signal into any <—
5 mine, or into any portion of any mine, or remove any danger
6 signal before the mine or portion of the mine has been examined
7 and reported to be safe. Any employee or other ~~person~~ INDIVIDUAL <—
8 shall not pass by any danger signal placed at the entrance to a
9 working place, or any other place in the mine, or remove the
10 danger signal without permission from the mine foreman, the
11 assistant mine foreman or the mine examiner.

12 Section 280. Miners to remain in work areas.

13 Each miner shall remain during working hours in the work area
14 assigned by the mine foreman or the assistant mine foreman.

15 Section 281. Sealing openings.

16 (a) Permanently abandoned shafts.--Every shaft permanently
17 abandoned ~~and taken out of service shall be filled for a~~ <—
18 ~~distance of 25~~ SHALL BE FILLED FOR ITS ENTIRE DEPTH. THE FILL <—
19 SHALL EXTEND FROM THE BOTTOM OF THE COAL SEAM TO A HEIGHT OF 50
20 feet with incombustible material.

21 (b) Out of service openings.--Every slope, drift or tunnel
22 permanently taken out of service shall be filled for a distance
23 of 25 feet with incombustible material.

24 (c) Drillholes and boreholes.--All drillholes and boreholes
25 permanently taken out of service after the effective date of
26 this act shall be effectively plugged or sealed.

27 (d) Openings available for future use.--Every shaft, slope,
28 drift or tunnel, temporarily taken out of service, which may be
29 used for future mining purposes shall be properly sealed or
30 fenced.

1 Section 282. Ladders in mines.

2 Permanently installed ladders in mines that are more than ten
3 feet in length and set on an angle of 60 degrees or more with
4 the horizontal shall be provided with substantial backguards,
5 and all ladders shall be maintained in good repair.

6 Section 283. Inside structures to be of incombustible
7 materials.

8 All buildings or structures in any bituminous coal mine shall
9 be constructed of incombustible materials.

10 Section 284. Washhouses.

11 It shall be the duty of the operator or superintendent of a
12 mine to provide a suitable building, convenient to the principal
13 entrance of the mine, for the use of employees of the mine to
14 wash and change clothes. The building shall be maintained in
15 good order and be properly lighted and heated, shall be provided
16 with hot and cold running water and facilities for ~~persons~~ <—
17 INDIVIDUALS to wash and shall include adequate sanitary <—
18 facilities. The cost of providing and maintaining the
19 conveniences and facilities shall be defrayed by the owner or
20 operator of mine.

21 CHAPTER 3

22 ELECTRICAL EQUIPMENT

23 Section 301. Duties of mine foreman and superintendent.

24 It shall be the duty of the mine foreman and superintendent
25 to see that the requirements of this chapter for the
26 installation and maintenance of electrical equipment are
27 observed in and around coal mines.

28 Section 302. Definitions.

29 As used in this chapter, the following words and terms shall
30 have the meanings given to them in this section unless the

1 context clearly indicates otherwise:

2 "Armored cable." A cable provided with a wrapping of metal,
3 usually steel wires or tapes, primarily for the purpose of
4 mechanical protection.

5 "Borehole cable." A cable designed for vertical suspension
6 in a borehole or shaft and is used for power circuits in a mine.

7 "Branch circuit." A tap taken off a main circuit.

8 "Cable sheath." A covering consisting of composition tapes,
9 compound jackets of natural or synthetic rubber, or
10 thermoplastic or fiber braids applied over the conductor
11 assembly and insulation of multiple conductor cables.

12 "Circuit breaker." A device which may be controlled by
13 relaying or protective equipment for interrupting a circuit
14 between separable contacts under normal or abnormal conditions.

15 "Delta-connected." A delta-connected power system is one in
16 which the windings of transformers or AC generators are
17 connected to form a triangular phase relationship, with the
18 phase conductors connected to each point of the triangle.

19 "Difference of potential." The difference of electrical
20 pressure or electromotive force existing between any two points
21 of an electrical system, or between any point of a system and
22 the earth, as determined by a voltmeter or other suitable
23 instrument.

24 "Effectively grounded." Grounded through a grounding
25 connection of sufficiently low impedance, inherent or
26 intentionally added, or both, so that fault grounds which may
27 occur cannot build up voltages in excess of limits established
28 for apparatus, circuits or systems so grounded.

29 "Electrical face equipment." Mobile or portable mining
30 machinery having electric motors or accessory equipment normally

1 installed or operated in by the last open crosscut in any entry
2 or room.

3 "Electric system." All electric equipment and circuits that
4 pertain to the operation of the mine and are under control of
5 the mine management.

6 "Explosion-proof or flame-proof." Casings or enclosures
7 which, when completely filled with a mixture of methane and air
8 and the same exploded, are capable of either entirely confining
9 the products of the explosion within the casing or discharging
10 them from the casing so that they cannot ignite a mixture of
11 methane and air, combined in proportions most sensitive to
12 ignition and entirely surrounding the points of discharge, and
13 in most intimate proximity with the points of discharge.

14 "Flame-resistant cable." A cable that meets the MSHA testing
15 requirements for flame resistance and has been assigned an
16 approval. A cable shall also be considered flame-resistant if it
17 meets the criteria for flame resistance by a nationally
18 recognized testing lab that is equivalent to the MSHA testing
19 criteria and that is appropriately identified. All flame-
20 resistant cables used underground shall have the approval number
21 embossed or indented on the jacket at intervals not to exceed 12
22 feet.

23 "Ground." A conducting connection, whether intentional or
24 accidental, between an electric circuit or equipment and earth
25 or to some conducting body which serves in place of the earth.

26 "Grounding conductor." A metallic conductor used to connect
27 the metal frame or enclosure of an equipment, device or wiring
28 system with an effective grounding medium.

29 "High voltage." Voltage higher than 1,000 volts nominal.

30 "Lightning arrestor." A protective device for limiting surge

1 voltages on equipment by discharging or bypassing surge current
2 and for preventing continued flow of current to ground.

3 "Low voltage." Voltage up to 660 volts nominal.

4 "Machine operator." ~~A person~~ AN INDIVIDUAL who possesses a ←
5 machine runners certification and is placed in charge of a
6 portable or mobile face machine of any sort where a gas
7 examination is required under this act or regulations
8 promulgated under this act.

9 "Medium voltage." Voltage from 661 to 1,000 volts nominal.

10 "Mine power center." A combined transformer and distribution
11 unit which may include a rectifier, complete within a metal
12 enclosure, from which one or more low-voltage, medium-voltage or
13 high-voltage power circuits are taken.

14 "Neutral." A neutral point of connection established through
15 the use of a grounding or zig-zag transformer with a normally
16 ungrounded delta power system.

17 "Neutral point." The connection point of transformer or
18 generator windings from which the voltage to ground is nominally
19 zero and is the point generally used for system grounding in a
20 wye-connected AC power system.

21 "Nonmetallic armor." A tough outer covering or cable sheath
22 of rubber, rubber compound or thermoplastic designed to protect
23 the cable conductors and insulation from abrasion or other
24 damage from external sources.

25 "Portable trailing cable." A flexible cable or cord used for
26 connecting mobile, portable or stationary equipment in mines to
27 a trolley system or other external source of electric energy
28 where permanent mine wiring is prohibited or impracticable.

29 "Potential of a circuit." The voltage of a circuit machine
30 or any piece of electrical apparatus is the potential difference

1 normally existing between the conductors of such circuit or the
2 terminals of the machine or apparatus.

3 "Primary ground." A low impedance ground bed or system
4 consisting of several interconnected ground rods or buried
5 conducting mesh, or both, located near an outdoor substation and
6 used as a lightning arrestor or station ground or, separately,
7 as a basic ground for one conductor of a power transmission or
8 distribution system. A single ground rod of any length is not
9 considered a primary ground.

10 "Protection." Fuses or other suitable automatic circuit-
11 interrupting devices for preventing damage to circuits,
12 equipment and personnel by abnormal conditions, such as over-
13 current, high or low voltage and single phasing.

14 "Rectifiers." Alternating current to direct-current power
15 conversion devices of the mercury-arc, silicon, selenium or
16 other type.

17 "Shielded cable." A cable in which the insulated conductor is
18 covered with a conductive material for the purpose of clearing
19 ground faults.

20 "Voltage." The phase-to-phase or line-to-line root-mean-
21 square value assigned to a circuit or system for designation as
22 its voltage class. Actual voltage at which the circuit or
23 systems operated may vary from the normal voltage with a range,
24 which permits satisfactory operation of the equipment. The
25 difference of electrical pressure or electromotive force
26 existing between any two points of an electrical system, or
27 between any point of a system and earth, as determined by a volt
28 meter or other instrument. The term shall be synonymous with the
29 term potential and shall mean electrical pressure.

30 "Wye-connected." A system in which one end of each phase

1 winding of transformers or AC generators are connected together
2 to form a neutral point, and the other ends of the windings are
3 connected to the phase conductors.

4 "Zig-zag transformer." A three-phase transformer used to
5 provide a neutral point on delta systems and capable of carrying
6 continuously the maximum ground fault current of the system.

7 Section 303. Plan of electrical system.

8 A plan shall be kept at the mine showing the location of all
9 stationary electrical ~~apparatuses~~ APPARATUS in connection with ←
10 the mine electrical system, including permanent cables,
11 conductors, switches and trolley lines. The plan shall be of
12 sufficient size to show clearly the position of the apparatus,
13 and the scale shall not be less than 500 feet per inch. There
14 shall be stated on the plan the capacity in horsepower of each
15 motor, and in kilowatts of each generator, rectifier or
16 transformer, and the nature of its duty. The plans shall be
17 corrected as often as may be necessary to keep them up to date
18 or at intervals not exceeding six months.

19 Section 304. Protection against shock.

20 (a) Electrical work.--No electrical work shall be performed
21 on low-voltage, medium-voltage or high-voltage distribution
22 circuits or equipment except by a qualified ~~person~~ INDIVIDUAL or ←
23 by a ~~person~~ AN INDIVIDUAL trained to perform electrical work and ←
24 to maintain electrical equipment under the direct supervision of
25 a qualified ~~person~~ INDIVIDUAL. Disconnecting devices shall be ←
26 locked out and suitably tagged by the ~~persons~~ INDIVIDUALS who ←
27 perform the work, except that in cases where locking out is not
28 possible, the devices shall be opened and suitably tagged by
29 such ~~persons~~ INDIVIDUALS. Locks or tags shall be removed only by ←
30 the ~~person~~ INDIVIDUAL who installed them or, if the ~~persons~~ ←

1 INDIVIDUALS are unavailable, by ~~persons~~ AN INDIVIDUAL authorized ←
2 by the operator or the operator's agent.

3 (b) Insulating materials.--Mats of rubber, insulated
4 platform or other suitable insulating materials shall be
5 provided at all stationary transformers, rectifiers, motors and
6 generators and their controls, except portable and mobile
7 equipment. Gloves or mats of rubber or other suitable insulating
8 material shall be provided by the operator and used by qualified
9 ~~persons~~ INDIVIDUALS when energized parts of electrical apparatus ←
10 have to be handled for the purpose of adjustment.

11 Section 305. Restoration from shock.

12 Instruction shall be posted in every generating, transforming
13 and motor room and at the entrance to the mine containing
14 directions as to the restoration of ~~persons~~ INDIVIDUALS ←
15 suffering from electric shock. All employees working in
16 connection with electrical apparatus shall be familiar with and
17 competent to carry out the instructions.

18 Section 306. Report of defective equipment.

19 In the event of a breakdown or damage or injury to any
20 portion of the electrical equipment in a mine, overheating, the
21 appearance of sparks or arcs outside enclosed casings or in the
22 event of any portion of the equipment not a part of the
23 electrical circuit becoming energized, the equipment shall be
24 disconnected from its source of power, the occurrence shall be
25 promptly reported to a mine official and the equipment shall not
26 be used again until necessary repairs are made.

27 Section 307. Damage or alteration to mine electrical system.

28 No ~~person~~ INDIVIDUAL shall willfully damage or without ←
29 authority alter or make connections to any portion of a mine
30 electrical system.

1 Section 308. Capacity.

2 All electrical apparatus and conductors shall be sufficient
3 in size and power for the work they may be called upon to do
4 and, as prescribed in this act, be efficiently covered or
5 safeguarded. The electrical apparatus and conductors shall be
6 installed, operated and maintained to reduce danger from
7 accidental shock or fire to the minimum and shall be constructed
8 and operated so that the rise in temperature caused by ordinary
9 operation will not injure the insulating materials. Where these
10 conditions are not met, affected equipment shall be removed from
11 service until corrective action is taken.

12 Section 309. Joints in conductors.

13 All joints in conductors shall be mechanically and
14 electrically efficient. Suitable connectors or screw clamps
15 shall be used. All joints in insulated wire shall, after the
16 joint is complete, be reinsulated to at least the same extent as
17 the remainder of the wire.

18 Section 310. Cables entering fittings.

19 The exposed ends of cables where they enter fittings of any
20 description shall be protected and finished off so that moisture
21 cannot enter the cable, or the insulating material, if of an
22 oily or viscous nature, leak. Where unarmored cables or wires
23 pass through metal frames or into boxes or motor casings, the
24 holes shall be substantially bushed with insulating bushings
25 and, where necessary or required, with gas-tight bushings which
26 cannot readily become displaced.

27 Section 311. Switches, fuses and circuit breakers.

28 (a) Construction.--Fuses and automatic circuit breakers
29 shall be constructed as to effectively interrupt the current on
30 short circuit or when the current through them exceeds a

1 predetermined value. Open type fuses shall be provided with
2 terminals. Circuit breakers shall be of adequate interrupting
3 capacity.

4 (b) Trip setting.--Circuit breakers used to protect feeder
5 circuits shall be set to trip when the current exceeds by more
6 than 50% of the rated capacity of the feeder. In case the feeder
7 is subjected to overloads sufficient to trip the circuit breaker
8 but of short duration, the circuit breaker may be equipped with
9 a device which will prevent its acting unless the overload
10 persists for period longer than ten seconds. Trip current shall
11 be indicated at the circuit breaker.

12 (c) Fuses.--Fuses shall be stamped or marked or shall have a
13 label attached indicating the maximum current which they are
14 intended to carry. Fuses shall only be adjusted or replaced by a
15 competent ~~person~~ INDIVIDUAL authorized by the mine foreman. ←

16 (d) Protective fuses.--Fuses used to protect feeders shall
17 be a less current rating than the feeder.

18 (e) Incombustible base requirement.--All switches, circuit
19 breakers and fuses shall have incombustible bases.

20 Section 312. Lightning protection.

21 If the surface transmission lines of low voltage or medium
22 voltage from the generating station are overhead, there shall be
23 lightning arrestors installed at the generating station. If the
24 distance from the generating station to the point where the line
25 enters the mine is more than 500 feet, an additional arrestor
26 shall be installed at that point.

27 Section 313. Underground power supply.

28 (a) Ground detectors.--All underground systems of
29 distribution that are completely insulated from earth shall be
30 equipped with properly installed ground detectors of suitable

1 design which will trip the circuit breaker when a ground fault
2 is detected. The ground detectors shall be maintained in working
3 condition.

4 (b) Protection of circuits leading underground.--

5 (1) In every completely insulated feeder circuit in
6 excess of 25 kilowatts capacity, leading underground and
7 operating at a potential not exceeding the limits of medium
8 voltage, there shall be provided above ground a circuit
9 breaker arranged to open simultaneously each ungrounded
10 conductor. In addition, a positive disconnect means shall be
11 installed outby the circuit breaker. Overload protection
12 shall be provided to open the circuit breaker in case of
13 overload on any conductor. Fuses may be substituted for
14 circuit breakers in circuits transmitting 25 kilowatts or
15 less. Each power circuit in excess of 50 kilowatts leading
16 underground shall be provided with a suitable ammeter.

17 (2) Every alternating current feeder circuit leading
18 underground and operating at a potential exceeding the limits
19 of medium voltage shall be provided above ground with a
20 suitable circuit breaker. The breaker shall be equipped with
21 automatic overload trip, arranged to open simultaneously each
22 ungrounded power-carrying conductor. Each circuit shall also
23 be provided with a suitable ammeter.

24 (c) Cables in shafts, slopes and boreholes.--

25 (1) All cables passing underground through inclines,
26 boreholes and shafts shall be installed in a manner that will
27 prevent undue strain in the sheath, insulation or conductors
28 and damage by chafing of cables against each other or against
29 the borehole casing or shaft. All ungrounded power conductors
30 in shafts, boreholes and inclines shall be covered with

1 suitable insulating materials and installed to provide a
2 minimum tensile factor of safety of five. Conductors shall be
3 securely fastened and properly supported out of contact with
4 combustible materials. When the weight, length and
5 construction of a cable are such that suspension from its
6 upper end only would subject the cable to possible damage, it
7 shall be supported at intervals necessary to prevent undue
8 strains in the sheath, insulation and conductors and to
9 provide a minimum tensile factor of safety of five. Adequate
10 protection shall be provided so that no damage can result
11 from water, electrolysis, moving cages, skips, ice, coal or
12 other falling or moving materials.

13 (2) Installation of direct-current and alternating-
14 current cables carrying in excess of 25 kilowatts in the same
15 borehole shall require approval of the department.

16 (d) High-voltage underground transmission systems.--

17 (1) High-voltage conductors or cables leading ←
18 underground and extending underground shall be of the flame-
19 resistant type with either a rubber, plastic or armor sheath
20 meeting the requirements of the department for flame
21 resistance. When the cable is fed by high-voltage systems
22 other than that described in this chapter, it shall be either
23 metallic armored, installed in rigid steel conduit or buried
24 one foot below combustible material. When circuit and
25 protective requirements are met, the cable construction and
26 method of installation may be that described in this chapter.
27 Cables shall be adequate for the intended current and
28 voltage. Splices made in cable shall provide continuity of
29 all components and shall be made in accordance with cable
30 manufacturers' recommendations. A competent ~~person~~ INDIVIDUAL ←

1 designated by the mine electrician shall supervise the making
2 of the splices.

3 (e) Braid covered cable.--

4 (1) No power wires or cables having what is commonly
5 termed as weatherproof insulation or insulation consisting of
6 braided covering, which is susceptible to moisture absorption
7 from the outer surface to the conductor, shall be installed
8 in a mine.

9 (2) All insulated power cables purchased for use in a
10 mine shall be protected by a flame-resistant jacket and
11 assigned an approval number unless either armored or
12 installed in rigid steel conduit, a metal enclosure or a
13 fireproof room.

14 (f) Ventilation.--

15 (1) Bare power conductors shall not be installed in an
16 air current that has passed through or by the first working
17 place in the air split.

18 (2) High-voltage transmission cable, high-voltage motors
19 and high-voltage transformers shall not be installed in any
20 air current that has passed through or by the first working
21 place in the air split.

22 (g) Underground cables in haulage roads.--

23 (1) Where the cables or feed wires, other than trolley
24 wires, in main haulage roads cannot be kept at least 12
25 inches from any part of a mine car or locomotive, they shall
26 be specially protected by proper guards.

27 (2) Cables and wires, except trailing or portable cables
28 or bare return cables, shall be installed on roofs, ribs,
29 walls or timbers by means of efficient insulators. All
30 electric cables constantly kept in rooms or pillars or other

1 work areas shall be carried on suitable supports to within 70
2 feet of the face of each work area. In no instance shall the
3 method of support damage the cable jacket or armor.

4 (3) When main or other roads are being repaired or
5 blasting is being carried on, suitable temporary protection
6 from damage shall be given to the cables.

7 (4) All other wires, except telephone, shot-firing and
8 signal wires, shall be on the same side of the road as the
9 trolley wire.

10 (5) Haulage block signal circuits and other control
11 circuits powered from the trolley shall be located on the
12 same side of the road as the trolley.

13 (h) Branch circuit protection.--When the potential of a
14 branch circuit exceeds the limit of medium voltage, it shall be
15 protected by a circuit breaker, except as otherwise permitted
16 under section 331(h). The circuit breaker shall be equipped with
17 an automatic overload trip arranged to open simultaneously each
18 ungrounded power carrying conductor. Provisions for positive
19 disconnection of the branch circuit shall be included.

20 (i) Underground transformer and substation rooms.--

21 (1) Any motor-generator, rectifier except those
22 described in subsection (r), rotary converter or oil-filled
23 transformer installed in a mine shall be enclosed in a
24 fireproof chamber of masonry or in an effectively grounded
25 approved steel structure. These buildings shall be provided
26 with automatically closing fire doors, but the automatic
27 features of fire doors may be omitted if a substation
28 attendant is employed. The openings of the doors shall be
29 safeguarded by grillwork so that only authorized ~~persons~~ <—
30 INDIVIDUALS may enter the room. No electrical equipment <—

1 containing inflammable material shall be placed within eight
2 feet of a door or opening in the underground building. All
3 underground substations containing rotary machinery shall
4 have an attendant constantly on duty while rotating machinery
5 is in operation, unless adequate control and protection of
6 the equipment is assured by the use of suitable automatic
7 devices. No transformer, circuit breaker, controller or other
8 device containing more than 20 gallons of inflammable liquid
9 shall be placed in any underground substation. A separate
10 split of air shall adequately ventilate the substation. No
11 substation shall be built in any mine until the location,
12 material, construction and method of ventilation for the
13 substation has received the approval of the department.

14 (2) Main and distribution switch and fuse boards shall
15 be made of incombustible, moisture-resistant, insulating
16 material and fixed in as dry a situation as practicable or
17 shall be of suitable metal construction, exposed portions of
18 which shall be effectively grounded. All switches, circuit
19 breakers, rheostats, fuses and instruments used in connection
20 with underground motor-generators, rotary-converters, high-
21 voltage motors, transformers, and low-voltage and medium-
22 voltage motors of more than 50 horsepower or 50 KVA capacity
23 shall be installed upon a suitable switchboard or in a metal-
24 clad switchgear structure. Similar equipment for low-voltage
25 and medium-voltage motors of 50 horsepower and less may be
26 separately installed if mounted upon insulating bases of
27 suitable material or effectively metal clad.

28 (j) Clearances.--

29 (1) In underground stations where switchboards are
30 installed, there shall be a passageway in front of the

1 switchboard not less than three feet in width, and, if there
2 are any high-voltage connections at the back of the
3 switchboard, any passageway behind the switchboard shall not
4 be less than three feet. The floor at the back of the
5 switchboard shall be properly floored and insulated with
6 nonconducting material, accessible from each end. In the case
7 of high-voltage, switchboards shall be kept locked, but the
8 lock shall allow the door being opened from the inside
9 without the use of a key.

10 (2) Where the supply is at a voltage exceeding the
11 limits of medium voltage, there shall be no live metal work
12 on the front of the main switchboard within seven feet of the
13 floor or platform, and the space provided under paragraph (1)
14 shall not be less than four feet. Insulating floors or mats
15 shall be provided for medium-voltage boards where live metal
16 work is on the front.

17 (k) Transformers.--The primary of each underground power
18 transformer shall be protected by a suitable circuit breaker
19 equipped with automatic overload trip arranged to open
20 simultaneously each ungrounded power conductor. The primary of a
21 transformer of less than 25 KVA capacity operated at a potential
22 lower than high voltage may be protected by fuses. When a
23 transformer is the only load on a branch circuit, the branch
24 circuit protection can be considered the transformer protection.

25 (l) Outgoing feeder protection.--Main circuits leaving
26 underground substations or transformer stations shall be
27 protected by circuit breakers.

28 (m) Grounding.--All metallic coverings, metal armoring of
29 cables and the frames and bedplates of generators, transformers
30 and motors shall be effectively grounded.

1 (n) Identification of hazard.--All high-voltage machines and
2 apparatus shall be marked to clearly indicate that they are
3 dangerous, by the use of the words "Danger, High Voltage."

4 (o) Protection of terminals.--All terminals on machines,
5 motors or equipment over medium-voltage underground shall be
6 protected with insulating covers or metal covers effectively
7 connected to the ground.

8 (p) Unauthorized ~~persons~~ INDIVIDUALS.--No ~~person~~ INDIVIDUAL, ←
9 other than one authorized by the mine foreman or mine
10 electrician, shall enter a station or transformer room or
11 interfere with the working of any connected apparatus.

12 (q) Fire protection.--Rock dust or fire extinguishers
13 suitable for extinguishing electrical fires shall be kept ready
14 for immediate use at electrical stations and transformer rooms.

15 (r) Fireproof rectifiers and transformers.--A portable
16 rectifier with a dry-type transformer, except those using pumped
17 tubes or glass bulb mercury arc tubes or a dry-type transformer
18 designed for underground use with adequate automatic electrical
19 protection and substantially of fireproof construction, fully
20 metal clad, which will not be in the same location in excess of
21 one year, may be installed in any intake air current, not beyond
22 the last open crosscut and not closer than 250 feet along the
23 air route to pillar workings. The location where the fireproof
24 rectifier or transformer is installed need not be made fireproof
25 with masonry or steel, but shall be equipped with doors,
26 grillwork or otherwise to prevent entry or access by
27 unauthorized ~~persons~~ INDIVIDUALS. ←

28 Section 314. Storage battery equipment.

29 (a) General rule.--All storage battery equipment and
30 charging stations shall be designed, operated and ventilated so

1 that gas from the batteries will be safely diluted. Storage
2 battery charging stations shall be on a separate split of air.

3 (b) Flammable materials.--The presence of flammable
4 materials is not permitted in any storage battery room or
5 charging station. Signs to this effect shall be posted in all
6 battery rooms or charging stations.

7 (c) Use in face areas.--Storage battery-operated equipment
8 may be used in face areas when all electrical parts that are
9 practicable to enclose are enclosed in explosion-proof casings
10 and the batteries are adequately ventilated.

11 Section 315. (Reserved).

12 Section 316. Electrical equipment.

13 (a) Voltage restriction.--Hand-held tools shall be
14 restricted to a maximum of 300 volts.

15 (b) Grounding.--The frame of all off-track equipment shall
16 be effectively grounded through a safety ground conductor in its
17 trailing cable.

18 (c) Hand-held tools.--Electric drills and other electrically
19 operated rotating tools intended to be hand held shall be
20 equipped with an integrally mounted electric switch designed to
21 break the circuit when the hand releases the switch.

22 (d) Trailing cables.--

23 (1) Trailing cables for equipment shall be safely and
24 efficiently insulated and constructed with an outer sheath or
25 jacket of flame-resistant material as approved by the
26 department.

27 (2) Cables for hand-held tools shall be especially
28 flexible, heavily insulated and effectively protected from
29 damage.

30 (3) Each trailing cable on mobile equipment in use shall

1 be examined within two hours of the beginning of each shift
2 by the machine operator for abrasions and other defects. The
3 machine operator shall also carefully observe the trailing
4 cable while in use and shall immediately report any defect to
5 the mine official in charge.

6 (4) In the event of the trailing cable in service
7 breaking down or becoming damaged in any way, or of it
8 inflicting a shock upon any ~~person~~ INDIVIDUAL, it shall be ←
9 put out of service at once. The faulty cable shall not be
10 used again until it has been repaired and tested by a
11 properly authorized ~~person~~ INDIVIDUAL. ←

12 (5) The trailing cable shall be divided at the machine
13 to which it is supplying power, but only for such length as
14 is necessary for making connection to the machine terminals.
15 The trailing cable, with its outer covering complete, shall
16 be securely clamped to the machine frame in a manner that
17 will protect the cable from injury and prevent any mechanical
18 strains on the single ends connected to the machine
19 terminals.

20 (6) No more than five temporary splices shall be made in
21 any trailing cable. After the fifth splice is made, the cable
22 shall be changed before the machine is operated on the
23 following shift. Trailing cables on equipment without a cable
24 reel shall have no temporary splices within 50 feet of the
25 machine before the machine is operated on the following
26 shift. Cable jacket repairs not involving conductors or
27 conductor insulation are not considered temporary splices.

28 (7) Trailing cables shall be hung or adequately
29 protected to prevent them from being run over and damaged by
30 mobile machinery.

1 (8) Trailing cables on off-track equipment shall contain
2 a safety ground conductor, which shall be solidly connected
3 to the machine frame. Cables found to contain defective
4 grounds shall be repaired before use or shall be replaced.
5 The safety ground conductor shall have a cross-sectional area
6 of at least 50% of that of a single power conductor unless
7 used with ground trip protective systems employing ground
8 fault current limiting devices, in which case a smaller
9 safety ground may be used.

10 (e) Motors.--In all mines electrical equipment in use inby
11 the last open crosscut shall have all current-carrying parts
12 completely enclosed in explosion-proof enclosures. This
13 requirement shall not include trailing cable, except where
14 terminated, and shall not include flexible cable as required
15 between motors, controllers, terminal boxes and other
16 auxiliaries. The enclosures shall not be opened except by an
17 authorized ~~person~~ INDIVIDUAL and then only when the power is ←
18 switched off. The power shall not be switched on while the
19 enclosures are open. Only permissible equipment is permitted
20 inby the last permanent stopping, except in rooms where open-
21 type equipment may be used only in intake travelways. This
22 exception does not include power distribution equipment.

23 (f) Safeguarding.--The ~~person~~ INDIVIDUAL in charge of mobile ←
24 electrical equipment shall not leave the equipment while it is
25 working and shall, before leaving the work area, see that power
26 is cut off the trailing cables.

27 (g) Explosion-tested compartments.--All explosion-tested
28 compartments and packing glands shall be maintained as approved
29 by the department.

30 (h) Detection of gas.--

1 (1) In working places, an approved hand-held gas
2 detection device shall be provided for use with each machine
3 when working. If methane gas is detected in an amount of 1%
4 or greater, the ~~person~~ INDIVIDUAL in charge shall immediately <—
5 stop the machine, cut off the current at the nearest switch
6 and report the matter to a mine official.

7 (2) When not in use, equipment shall be parked away from
8 the face. No electrically operated permissible face equipment
9 shall be taken in by the last open breakthrough until the
10 machine operator assures that an inspection for gas has been
11 made in the place where the machine is to be in operation. If
12 methane gas is detected in an amount of 1% or greater by a
13 gas detection device, the machine shall not be taken in. The
14 place shall be dangered off until the gas has been removed or
15 rendered harmless.

16 (3) No electrically operated equipment shall be in use
17 for a period longer than 20 minutes without a check for
18 methane gas as required under this subsection. If methane gas
19 is found at 1% or greater, the ~~person~~ INDIVIDUAL in charge <—
20 shall immediately stop the machine, cut off the current at
21 the nearest switch and report the matter to a mine official.

22 (4) The ~~person~~ INDIVIDUAL finding gas shall at once <—
23 report the fact to the mine foreman, assistant mine foreman
24 or mine examiner, and the machine shall not again be started
25 in that place until the mine examiner or a ~~person~~ AN <—
26 INDIVIDUAL duly authorized by the mine foreman has examined
27 it and pronounced it safe.

28 (5) If any electric sparking or arc is produced outside
29 a coal-cutting or other portable motor, or by the cables or
30 rails, the machine shall be stopped, disconnected from the

1 power supply and not be worked again until the defect is
2 repaired and the occurrence shall be reported to a mine
3 official.

4 (i) Methane monitors.--

5 (1) Methane monitors shall be installed on all face-
6 cutting machines and other mechanized equipment used to
7 extract or load coal in a mine. The sensing device for
8 methane monitors shall be installed at the return end of the
9 longwall face. An additional sensing device shall also be
10 installed on the longwall shearing machine, down wind and as
11 close to the cutting head as is practicable. The sensing
12 devices for methane on other types of machines shall be
13 installed as close to the working face as is practicable.
14 Methane monitors shall be maintained in permissible and
15 proper operating conditions and shall be calibrated with a
16 known air-methane mixture at least once every 31 days. To
17 assure that methane monitors are properly maintained and
18 calibrated, the operators shall do all of the following:

19 (i) Use ~~persons~~ INDIVIDUALS properly trained in the ←
20 maintenance, calibration and permissibility of methane
21 monitors to calibrate and maintain the devices.

22 (ii) Maintain a record of all calibration tests of
23 methane monitors. Records shall be maintained in a secure
24 book that is not susceptible to alteration or
25 electronically in a computer system so as to be secure
26 and not subject to alteration.

27 (iii) Retain the record of calibration tests for one
28 year from the date of the test. Records shall be retained
29 at a surface location at the mine and made available to
30 department representatives and representatives of the

1 mine workers.

2 (2) When the methane concentrations at any methane
3 monitor reach 1%, the monitor shall give a warning signal.
4 The warning signal of the methane monitor shall be visible to
5 the mining machine operator, who can de-energize electric
6 equipment or shut down diesel equipment on which the monitor
7 is mounted. A gas check shall be completed in accordance with
8 this act if at any time the methane concentrations at any
9 methane monitor reach 1.5%. This shall only apply if the
10 methane monitor maintains a warning signal for methane
11 concentrations of 1.5%.

12 (3) The methane monitor shall automatically de-energize
13 electric equipment or shut down diesel-powered equipment when
14 the methane accumulation reaches 2% or the methane monitor is
15 not operating properly.

16 Section 317. Inspection of equipment.

17 (a) Inspection required.--All electrical equipment shall be
18 inspected by the mine electrician or ~~person~~ INDIVIDUAL ←
19 designated by the mine electrician weekly and, where necessary,
20 shall be cleaned and repaired.

21 (b) Removal of coal dust.--All electric motors and cables in
22 mechanical sections shall have all excessive coal dust removed
23 from their exterior surfaces once each operating shift.

24 Section 318. Stationary motors.

25 Every stationary motor underground, together with its
26 starting equipment, shall be protected by a fuse or circuit-
27 breaking device on each ungrounded pole and by switches arranged
28 to entirely cut off the power from the motor. The devices shall
29 be installed in a convenient position near the motor, and every
30 stationary underground motor of 100 brake horsepower or over

1 shall be provided with a suitable meter to indicate the load on
2 the machine.

3 Section 319. Permanent underground installation.

4 All electrical equipment not covered elsewhere under this
5 act, and except room hoists and gathering pumps which will
6 remain in the same location for a period of one year or more,
7 shall be completely housed in an incombustible structure built
8 of tile, brick, stone, concrete or grounded steel plates not
9 less than one-eighth inch in thickness, securely joined.

10 Section 320. Underground illumination.

11 (a) Sockets.--In all mines, the sockets of fixed electric
12 lamps shall be of so-called weatherproof type, the exterior of
13 which shall be entirely nonmetallic. Flexible lamp cord
14 connections are prohibited, except for portable lamps as
15 provided under subsection (c).

16 (b) Lamps.--Electric lamps shall be placed so they cannot
17 come in contact with combustible material.

18 (c) Portable electric lamps.--Portable electric lamps, other
19 than battery lamps, shall not be used in connection with the
20 repair and inspection of machines and equipment in face areas.
21 When used elsewhere, they shall be protected by a heavy wire
22 cage completely enclosing both lamp and socket and shall be
23 provided with a handle to which both cage and socket are firmly
24 attached and through which the lead-in wires are carried.

25 (d) Electric lamp enclosure.--Electric lamps, when used in
26 face areas of any mine, shall be installed in explosion-proof
27 enclosures.

28 (e) Electric lamp replacement.--Electric lamps shall be
29 replaced by a competent ~~person~~ INDIVIDUAL. In face areas, a
30 qualified ~~person~~ INDIVIDUAL shall be utilized after an

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1 examination for gas has been made with an approved gas detection
2 device.

3 (f) Underground photography.--Underground photography using
4 flash bulbs or other sources of artificial illumination shall be
5 prohibited unless immediately preceded by an examination for gas
6 by a mine foreman, assistant mine foreman or mine examiner and
7 the place found safe.

8 Section 321. Telephones and signaling.

9 (a) Telephone service.--Telephone service or equivalent two-
10 way communication facilities shall be provided in all mines
11 between the surface and each working section that is more than
12 1,500 feet from the main portal.

13 (b) Telephone lines.--Telephone lines shall be carried on
14 insulators, installed on the opposite side from power or trolley
15 wires and insulated adequately where they cross power or trolley
16 wires.

17 (c) Lightning arrestors.--Lightning arrestors shall be
18 provided at points where telephone circuits enter the mine.

19 (d) Telephone cables.--Telephone cables permanently
20 installed in power boreholes containing unarmored power cables
21 shall be either armored or protected at top and bottom by
22 insulating transformers.

23 (e) Precautions.--All proper precautions shall be taken to
24 prevent electric signal and telephone wires from coming into
25 contact with other electric conductors, whether insulated or
26 not.

27 (f) Standards generally.--Bells, wires, insulators, contact
28 makers and other apparatus used in connection with electric
29 signaling underground shall be of suitable design and of
30 substantial and reliable construction and erected in such a

1 manner as to reduce the liability of failures or false signals
2 to a minimum.

3 (g) Potential.--In the face areas of any mine, the potential
4 used for signal purposes shall not exceed 24 volts, and bare
5 wires shall not be used for signal circuits.

6 (h) Voltage on signal circuits.--The voltage on signal
7 circuits confined to intake air and using insulated conductors
8 may be greater than 24 volts, but shall not exceed 125 volts
9 average. This shall not apply to haulage block signal systems.
10 Section 322. Grounding.

11 (a) General rule.--In a direct-current electrical system,
12 grounding shall consist in so connecting any part of an
13 electrical system, including frames, to the earth that there
14 shall be no difference of potential between them.

15 (b) Negative side to be grounded.--Only the negative side of
16 the direct-current circuit shall be grounded.

17 (c) Rectifier diodes.--Rectifier diodes used at any
18 bituminous coal mine shall be connected to the supply circuit
19 through an isolating winding in order that isolation between
20 alternating current and direct-current systems is effective.

21 (d) Initial installation.--The initial installation of
22 rectifiers at any bituminous coal mine shall be approved by the
23 department before being energized.

24 Section 323. Voltage limitation.

25 In no case shall the potential used in the trolley system be
26 higher than 600 volts.

27 Section 324. Incoming feeder-disconnect switches.

28 Disconnecting switches shall be installed underground in all
29 main direct-current power circuits within 500 feet of the bottom
30 of shafts, boreholes or at other places where main power

1 circuits enter a mine.

2 Section 325. Bonding.

3 Where air or water pipes parallel the grounded return of
4 power circuits, the return shall be securely bonded to the pipes
5 at frequent intervals to eliminate the possibility of a
6 difference of voltage between rails and pipes and to prevent
7 electrolysis of the pipes. The rail return shall be of
8 sufficient capacity for the current used, independent of the
9 capacity of the pipes. On main haulage roads, both rails shall
10 be bonded, except welded track, and cross bonds shall be placed
11 at points not to exceed 200 feet apart. On secondary haulage
12 roads, one rail shall be bonded continuously.

13 Section 326. Trolley installation.

14 (a) Trolley wires and feeder lines.--All trolley wires and
15 feeder lines installed on underground haulage roads shall be
16 placed as far to one side of the passageway as is practicable,
17 but not less than six inches outside of line of rail, and
18 securely supported upon hangers which shall not be more than 24
19 feet apart and efficiently insulated.

20 (b) Prohibition.--In all mines, trolley and feeder wires
21 shall not extend beyond the last open crosscut and shall be kept
22 at least 150 feet from open pillar workings.

23 (c) Switches or circuit breakers.--All branch trolley lines
24 shall be fitted with either a trolley switch, circuit breaker or
25 section insulator and line switch or some other device that will
26 allow the current to be shut off from the branch headings.
27 Switches or circuit breakers shall be provided on haulage roads
28 to de-energize all trolley and feeder lines at intervals not to
29 exceed 2,000 feet.

30 Section 327. Connections to trolley.

1 (a) Permanent connections.--All permanent connections to
2 trolley feeder circuits shall be made with suitable mechanical
3 connectors. No temporary or permanent connection shall be
4 wrapped or tied.

5 (b) Temporary connections.--Temporary connections for
6 portable equipment may be made through fused trolley taps.

7 (c) Safety ground and negative connections.--Safety ground
8 and negative connections for temporary or permanent
9 installations shall be made at two separate points, at least six
10 inches apart, and shall be made directly to the track, a bond or
11 the system ground.

12 Section 328. Guarding.

13 At all landings and partings or other places where
14 individuals are required to regularly work or pass under trolley
15 or other bare power wires, which are placed less than six and
16 one-half feet above top of rail, a suitable protection shall be
17 provided. This protection shall consist of placing boards along
18 the wire, which boards shall not be more than five inches apart
19 nor less than two inches below the lowest point of the wire. The
20 distance between boards on curves may exceed five inches, but
21 shall not exceed eight inches. This does not prohibit the use of
22 other approved devices or methods furnishing equal or better
23 protection.

24 Section 329. Locomotives.

25 (a) Electric haulage.--Electric haulage by trolley
26 locomotive is not permitted except on intake air.

27 (b) Certain operation prohibited.--It shall be unlawful to
28 run or operate a locomotive, fed directly or indirectly from a
29 trolley wire, by the open entrances to worked out places wherein
30 the pillars have been drawn or places in which the pillars have

1 not been drawn but in places where the roof has collapsed.

2 (c) Certain use proscribed.--No open-type electric
3 locomotive or open-type electric machine of whatsoever type
4 shall be taken into a working place. Main return airways or
5 passageways shall not be used as haulageways for electric
6 locomotives operated from a trolley wire.

7 Section 330. Outdoor substation.

8 The outdoor substation shall be built in accordance with
9 current Institute of Electrical and Electronics Engineers'
10 standards and department equipment performance specification and
11 shall include:

12 (1) Protective fence or enclosure.

13 (2) Primary or incoming line lightning arrestors.

14 (3) Positive disconnecting means on the incoming or
15 primary line with a circuit breaker or fuses to interrupt
16 safely any current, normal or abnormal, which might be
17 encountered.

18 (4) Transformer bank to convert the incoming or primary
19 voltage to the transmission voltage. The use of auto-
20 transformers for this purpose is prohibited. Secondary or
21 underground transmission voltage shall not exceed 15,000
22 volts, nominal, phase to phase. The transformer may be
23 connected delta-wye, wye-delta or delta-delta. Wye-wye
24 connections shall not be used because of voltage instability
25 under some conditions of load. In the event that the
26 secondary winding is delta-connected, the neutral necessary
27 for the four-wire transmission circuit shall be derived by
28 the use of a three-phase zig-zag or grounding transformer.
29 Where grounding transformers are used, they shall be of
30 sufficient capacity to carry maximum ground fault current

1 continuously. Should the substation primary or supply voltage
2 equal the mine transmission voltage, the main transformer
3 bank may be omitted and the zig-zag transformer used to
4 derive a system neutral if one is not otherwise available.

5 (5) Secondary lightning arrestors.

6 (6) Ground fault-current limiting resistor capable of
7 continuously limiting ground fault current to 25 amperes or
8 less. The resistor shall be adequately insulated and shall be
9 protected by a grounded fence or screen unless mounted eight
10 feet or more above ground.

11 (7) Secondary or mine feeder circuit breaker with
12 interrupting capacity adequate for any possible condition of
13 fault and no less than the short circuit capacity of the
14 system supplying power to the breaker. Positive disconnect
15 means shall be provided on the input and output side of the
16 breaker. Use of automatic reclosing circuit breakers is
17 prohibited. Breaker automatic tripping shall be through
18 protective relays and shall provide, as a minimum, tripping
19 by undervoltage, instantaneous and inverse time limit phase
20 overcurrent, ground fault current not exceeding 15 amperes
21 and ground-continuity check not exceeding seven amperes. The
22 ground-continuity check circuit shall continuously monitor
23 the integrity of the neutral circuit leading underground and
24 shall cause the breaker to open when either the ground or
25 pilot check wire is broken. An ammeter capable of reading
26 current in each phase and a voltmeter capable of reading
27 phase-to-phase voltage shall be provided at the circuit
28 breaker.

29 (8) Surge protection or station ground bed to which
30 shall be connected all lightning arrestor grounds, substation

1 equipment frame grounds, fence, if metallic, and substation
2 structure, if metallic. There shall be no direct connection
3 between this ground bed and either the grounded side of the
4 mine direct-current system or the neutral ground bed
5 described below.

6 (9) Neutral or primary ground bed located at least 25
7 feet away from the station ground at its closest point and to
8 which shall be connected only the inby or load end of the
9 neutral current limiting resistor. To prevent current
10 transformer core saturation by stray direct current return
11 currents, or neutral conductor damage, there shall be no
12 direct or metallic connection between any point of the high-
13 voltage alternating current neutral circuit and the mine
14 direct-current ground.

15 (10) Ground bed resistance shall be measured at least
16 every six months and appropriate action taken to assure the
17 maintenance of four ohms or less of ground bed resistance. A
18 record of these resistance measurements shall be kept in a
19 book provided for that purpose.

20 Section 331. High-voltage underground transmission system.

21 (a) Underground.--High-voltage cables leading underground
22 and extending underground shall be of the multiple conductor
23 flame-resistant type with a rubber, plastic or armor sheath
24 meeting the requirements of the department for flame resistance.
25 They shall be equipped with metallic shields around each power
26 conductor. One or more ground conductors shall be provided of a
27 total size either:

- 28 (1) not less than one-half the power conductor size; or
- 29 (2) capable of carrying two times the maximum ground
30 fault current.

1 There shall also be provided an insulated conductor not smaller
2 than No. 10 AWG for the ground-continuity check circuit. Cables
3 shall be adequate for the intended current and voltage. Splices
4 made in the cable shall provide continuity of all components and
5 shall be made in accordance with the cable manufacturers'
6 recommendations. A competent ~~person~~ INDIVIDUAL designated by the ←
7 mine electrician shall supervise the making of splices.

8 (b) Subject to flexing.--High-voltage cables subject to
9 repeated flexing shall be similar in construction to type SH-D
10 in accordance with Insulated Power Cable Engineers Association
11 standard S-19-81.

12 (c) Couplers.--If couplers are used, they shall be of the
13 three-phase type with a full metallic shell and shall be
14 adequate for the voltage and current expected. All exposed metal
15 on the couplers shall be grounded to the ground conductor in the
16 cable. The coupler shall be constructed so that the ground
17 continuity conductor shall be broken first and the ground
18 conductor shall be broken last when the coupler is being
19 uncoupled.

20 (d) Equipment passing over or under cable.--At locations
21 where cables cross haulageways or travelways or where equipment
22 must pass over or under the cable, the cables shall be either
23 installed in a trench in the roof, protected by some mechanical
24 means or buried at least 12 inches below combustible material
25 and adequately protected from crushing by the weight of
26 equipment passing over it.

27 (e) Location of installation.--High-voltage cables shall be
28 installed only in intake airways. They may be installed on
29 intake haulageways only with the approval of the department. The
30 cable may be installed by hanging on suitable hooks or clamps,

1 supported by a suitable messenger cable, burying or installing
2 in metal conduit. When suspended, the distance between supports
3 shall not exceed 20 feet, and they shall be so placed that they
4 do not damage the cable jacket. When hung in a haulage entry
5 containing a trolley wire, the cable shall be installed at least
6 12 inches from the trolley wire or feeder wires and away from
7 the track.

8 (f) Excess cable.--Any excess cable which is connected and
9 supplying a load shall be coiled, stored on a reel or otherwise
10 stored at a place near the load where it can be protected by
11 dangling off the storage area. The cable shall not exceed 1,000
12 feet in length.

13 (g) Frames and enclosures.--Frames and enclosures of high-
14 voltage switch units, transformers, metallic cable couplers and
15 splice boxes shall be grounded to the common or primary ground
16 for the system in the high-voltage cable.

17 (h) Taps or branch circuits.--Taps or branch circuits from
18 the high-voltage feeder shall be made through circuit breakers
19 or suitable load break switches.

20 (i) Nonload breaking disconnect switches.--When nonload
21 breaking disconnect switches are used for sectionalizing high-
22 voltage circuits, they shall be fully metal clad, equipped with
23 a door interlock to break the ground-continuity check circuit,
24 thus tripping the feeding breaker when the door is open, and a
25 voltmeter or indicating lights to verify that the circuit is
26 deenergized before the disconnected switches are opened.

27 (j) Applicability.--For the purpose of interpretation and
28 compliance with subsection (h) and section 313(h), the following
29 apply:

30 (1) A branch circuit is a subportion of the high-voltage

1 system, serving one or more loads. The branch circuit begins
2 at the junction or splitting of the high-voltage system. The
3 junction consists of the following distinct elements:

4 (i) Input feeder, which delivers power from the
5 source.

6 (ii) Output feeder, which may extend the feeder to
7 other parts of the high-voltage system.

8 (iii) Branch circuit.

9 The output feeder is not considered as a branch circuit and
10 is not required to have electrical protection at the
11 junction, but receives electrical protection either at the
12 source substation or at some place between the source
13 substation and the junction. The branch circuit is required
14 to have protection at the junction.

15 (2) A tap supplies power to the high-voltage loads
16 located entirely within the enclosure where the connection is
17 made. Where no splitting of the feeder cable occurs, neither
18 a tap nor branch is created.

19 (3) A suitable load-break switch, which may be used in
20 lieu of a circuit breaker, is a gang-operated switch with a
21 voltage rating not less than the system voltage, capable of
22 interrupting a current equal to its continuous full load
23 rating and to be used in conjunction with fuses to provide
24 overload and short circuit protection for the load being
25 served.

26 Section 332. Load center.

27 Transmission voltage shall be reduced to machine utilization
28 voltage by a portable transformer or load center of adequate
29 capacity for the equipment powered by it. The transformer shall
30 be of the dry type, ventilated, nonventilated or sealed,

1 substantially constructed and completely enclosed in a metal
2 case. The metal enclosure shall be connected to the high-voltage
3 system ground conductor in the high-voltage cable. Complete load
4 center construction shall render it essentially fireproof. In
5 addition to these requirements, the following shall be observed:

6 (1) Connection of the high-voltage cable to the load
7 center shall be made through a cable coupler of the type
8 described in section 331(c).

9 (2) The load center shall be equipped with a positive
10 disconnect means on the incoming or high-voltage circuit.
11 This may consist of a circuit breaker, load-break switch,
12 disconnect switch or other device. The following apply:

13 (i) If a circuit breaker is used for this purpose,
14 it shall be equipped with instantaneous and inverse time
15 limit phase overcurrent and undervoltage relaying
16 protection.

17 (ii) If a device other than a circuit breaker is
18 used, it shall be so arranged that it cannot be operated
19 until the ground continuity check circuit in the high-
20 voltage cable has opened causing the nearest feeding
21 circuit breaker to trip.

22 (3) The restriction of section 330(4) pertaining to
23 transformer connections and use of zig-zag grounding
24 transformers also apply to the load center.

25 (4) The transformer secondary neutral, direct or
26 derived, shall be connected to machine trailing cable safety
27 ground conductors through a ground current limiting resistor
28 capable of limiting ground fault current to 25 amperes or
29 less. The inby side of the resistor shall be grounded to the
30 load center frame if no DC equipment powered from a common

1 mine DC system can contact the frames of AC equipment powered
2 by this load center. In the event there is a possibility of
3 frame contact between AC equipment and DC equipment supplied
4 from a common DC mine system, the inby side of the resistor
5 may be insulated from the load center frame and shall be
6 solidly connected to the DC ground system.

7 (5) The load center shall be equipped with a main
8 secondary breaker of adequate interrupting capacity with
9 tripping devices which shall feed individual machine breakers
10 located either in the load center or external to it in a
11 separate distribution center. External utilization voltage
12 connections shall be made through receptacles arranged so
13 that they cannot be uncoupled under load.

14 (6) Load centers shall be located on intake air only.
15 Load centers shall not be located beyond the last open
16 crosscut or located closer than 250 feet along the air route
17 to pillar workings.

18 Section 333. Distribution centers.

19 (a) General rule.--Distribution centers may be used to
20 distribute utilization power to portable equipment. The
21 distribution center may be connected to the load center through
22 one or more cables or conductors protected by flame-resistant
23 jackets with combined capacity sufficient to carry the maximum
24 loads that may be encountered. The distribution center shall
25 contain breakers adequate to interrupt any fault current that
26 might occur, which shall feed each unit of equipment that is
27 connected to the distribution center. Each breaker shall be
28 equipped with tripping devices that will function, on overload,
29 phase fault and ground fault. Distribution centers shall be
30 located on intake air only, and shall not be located beyond the

1 last open crosscut or closer than 150 feet from pillar workings
2 unless the distribution center shall have an approved explosion-
3 proof enclosure.

4 (b) Cables.--Utilization voltage cables shall be fitted with
5 plug couplers and provision made so that cables cannot be
6 uncoupled under load. All plugs and sockets shall be
7 substantially constructed, and any exposed metal portions shall
8 be grounded. Couplers shall be constructed so that the ground
9 conductor connection is broken last during uncoupling.

10 (c) Ground conductors.--Utilization voltage conductors,
11 cables or conductor groups shall contain one or more ground
12 conductors which when combined shall be able to carry safely and
13 continuously at least twice the maximum ground fault current.

14 (d) Option.--A combined alternating and direct-current
15 distribution or load center complete within a substantially
16 fireproof metal enclosure, with a dry type transformer and solid
17 state rectifier and adequate automatic electrical protection,
18 may be used to distribute alternating and direct current
19 utilization power. The power supply to this unit may be low,
20 medium or high voltage. When high voltage is utilized, the
21 requirements of section 332 shall apply. When medium or low
22 voltage is utilized, this section shall apply. However, when an
23 external DC distribution device is employed, the rectifier
24 output may be taken through a main DC circuit breaker to that
25 device without the use of a plug and receptacle system.

26 Section 334. Mandatory safety components of electrical
27 equipment.

28 (a) Requirement.--Low-voltage, medium-voltage and high-
29 voltage resistance ground systems shall have ground wire
30 monitors to continuously monitor the continuity of the grounding

1 circuits to the equipment affected, except for:

2 (1) Low-voltage and medium-voltage circuits supplying
3 power to longwall illumination systems.

4 (2) Low-voltage and medium-voltage stationary equipment
5 installed in accordance with all of the following:

6 (i) The equipment is permanently installed at a
7 fixed location.

8 (ii) All load components are securely attached to a
9 common metallic frame or structure.

10 (iii) Each component of the equipment is grounded by
11 two independent equipment safety grounding, each sized
12 appropriately.

13 (iv) At least one of the equipment safety ground
14 conductors to each component is visible for its entire
15 length. High-voltage resistance grounded systems shall
16 have ground wire monitors to continuously monitor the
17 continuity of the grounding circuits. All ground wire
18 monitors shall be designed and constructed to be
19 failsafe.

20 (b) Study.--The mining industry shall initiate a study to
21 enhance the safety of underground direct-current machine cables.
22 The program shall include an evaluation of ground wire monitors
23 for use on all direct-current equipment. The program shall
24 include laboratory and underground testing. The test results
25 shall be documented and presented to the Board of Coal Mine
26 Safety no later than 365 days after the effective date of this
27 act for action by the board.

28 (c) Additional study.--The mining industry shall initiate a
29 study to enhance the safety of underground cables. The program
30 shall include an evaluation of metallic shielded cable,

1 nonmetallic shielded cable and more sensitive ground fault
2 limiting and detection. The program shall include laboratory and
3 underground testing. The results shall be documented and
4 presented to the Board of Coal Mine Safety no later than 365
5 days after the effective date of this act for action by the
6 board.

7 (d) Plugs.--If plugs are used on any cable in a mine, the
8 plugs must be interlocked.

9 Section 335. High-voltage longwalls.

10 Sections 336 through 344 are electrical safety standards that
11 apply to high-voltage longwall circuits and equipment. All other
12 standards established under this act also apply to longwall
13 circuits and equipment when appropriate. The department shall
14 consider existing Federal interpretations of comparable
15 standards when implementing and enforcing these requirements.

16 Section 336. Longwall electrical protection.

17 (a) High-voltage circuits.--High-voltage circuits must be
18 protected against short circuits, overloads, ground faults and
19 undervoltages by circuit-interrupting devices of adequate
20 interrupting capacity as follows:

21 (1) Current settings of short-circuit protective devices
22 must not exceed the setting specified in approval
23 documentation or 75% of the minimum available phase-to-phase
24 short-circuit current, whichever is less.

25 (2) Time-delay settings of short-circuit protective
26 devices used to protect any cable extending from the section
27 power center to a motor-starter enclosure must not exceed the
28 settings specified in approval documentation or one-quarter
29 second, whichever is less. Time-delay settings of short-
30 circuit protective devices used to protect motor and shearer

1 circuits must not exceed the settings specified in approval
2 documentation or three cycles, whichever is less.

3 (3) Ground-fault currents must be limited by a neutral
4 grounding resistor to not more than:

5 (i) six and one-half amperes when the nominal
6 voltage of the power circuit is 2,400 volts or less; or

7 (ii) three and three-quarters of an ampere when the
8 nominal voltage of the power circuit exceeds 2,400 volts.

9 (4) High-voltage circuits extending from the section
10 power center must be provided with all of the following:

11 (i) Ground-fault protection set to cause de-
12 energization at not more than 40% of the current rating
13 of the neutral grounding resistor.

14 (ii) A backup ground-fault detection device to cause
15 de-energization when a ground fault occurs with the
16 neutral grounding resistor open.

17 (iii) Thermal protection for the grounding resistor
18 that will de-energize the longwall power center if the
19 resistor is subjected to a sustained ground fault. The
20 thermal protection must operate at either 50% of the
21 maximum temperature rise of the grounding resistor or 150
22 Centigrade or 302 Fahrenheit, whichever is less, and must
23 open the ground-wire monitor circuit for the high-voltage
24 circuit supplying the section power center. The thermal
25 protection must not be dependent upon control power and
26 may consist of a current transformer and overcurrent
27 relay.

28 (5) High-voltage motor and shearer circuits must be
29 provided with instantaneous ground-fault protection set at
30 not more than 0.125 of an ampere.

1 (6) Time-delay settings of ground-fault protective
2 devices used to provide coordination with the instantaneous
3 ground-fault protection of motor and shearer circuits shall
4 not exceed one-quarter second.

5 (7) Undervoltage protection shall be provided by a
6 device which operates on low voltage to cause and maintain
7 the interruption of power to a circuit to prevent automatic
8 restarting of the equipment.

9 (b) Current transformers.--Current transformers used for the
10 ground-fault protection specified in subsection (a)(1), (4)(i)
11 and (5) must be single window type and must be installed to
12 encircle all three-phase conductors. Equipment safety grounding
13 conductors must not pass through or be connected in series with
14 ground-fault current transformers.

15 (c) Test circuit.--Each ground-fault current device
16 specified in subsection (a)(4)(i) and (5) must be provided with
17 a test circuit that will inject a primary current of 50% or less
18 of the current rating of the grounding resistor through the
19 current transformer and cause each corresponding circuit-
20 interrupting device to open.

21 (d) Prohibition.--Circuit-interrupting devices shall not
22 reclose automatically.

23 (e) Multiple cables.--Where two or more high-voltage cables
24 are used to supply power to a common bus in a high-voltage
25 enclosure, each cable must be provided with ground wire
26 monitoring. The ground wire monitoring circuits must cause de-
27 energization of each cable when either the ground monitor or
28 grounding conductor of any cable becomes severed or open. On or
29 after the effective date of this section, parallel-connected
30 cables on newly installed longwalls must be protected as

1 follows:

2 (1) when one circuit-interrupting device is used to
3 protect parallel-connected cables, the circuit-interrupting
4 device must be electrically interlocked with the cables so
5 that the device will open when any cable is disconnected; or

6 (2) when two or more parallel circuit-interrupting
7 devices are used to protect parallel-connected cables, the
8 circuit-interrupting devices must be mechanically and
9 electrically interlocked. Mechanical interlocking shall cause
10 all devices to open simultaneously and electrical
11 interlocking shall cause all devices to open when any cable
12 is disconnected.

13 Section 337. Longwall disconnect switches.

14 (a) Section power center.--The section power center must be
15 equipped with a main disconnecting device installed to de-
16 energize all cables extending to longwall equipment when the
17 device is in the open position.

18 (b) Maintenance.--Disconnecting devices for motor-starter
19 enclosures must be maintained in accordance with the
20 department's approval. The compartment for the disconnect device
21 must be provided with a caution label to warn miners against
22 entering the compartment before de-energizing the incoming high-
23 voltage circuits to the compartment.

24 (c) Rating.--Disconnecting devices must be rated for the
25 maximum phase-to-phase voltage of the circuit in which they are
26 installed and for the full load current of the circuit that is
27 supplied power through the device.

28 (d) Installation.--Each disconnecting device must be
29 designed and installed so that:

30 (1) Visual observation determines that the contacts are

1 open without removing any cover.

2 (2) All load power conductors can be grounded when the
3 device is in the open position.

4 (3) The device can be locked in the open position.

5 (e) Capability.--Disconnecting devices, except those
6 installed in explosion-proof enclosures, shall be capable of
7 interrupting the full load current of the circuit or designed
8 and installed to cause the current to be interrupted
9 automatically prior to the opening of the contacts of the
10 device. Disconnecting devices installed in explosion-proof
11 enclosures shall be maintained in accordance with the
12 department's approval.

13 Section 338. Guarding of longwall cables.

14 (a) High-voltage cables.--High-voltage cables shall be
15 guarded at the following locations:

16 (1) Where ~~persons~~ INDIVIDUALS regularly work or travel ←
17 over or under the cables.

18 (2) Where the cables leave cable handling or support
19 systems to extend to electric components.

20 (b) Intent and design of guarding.--Guarding shall minimize
21 the possibility of miners contacting the cables and protect the
22 cables from damage. The guarding shall be made of grounded metal
23 or nonconductive flame-resistant material.

24 Section 339. Longwall cable-handling and support systems.

25 Longwall mining equipment shall be provided with cable-
26 handling and support systems that are constructed, installed and
27 maintained to minimize the possibility of miners contacting the
28 cables and to protect the high-voltage cables from damage.

29 Section 340. Use of longwall insulated cable handling
30 equipment.

1 (a) General rule.--Energized high-voltage cables shall not
2 be handled except when motor or shearer cables need to be
3 trained. When cables need to be trained, high-voltage insulated
4 gloves, mitts, hooks, tongs, slings, aprons or other personal
5 protective equipment capable of providing protection against
6 shock hazard shall be used to prevent direct contact with the
7 cable.

8 (b) Standards, examinations, testing and replacement.--High-
9 voltage insulated gloves, sleeves and other insulated personal
10 protective equipment shall:

11 (1) have a voltage rating of at least Class 1, 7,500
12 volts, that meets or exceeds ASTM F496-97, Standard
13 Specification for In-Service Care of Insulating Gloves and
14 Sleeves (1997);

15 (2) be examined before each use for visible signs of
16 damage;

17 (3) be removed from the underground area of the mine or
18 destroyed when damaged or defective; and

19 (4) be electrically tested every six months.

20 Section 341. Maintenance.

21 Compartment separation and cover interlock switches for
22 motor-starter enclosures shall be maintained in accordance with
23 section 342.

24 Section 342. High-voltage longwall mining systems.

25 (a) General rule.--In each high-voltage motor-starter
26 enclosure, with the exception of a controller on a high-voltage
27 shearer, the disconnect device compartment,
28 control/communications compartment and motor contactor
29 compartment shall be separated by barriers or partitions to
30 prevent exposure of personnel to energized high-voltage

1 conductors or parts. Barriers or partitions shall be constructed
2 of grounded metal or nonconductive insulating board.

3 (a.1) High-voltage shearers.--In each motor-starter
4 enclosure on a high-voltage shearer, the high-voltage components
5 shall be separated from lower voltage components by barriers or
6 partitions to prevent exposure of personnel to energized high-
7 voltage conductors or parts. Barriers or partitions shall be
8 constructed of grounded metal or nonconductive insulating board.

9 (b) Interlock switches.--Each cover of a compartment in the
10 high-voltage motor-starter enclosure containing high-voltage
11 components shall be equipped with at least two interlock
12 switches arranged to automatically de-energize the high-voltage
13 components within that compartment when the cover is removed.

14 (c) Circuit-interrupting devices.--Circuit-interrupting
15 devices shall be designed and installed to prevent automatic
16 reclosure.

17 (d) Transformers.--Transformers with high-voltage primary
18 windings that supply control voltages shall incorporate grounded
19 electrostatic (Faraday) shielding between the primary and
20 secondary windings. The shielding shall be connected to the
21 equipment ground by a minimum No. 12 AWG grounding conductor.
22 The secondary nominal voltage shall not exceed 120 volts, line
23 to line.

24 (e) Test circuits.--Test circuits shall be provided for
25 checking the condition of ground wire monitors and ground-fault
26 protection without exposing personnel to energized circuits.
27 Each ground-test circuit shall inject a primary current of 50%
28 or less of the current rating of the grounding resistor through
29 the current transformer and cause each corresponding circuit-
30 interrupting device to open.

1 (f) Disconnect devices.--Each motor-starter enclosure, with
2 the exception of a controller on a high-voltage shearer, shall
3 be equipped with a disconnect device installed to de-energize
4 all high-voltage power conductors extending from the enclosure
5 when the device is in the open position.

6 (1) When multiple disconnect devices located in the same
7 enclosure are used to satisfy the requirement of this
8 subsection, they shall be mechanically connected to provide
9 simultaneous operation by one handle.

10 (2) The disconnect device shall be rated for the maximum
11 phase-to-phase voltage and the full-load current of the
12 circuit in which it is located and installed so that:

13 (i) visual observation determines that the contacts
14 are open without removing any cover;

15 (ii) the load-side power conductors are grounded
16 when the device is in the open position;

17 (iii) the device can be locked in the open position;

18 (iv) when located in an explosion-proof enclosure,
19 the device shall be designed and installed to cause the
20 current to be interrupted automatically prior to the
21 opening of the contacts; and

22 (v) when located in a nonexplosion-proof enclosure,
23 the device shall be designed and installed to cause the
24 current to be interrupted automatically prior to the
25 opening of the contacts, or the device shall be capable
26 of interrupting the full-load current of the circuit.

27 (g) Starters to be interlocked.--Control circuits for the
28 high-voltage motor starters shall be interlocked with the
29 disconnect device so that:

30 (1) The control circuit can be operated with an

1 auxiliary switch in the test position only when the
2 disconnect device is in the open and grounded position.

3 (2) The control circuit can be operated with the
4 auxiliary switch in the normal position only when the
5 disconnect switch is in the closed position.

6 (h) Determination of minimum available fault current.--A
7 study to determine the minimum available fault current shall be
8 submitted to the department to ensure adequate protection for
9 the length and conductor size of the longwall motor, shearer and
10 trailing cables.

11 (i) Shielded construction of certain cables.--Longwall motor
12 and shearer cables with nominal voltages greater than 660 volts
13 shall be made of a shielded construction with a grounded
14 metallic shield around each power conductor.

15 (j) Instantaneous ground fault protection.--High-voltage
16 motor and shearer circuits shall be provided with instantaneous
17 ground fault protection of not more than 0.125 of an ampere.
18 Current transformers used for this protection shall be of the
19 single window type and shall be installed to encircle all three-
20 phase conductors.

21 Section 343. Longwall electrical work.

22 (a) Qualified workers.--Electrical work on all circuits and
23 equipment associated with high-voltage longwalls shall be
24 performed by MSHA-qualified persons.

25 (b) Procedures for work on circuits and equipment.--Except
26 for troubleshooting and testing of energized circuits and
27 equipment as provided under subsection (d), prior to performing
28 electrical work a qualified ~~person~~ INDIVIDUAL shall do the
29 following: <—

30 (1) De-energize the circuit or equipment with a circuit-

1 interrupting device.

2 (2) Open the circuit-disconnecting device. On high-
3 voltage circuits, ground the power conductors until work on
4 the circuit is completed.

5 (3) Lock out the disconnecting device with a padlock.

6 When more than one qualified ~~person~~ INDIVIDUAL is performing <—
7 work, each ~~person~~ INDIVIDUAL shall install an individual <—
8 padlock.

9 (4) Tag the disconnecting device to identify each ~~person~~ <—
10 INDIVIDUAL working and the circuit or equipment on which work <—
11 is being performed.

12 (c) Restrictions relating to low-voltage, medium-voltage or
13 high-voltage distribution circuits or equipment.--No electrical
14 work shall be performed on low-voltage, medium-voltage or high-
15 voltage distribution circuits or equipment, except by a
16 qualified ~~person or a person~~ INDIVIDUAL OR AN INDIVIDUAL trained <—
17 to perform electrical work and to maintain electrical equipment
18 under the direct supervision of a qualified ~~person~~ INDIVIDUAL. <—
19 Disconnecting devices shall be locked out and suitably tagged by
20 the ~~persons~~ INDIVIDUALS who perform the work, except that in <—
21 cases where locking out is not possible, the devices shall be
22 opened and suitably tagged by ~~persons~~ INDIVIDUALS performing the <—
23 work. Locks or tags shall be removed only by the ~~persons~~ <—
24 INDIVIDUALS who installed them or, if such ~~persons~~ INDIVIDUALS <—
25 are unavailable, by ~~persons~~ INDIVIDUALS authorized by the <—
26 operator or his agent.

27 (d) Troubleshooting and testing of energized circuits.--
28 Troubleshooting and testing of energized circuits must be
29 performed only:

30 (1) On low-voltage and medium-voltage circuits.

1 (2) When the purpose of troubleshooting and testing is
2 to determine voltages and currents.

3 (3) By ~~persons~~ AN INDIVIDUAL qualified to perform ←
4 electrical work and who ~~wear~~ WEARS protective gloves. Rubber- ←
5 insulating gloves shall be rated at least for the nominal
6 voltage of the circuit when the voltage of the circuit
7 exceeds 120 volts nominal and is not intrinsically safe.

8 (e) Troubleshooting and testing of multiple voltage
9 circuits.--Before troubleshooting and testing a low-voltage or
10 medium-voltage circuit contained in a compartment with a high-
11 voltage circuit, the high-voltage circuit must be de-energized,
12 disconnected, grounded, locked out and tagged in accordance with
13 subsection (b).

14 (f) Conveyor belt structures.--Prior to the installation or
15 removal of a conveyor belt structure, high-voltage cables
16 extending from the section power center to the longwall
17 equipment and located in the belt entries shall be:

18 (1) deenergized; or

19 (2) guarded in accordance with section 338, at the
20 location where the belt structure is being installed or
21 removed.

22 Section 344. Testing, examination and maintenance of longwall
23 equipment.

24 (a) Equipment subject to seven-day inspection schedule.--At
25 least once every seven days, a MSHA-qualified ~~person~~ INDIVIDUAL ←
26 shall test and examine each unit of high-voltage longwall
27 equipment and circuits to determine that electrical protection,
28 equipment grounding, permissibility cable insulation and control
29 devices are being properly maintained to prevent fire,
30 electrical shock, ignition or operational hazards from existing

1 on the equipment. Tests shall include activating the ground-
2 fault test circuit.

3 (b) Equipment subject to 30-day inspection schedule.--Each
4 ground-wire monitor and associated circuits shall be examined
5 and tested at least once every 30 days to verify proper
6 operation and to verify that it will cause the corresponding
7 circuit-interrupting device to open.

8 (c) Removal or repair of equipment.--When examinations or
9 tests of equipment reveal a fire, electrical shock, ignition or
10 operational hazard, the equipment must be removed from service
11 immediately or repaired immediately.

12 (d) Certifications and records.--At the completion of
13 examinations and tests required by this section, the ~~person~~ ←
14 INDIVIDUAL who makes the examinations and tests shall certify by ←
15 signature and date that they have been conducted. A record shall
16 be made of any unsafe condition found and any corrective action
17 taken. Certifications and records shall be kept for at least one
18 year and shall be made available for inspection by authorized
19 representatives of the department and representatives of miners.

20 Section 345. (Reserved).

21 Section 346. (Reserved).

22 Section 347. (Reserved).

23 Section 348. (Reserved).

24 Section 349. (Reserved).

25 Section 350. Equipment approvals.

26 (a) Departmental discretion.--The department may require the
27 approval of all underground equipment, surface substations
28 feeding power underground, fans and personnel conveyances
29 (elevators, man hoists and escape capsules) connected to an
30 underground mine. All elevators at the time of installation

1 shall meet the criteria established in the current American
2 Society of Mechanical Engineers A17.1 Code, pertaining to
3 special application elevators, mine elevators, connected to an
4 underground mine. The equipment shall be grouped as follows for
5 the purposes of approval:

6 (1) Bituminous face equipment (BFE) - permissible
7 equipment.

8 (2) Bituminous open type equipment (BOTE) - non-
9 permissible equipment.

10 (3) Bituminous power distribution equipment (BPDE) -
11 nonpermissible power equipment.

12 (4) Surface installations:

13 (i) Mine power substations (MM-S).

14 (ii) Fans I (MM-F).

15 (iii) Personnel conveyances (MM-P).

16 (5) Minewide monitoring systems (MWMS).

17 (b) Limitation of approvals.--The approvals under subsection
18 (a) are specifically limited by the provision that permissible
19 equipment approved by the MSHA Approval and Certification Center
20 that is not in conflict with and which meets the requirements of
21 this act shall be deemed to be approved by the department.

22 (c) Procedures for approval.--The procedures for approval of
23 underground and surface equipment are as follows:

24 (1) Approvals shall be limited to electrical systems,
25 safety systems required by this act and specifications
26 developed by the task force established by the parties and
27 provided for under subsection (d).

28 (2) Newly purchased permissible equipment shall be
29 constructed in a fashion as to provide accessibility for
30 inspection of permissible components.

1 (3) The evaluation to determine whether the equipment
2 should be approved shall be based strictly on the specific
3 criteria set forth in this act and the performance
4 specifications under subsection (d). In the absence of
5 performance specifications for equipment or specific
6 provisions of this act addressing such equipment; and if the
7 department considers that the equipment as designed or built
8 poses an unacceptable risk to the health or safety of miners,
9 the following procedure shall be applied:

10 (i) The department, in a written report, shall
11 specify the unacceptable risk, based upon objective
12 ascertainable data and criteria approved by a nationally
13 recognized standards organization.

14 (ii) The department shall convene a task force to
15 develop specifications for the equipment in an expedited
16 fashion.

17 (iii) If the task force is unable to develop
18 applicable performance standards within 75 days, the
19 department may continue to withhold approval based upon
20 noncompliance with a mandatory safety standard of a
21 nationally recognized standards organization that has
22 been shown to be appropriate for mining.

23 (4) For new equipment, the prototype of which has not
24 been previously approved, a manufacturer or operator shall
25 submit to the department an application requesting approval.
26 The request for approval shall include four schematics, a
27 description and any other pertinent information for the
28 equipment.

29 (5) The application under paragraph (4) shall be
30 reviewed within 15 working days after receipt. Within the 15-

1 day period the department shall communicate verbally and in
2 writing to the applicant all discrepancies between the
3 application and the equipment performance specifications. If
4 the department does not communicate to the applicant within
5 the 15 days as described in this paragraph, the application
6 shall be deemed approved. If the applicant submits additional
7 schematics or information, the department shall have an
8 additional 15 days to communicate to the applicant concerning
9 such additional schematics or information.

10 (6) When the application review under paragraph (5) is
11 complete, an inspector shall be assigned to evaluate the
12 equipment and the operator or manufacturer notified of that
13 assignment. The equipment inspection shall be scheduled
14 within 20 working days of the departmental inspector being
15 notified. If the inspector gets to the inspection site and
16 the equipment is not in conformance with the specific
17 criteria set forth in this act and the performance
18 specifications described in this section, the time frame
19 shall stop. When the equipment has been modified to conform
20 with the specific criteria set forth in this act and the
21 performance specifications, the operator shall notify the
22 department for a reinspection, and the department shall
23 schedule the reinspection within ten working days. If the
24 equipment is in conformance with the specific criteria set
25 out in this act and the performance specifications described
26 in this section, but the schematics are not, the equipment
27 can be used, but the operator or manufacturer shall have ten
28 working days to resubmit the corrected schematics or the
29 equipment shall be taken out of service.

30 (7) For previously approved equipment that an operator

1 proposes to modify, the approval procedure established for
2 new equipment that has not been previously approved is to be
3 applicable. The approval process shall address only the
4 modification that has been made and shall not require changes
5 to the components of the equipment that were initially
6 approved. For the purpose of this paragraph, modification
7 shall not include changes to equipment in which components
8 are changed and replaced with components that provide
9 equivalent protection. Modifications subject to approval
10 shall include only those changes to equipment which affect
11 whether the equipment still satisfies the applicable
12 performance specifications described in this section or set
13 out specifically in this act.

14 (8) Approved equipment and repaired equipment that has
15 not been modified are outside the scope of the approval
16 process and shall be handled under the mine inspection
17 program of the department.

18 (9) Any direction to take corrective action shall be in
19 writing and shall specify the provisions of this act or the
20 performance specifications upon which the department relies.

21 (10) The department has the right to inspect equipment
22 to determine that it is in compliance with applicable
23 requirements of this act and the equipment performance
24 specifications. The inspections shall be performed in the
25 normal course of inspecting the mine and shall, to the extent
26 feasible, minimize the disruption of production.

27 (11) New or rebuilt equipment that has been approved,
28 but has not been inspected by an approval inspector, shall be
29 inspected by a mine electrical inspector. The operator shall
30 give reasonable notice to the mine electrical inspector for

1 an inspection prior to the equipment entering the mine. The
2 inspection shall be performed in the normal course of
3 inspecting the mine and shall, to the extent feasible,
4 minimize the disruption of production.

5 (d) Written criteria for equipment performance
6 specifications.--A task force shall be established to develop
7 written criteria for equipment performance specifications.

8 (1) The task force shall be comprised of equal numbers
9 of representatives, not less than two nor more than four,
10 selected by the department and the major trade association
11 representing coal operators in this Commonwealth. Final
12 consensus on performance specifications shall be determined
13 by a majority of the task force.

14 (2) The task force shall develop performance
15 specifications for approval of equipment and reserves the
16 right, for just cause, to add or delete from the developed
17 equipment performance specifications.

18 (3) All equipment performance specifications approved
19 pursuant to the stipulation of settlement shall remain in
20 effect unless and until they are modified, suspended or
21 revoked by this act, regulations promulgated under this act
22 or the equipment performance specifications task force.

23 (e) Definitions.--As used in this section, the following
24 words and phrases shall have the meanings given to them in this
25 subsection:

26 "Permissible equipment." As applied to electric face
27 equipment, all electrically operated equipment taken into or
28 used in or by the last open crosscut of an entry or a room of
29 any coal mine the electrical parts of which equipment,
30 including, but not limited to, associated electrical equipment,

1 components and accessories, are designed, constructed and
2 installed in accordance with the specifications of MSHA to
3 assure that the equipment will not cause a mine explosion or
4 mine fire, and the other features of which are designed and
5 constructed, in accordance with the specifications of the
6 ~~Secretary~~ DEPARTMENT of Environmental Protection, to prevent, to ←
7 the greatest extent possible, other accidents in the use of the
8 equipment.

9 CHAPTER 4

10 DIESEL-POWERED EQUIPMENT

11 Section 401. Underground use.

12 (a) General rule.--Underground use of inby and outby diesel-
13 powered equipment, including mobile equipment, stationary
14 equipment and equipment of all horsepower ratings, shall only be
15 approved, operated and maintained as provided under this
16 chapter, except for emergency fire-fighting equipment to be used
17 specifically for that purpose.

18 (b) Required attendant.--All diesel-powered equipment shall
19 be attended while in operation with the engine running in
20 underground mines. For purposes of this subsection, "attended"
21 shall mean an equipment operator is within sight or sound of the
22 diesel-powered equipment.

23 (c) Required certifications or approvals.--Inby and outby
24 diesel-powered equipment may be used in underground mines if the
25 inby or outby diesel-powered equipment uses an engine approved
26 or certified by MSHA, as applicable, for inby or outby use that,
27 when tested at the maximum fuel-air ratio, does not require a
28 MSHA Part 7 approval plate ventilation rate exceeding 75 c.f.m.
29 per rated horsepower. If MSHA promulgates new regulations that
30 change the MSHA Part 7 approval plate ventilation rate, the

1 c.f.m. requirement per rated horsepower shall be revised either
2 up or down on a direct ratio basis upon recommendation of the
3 technical advisory committee in accordance with section 424.
4 Section 402. Diesel-powered equipment package.

5 (a) Approval.--All diesel-powered equipment shall be
6 approved by the ~~secretary~~ DEPARTMENT as a complete diesel- ←
7 powered equipment package which shall be subject to all of the
8 requirements, standards and procedures set forth under this
9 chapter.

10 (b) Diesel engine approval.--Diesel engines shall be
11 certified or approved, as applicable, by MSHA and maintained in
12 accordance with MSHA certification or approval and ~~secretary~~ ←
13 approval BY THE DEPARTMENT. ←

14 Section 403. Exhaust emissions control.

15 (a) Exhaust emissions control systems.--

16 (1) Except as provided in paragraph (3), underground
17 diesel-powered equipment shall include an exhaust emissions
18 control and conditioning system that has been laboratory
19 tested with the diesel engine using the ISO 8178-1 test and
20 has resulted in diesel particulate matter emissions that do
21 not exceed an average concentration of 0.12 mg/m³ when
22 diluted by 100% of the MSHA Part 7 approval plate ventilation
23 rate for that diesel engine. If MSHA promulgates new
24 regulations that change the MSHA Part 7 approval plate
25 ventilation rate, the dilution percentage relative to the
26 approval plate ventilation rate shall be adjusted either up
27 or down on a direct ratio basis upon recommendation of the
28 technical advisory committee in accordance with section 424.

29 (2) Except as provided in paragraph (3), the exhaust
30 emissions control and conditioning system shall be required

1 to successfully complete a single series of laboratory tests
2 for each diesel engine, conducted at a laboratory accepted by
3 the ~~secretary~~ DEPARTMENT. ←

4 (3) An exhaust emissions control and conditioning system
5 may be approved for multiple diesel engine applications
6 through a single series of laboratory tests, known as the ISO
7 8178-1 test, only if data is provided to the technical
8 advisory committee that reliably verifies that the exhaust
9 emissions control and conditioning system meets, for each
10 diesel engine, the in-laboratory diesel particulate matter
11 standard established by this subsection. Data provided to
12 satisfy this paragraph shall include diesel particulate
13 matter production rates for the specified engine as measured
14 during the ISO 8178-1 test, if available. If ISO 8178-1 test
15 data for diesel particulate matter production is not
16 available for a specified engine, comparable data may be
17 provided to the technical advisory committee that reliably
18 verifies that the exhaust emissions control and conditioning
19 system shall meet, for the specified diesel engine, the in-
20 laboratory diesel particulate matter standard established by
21 this subsection. This standard shall only be used for in-
22 laboratory testing for approval of diesel-powered equipment
23 for use underground.

24 (b) Components of exhaust emissions system.--The exhaust
25 emissions control and conditioning system shall include the
26 following:

27 (1) A diesel particulate matter (DPM) filter that has
28 proven capable of a reduction in total diesel particulate
29 matter to a level that does not exceed the requirements of
30 subsection (a)(1). However, the technical advisory committee

1 may evaluate, in accordance with section 424, alternative
2 technologies that have the ability to meet the 0.12 mg/m³
3 standard.

4 (2) An oxidation catalyst or other gaseous emissions
5 control device capable of reducing undiluted carbon monoxide
6 emissions to 100 ~~ppm~~ PARTS PER MILLION or less under all ←
7 conditions of operation at normal engine operating
8 temperature range.

9 (3) An engine surface temperature control capable of
10 maintaining significant external surface temperatures below
11 302 degrees Fahrenheit.

12 (4) A system capable of reducing the exhaust gas
13 temperature below 302 degrees Fahrenheit.

14 (5) An automatic engine shutdown system that shuts off
15 the engine before the exhaust gas temperature reaches 302
16 degrees Fahrenheit and, if water-jacketed components are
17 used, before the engine coolant temperature reaches 212
18 degrees Fahrenheit. A warning shall be provided to alert the
19 equipment operator prior to engine shutdown.

20 (6) A spark arrestor system.

21 (7) A flame arrestor system.

22 (8) A sampling port for measurement of undiluted and
23 untreated exhaust gases as they leave the engine.

24 (9) A sampling port for measurement of treated undiluted
25 exhaust gases before they enter the mine atmosphere.

26 (10) For permissible diesel equipment, any additional
27 MSHA regulations must be met.

28 (c) Diagnostics systems.--Onboard engine performance and
29 maintenance diagnostics systems shall be capable of continuously
30 monitoring and giving readouts for paragraphs (1), (2), (3),

1 (4), (5), (6), (7) and (8). The diagnostics system shall
2 identify levels that exceed the engine or component
3 manufacturer's recommendation or the applicable MSHA or bureau
4 requirements as to the following:

- 5 (1) Engine speed.
- 6 (2) Operating hour meter.
- 7 (3) Total intake restriction.
- 8 (4) Total exhaust back pressure.
- 9 (5) Cooled exhaust gas temperature.
- 10 (6) Coolant temperature.
- 11 (7) Engine oil pressure.
- 12 (8) Engine oil temperature.

13 Section 404. Ventilation.

14 (a) Minimum quantities.--Minimum quantities of ventilating
15 air where diesel-powered equipment is operated shall be
16 maintained pursuant to this section.

17 (b) Approvals.--Each specific model of diesel-powered
18 equipment shall be approved by the ~~secretary~~ DEPARTMENT before <—
19 it is taken underground. The ~~secretary~~ DEPARTMENT shall require <—
20 that an approval plate be attached to each piece of the diesel-
21 powered equipment. The approval plate shall specify the minimum
22 ventilating air quantity for the specific piece of diesel-
23 powered equipment. The minimum ventilating air quantity shall be
24 determined by the bureau based on the amount of air necessary at
25 all times to maintain the exhaust emissions at levels not
26 exceeding the exposure limits established under section 419.

27 (c) Minimum air quantities.--The minimum quantities of air
28 in any split where any individual unit of diesel-powered
29 equipment is being operated shall be at least that specified on
30 the approval plate for that equipment. Air quantity measurements

1 to determine compliance with this requirement shall be made at
2 the individual unit of diesel-powered equipment.

3 (d) Multiple units in operation.--Where multiple units are
4 operated, the minimum quantity shall be at least the total of
5 100% of MSHA's Part 7 approval plate ventilation rate for each
6 unit operating in that split. Air quantity measurements to
7 determine compliance with this requirement shall be made at the
8 most downwind unit of diesel-powered equipment that is being
9 operated in that air split. If MSHA promulgates new regulations
10 that change the MSHA Part 7 approval plate ventilation rate, the
11 minimum quantity where multiple units are operated shall be
12 revised on a direct ratio basis upon recommendation of the
13 technical advisory committee in accordance with section 424.

14 (e) Minimum quantities of air in certain splits.--The
15 minimum quantities of air in any split where any diesel-powered
16 equipment is operated shall be in accordance with the minimum
17 air quantities required in subsections (a) and ~~(b)~~, (B) AND (C) ←
18 and shall be specified in the mine diesel ventilation plan.

19 Section 405. Fuel storage facilities.

20 (a) General rule.--An underground diesel fuel storage
21 facility shall be any facility designed and constructed to
22 provide for the storage of any mobile diesel fuel transportation
23 units or the dispensing of diesel fuel.

24 (b) Diesel fuel standards.--Diesel-powered equipment shall
25 be used underground only with fuel that meets the standards of
26 the most recently approved United States Environmental
27 Protection Agency (EPA) guidelines for over-the-road fuel.
28 Additionally, the fuel shall also meet the ASTM D975 standards
29 with a flash point of 100 degrees Fahrenheit or greater at
30 standard temperature and pressure. The operator shall maintain a

1 copy of the most recent delivery receipt from the supplier to
2 verify that the fuel used underground meets this standard.

3 (c) Requirements.--Underground diesel fuel storage
4 facilities shall meet the following general requirements:

5 (1) Fixed underground diesel fuel storage tanks are
6 prohibited.

7 (2) No more than 500 gallons of diesel fuel shall be
8 stored in each underground diesel fuel storage facility.

9 (d) Location.--Underground diesel fuel storage facilities
10 shall be located as follows:

11 (1) at least 100 feet from shafts, slopes, shops and
12 explosives magazines;

13 (2) at least 25 feet from trolley wires, haulage ways,
14 power cables and electric equipment not necessary for the
15 operation of the storage facilities; and

16 (3) in an area that is as dry as practicable.

17 (e) Construction requirements.--

18 (1) Underground diesel fuel storage facilities shall
19 meet the construction requirements and safety precautions
20 under this subsection.

21 (2) Underground diesel fuel storage facilities shall
22 meet all of the following:

23 (i) Be constructed of noncombustible materials and
24 provided with either self-closing or automatic closing
25 doors.

26 (ii) Be ventilated directly into the return air
27 course using noncombustible materials.

28 (iii) Be equipped with an automatic fire suppression
29 system complying with section 408. The technical advisory
30 committee may recommend for approval an alternate method

1 of complying with this section on a mine-by-mine basis in
2 accordance with section 424.

3 (iv) Be equipped with at least two portable 20-pound
4 multipurpose dry-chemical type fire extinguishers.

5 (v) Be marked with conspicuous signs designating
6 combustible liquid storage.

7 (vi) Be included in the preshift examination.

8 (3) Welding or cutting other than that performed in
9 accordance with paragraph (4) shall not be done within 50
10 feet of a diesel fuel storage facility.

11 (4) When it is necessary to weld, cut or solder
12 pipelines, cylinders, tanks or containers that may have
13 contained diesel fuel, the following requirements shall
14 apply:

15 (i) Cutting or welding shall not be performed on or
16 within containers or tanks that have contained
17 combustible or flammable materials until the containers
18 or tanks have been thoroughly purged and cleaned or
19 rendered inert and a vent or opening is provided to allow
20 for sufficient release of any buildup pressure before
21 heat is applied.

22 (ii) Diesel fuel shall not be allowed to enter
23 pipelines or containers that have been welded, soldered,
24 brazed or cut until the metal has cooled to ambient
25 temperature.

26 Section 406. Transfer of diesel fuel.

27 (a) General rule.--Diesel fuel shall be transferred as
28 provided in this section.

29 (b) Pump transfers.--When diesel fuel is transferred by
30 means of a pump and a hose equipped with a nozzle containing a

1 self-closing valve, a powered pump may be used only if:

2 (1) the hose is equipped with a nozzle containing a
3 self-closing valve without a latch-open device; and

4 (2) the pump is equipped with an accessible emergency
5 shutoff switch.

6 (c) Compressed gas prohibition.--Diesel fuel shall not be
7 transferred using compressed gas.

8 (d) Status of diesel engine.--Diesel fuel shall not be
9 transferred to the fuel tank of diesel-powered equipment while
10 the equipment's engine is running.

11 (e) Dry-system design.--Diesel fuel piping systems shall be
12 designed and operated as dry systems.

13 (f) Standards for pipes, valves and fittings.--All piping,
14 valves and fittings shall meet the following requirements:

15 (1) Be capable of withstanding working pressures and
16 stresses.

17 (2) Be capable of withstanding four times the static
18 pressures.

19 (3) Be compatible with diesel fuel.

20 (4) Be maintained in a manner that prevents leakage.

21 (g) Manual shutoff valves.--Vertical pipelines shall have
22 manual shutoff valves installed at the surface filling point and
23 at the underground discharge point.

24 (h) Exposed fuel pipelines.--Unburied diesel fuel pipelines
25 shall not exceed 300 feet in length and shall have shutoff
26 valves located at each end of the unburied pipeline.

27 (i) Horizontal pipeline prohibition.--Horizontal pipelines
28 shall not be used to distribute fuel throughout a mine.

29 (j) Limitation on piping systems.--Diesel fuel piping
30 systems shall be used only to transport fuel from the surface

1 directly to a single underground diesel fuel transfer point.

2 (k) Restrictions related to boreholes.--When boreholes are
3 used, the diesel fuel piping system shall not be located in a
4 borehole with electric power cables.

5 (l) Inspections.--Diesel fuel pipelines located in any shaft
6 shall be included as part of the required examination of the
7 shaft.

8 (m) Location in entries.--Diesel fuel piping systems located
9 in entries shall not be located on the same side of the entry as
10 electric cables or power lines.

11 (n) Trolley-haulage limitations.--Diesel fuel pipelines
12 shall not be located in any trolley-haulage entry, except that
13 they may cross the entry perpendicular if buried or otherwise
14 protected from damage and sealed.

15 (o) Protection.--Diesel fuel piping systems shall be
16 protected to prevent physical damage.

17 Section 407. Containers.

18 (a) General rule.--Containers for the transport of diesel
19 fuel shall meet the requirements of this section.

20 (b) Limitations on containers.--Diesel fuel shall be
21 transported only in containers specifically designed for the
22 transport of diesel fuel.

23 (c) Limitations on vehicle transport.--No more than one
24 safety can, conspicuously marked, shall be transported on a
25 vehicle at any time.

26 (d) Standards for containers other than safety containers.--
27 Containers, other than safety cans, used to transport diesel
28 fuel shall be provided with the following:

29 (1) Devices for venting.

30 (2) Self-closing caps.

1 (3) Vent pipes at least as large as the fill or
2 withdrawal connection, whichever is larger, but not less than
3 one and one-fourth inch nominal inside diameter.

4 (4) Liquid-tight connections for all container openings
5 that are identified by conspicuous markings and closed when
6 not in use.

7 (5) Shutoff valves located within one inch of the tank
8 shell on each connection through which liquid can normally
9 flow.

10 (e) Tanks with manual gauging.--When tanks are provided with
11 openings for manual gauging, liquid-tight caps or covers shall
12 be provided and shall be kept closed when not open for gauging.

13 (f) Capacity of containers.--Containers used for the
14 transport of diesel fuel shall not exceed a capacity of 500
15 gallons.

16 (g) Certain containers as permanent fixtures.--Containers,
17 other than safety cans, used for the transport of diesel fuel
18 shall be permanently fixed to the transportation unit.

19 (h) Method of transportation.--Diesel fuel transportation
20 units shall be transported individually and not with any other
21 cars, except that two diesel fuel transportation units up to a
22 maximum of 500 gallons each may be transported together.

23 (i) Prohibition.--Diesel fuel shall not be transported on
24 conveyor belts.

25 (j) Fire extinguisher.--When transporting diesel fuel in
26 containers other than safety cans, a fire extinguisher shall be
27 provided on each end of the transportation unit. The fire
28 extinguishers shall be multipurpose type dry-chemical fire
29 extinguishers containing a nominal weight of 20 pounds.

30 (k) Fire suppression systems for diesel transportation

1 units.--Diesel fuel transportation units shall have a fire
2 suppression system that meets the requirements of section 408.

3 (l) Limitations where trolley wires are present.--In mines
4 where trolley wire is used, diesel fuel transportation units
5 shall be provided with insulating material to protect the units
6 from any energized trolley wire, and the distance between the
7 diesel fuel transportation unit and the trolley wire shall not
8 be less than 12 inches, or the trolley wire shall be de-
9 energized when diesel fuel transportation units are transported
10 through the area.

11 (m) Parking restrictions.--Unattended diesel fuel
12 transportation units shall be parked only in underground diesel
13 fuel storage facilities.

14 (n) Emergency fueling restrictions.--Safety cans shall be
15 used for emergency fueling only.

16 (o) Standards for safety cans.--Safety cans shall be clearly
17 marked, have a maximum capacity of five gallons, be constructed
18 of metal and be equipped with a nozzle and self-closing valves.
19 Section 408. Fire suppression for equipment and transportation.

20 (a) General rule.--Fire suppression systems for diesel-
21 powered equipment and fuel transportation units shall meet the
22 requirements of this section.

23 (b) Type system.--The system must be an automatic
24 multipurpose dry-powder type fire suppression system suitable
25 for the intended application and listed or approved by a
26 nationally recognized independent testing laboratory.
27 Installation requirements shall be as follows:

28 (1) The system shall be installed in accordance with the
29 manufacturer's specifications and the limitations of the
30 listing or approval.

1 (2) The system shall be installed in a protected
2 location or guarded to minimize physical damage from routine
3 operations.

4 (3) Suppressant agent distribution tubing or piping of
5 the system shall be secured and protected against damage,
6 including pinching, crimping, stretching, abrasion and
7 corrosion.

8 (4) Discharge nozzles of the system shall be positioned
9 and aimed for maximum fire suppression effectiveness in the
10 protected areas. Nozzles shall also be protected against the
11 entrance of foreign materials, such as mud, coal dust or rock
12 dust that could prevent proper discharge of suppressant
13 agent.

14 (c) Automatic fire detection and suppression.--The fire
15 suppression system shall provide automatic fire detection and
16 suppression for all of the following:

17 (1) The engine, transmission, hydraulic pumps and tanks,
18 fuel tanks, exposed brake units, air compressors and battery
19 areas, as applicable, on all diesel-powered equipment.

20 (2) Fuel containers and electric panels or controls used
21 during fuel transfer operations on fuel transportation units.

22 (d) Fault and fire alarm annunciators.--The fire suppression
23 system shall include a system fault and fire alarm annunciator
24 that can be seen and heard by the equipment operator.

25 (e) Automatic engine shutdown.--The fire suppression system
26 shall provide for automatic engine shutdown. Engine shutdown and
27 discharge of suppressant agent may be delayed for a maximum of
28 15 seconds after the fire alarm annunciator alerts the operator.

29 (f) Manual actuators.--At least two manual actuators shall
30 be provided, with at least one manual actuator at each end of

1 the equipment. If the equipment is provided with an operator's
2 compartment, one of the mechanical actuators shall be located in
3 the compartment within easy reach of the operator. For
4 stationary equipment, the two manual actuators shall be located
5 with at least one actuator on the stationary equipment and at
6 least one actuator a safe distance away from the equipment and
7 in intake air.

8 Section 409. Fire suppression for storage areas.

9 (a) General rule.--Fire suppression systems for diesel fuel
10 storage areas shall meet the requirements of this section.

11 (b) Type system.--The system shall be an automatic
12 multipurpose dry-powder type fire suppression system or other
13 system of equal capability, suitable for the intended
14 application and listed or approved by a nationally recognized
15 independent testing laboratory. The system shall meet the
16 following installation requirements:

17 (1) The system shall be installed in accordance with the
18 manufacturer's specifications and the limitations of the
19 listing or approval.

20 (2) The system shall be installed in a protected
21 location or guarded to minimize physical damage from routine
22 operations.

23 (3) Suppressant agent distribution tubing or piping of
24 the system shall be secured and protected against damage,
25 including pinching, crimping, stretching, abrasion and
26 corrosion.

27 (4) Discharge nozzles of the system shall be positioned
28 and aimed for maximum fire suppression effectiveness in the
29 protected areas. Nozzles shall also be protected against the
30 entrance of foreign materials, such as mud, coal dust and

1 rock dust that could prevent proper discharge of suppressant
2 agent.

3 (c) Automatic fire detection and suppression.--The fire
4 suppressant system shall provide automatic fire detection and
5 suppression for the fuel storage tanks, containers, safety cans,
6 pumps, electrical panels and control equipment in fuel storage
7 areas.

8 (d) Types of alarms.--Audible and visual alarms to warn of
9 fire or system faults shall be provided at the protected area
10 and at a surface location that is always staffed when ~~persons~~ <—
11 INDIVIDUALS are underground. A means shall also be provided for <—
12 warning all endangered ~~persons~~ INDIVIDUALS in the event of fire. <—

13 (e) Manual actuators.--Fire suppression systems shall
14 include two manual actuators with at least one located within
15 the fuel storage facility and at least one located a safe
16 distance away from the storage facility and in intake air.

17 (f) System operation.--The fire suppression system shall
18 remain operative in the event of electrical system failure.

19 (g) Monitoring of certain systems.--If electrically
20 operated, the detection and actuation circuits shall be
21 monitored and provided with status indicators showing power and
22 circuit continuity. If not electrically operated, a means shall
23 be provided to indicate the functional readiness status of the
24 system.

25 (h) Weekly visual inspection.--Fire suppression devices
26 shall be visually inspected at least once each week by a ~~person~~ <—
27 AN INDIVIDUAL qualified to make the inspection. <—

28 (i) Maintenance, testing and records.--Each fire suppression
29 device shall be tested and maintained. A record shall be
30 maintained of the inspection required by this subsection. The

1 record of the weekly inspections shall be maintained at an
2 appropriate location for each fire suppression device.

3 (j) (Reserved).

4 (k) Instructions.--All miners normally assigned to the
5 active workings of a mine shall be instructed about any hazards
6 inherent to the operation of all fire suppression devices
7 installed and, where appropriate, the safeguards available for
8 each device.

9 Section 410. Use of certain starting aids prohibited.

10 The use of volatile or chemical starting aids is prohibited.

11 Section 411. Fueling.

12 (a) Restrictions on fueling locations.--Fueling of diesel-
13 powered equipment shall not be conducted in the intake escape-
14 way unless the mine design and entry configuration make it
15 necessary. In those cases where fueling in the intake escape-way
16 is necessary, the mine operator shall submit a plan for approval
17 to the ~~secretary~~ DEPARTMENT, which shall be investigated by the <—
18 technical advisory committee in accordance with section 424,
19 outlining the special safety precautions that will be taken to
20 insure the protection of miners. The submitted plan shall
21 specify a location, such as the end of the tail piece track or
22 adjacent to the load out point, where fueling shall be conducted
23 in the intake escape-way and all other safety precautions that
24 shall be taken, which shall include an examination of the area
25 for spillage or fire by a qualified ~~person~~ INDIVIDUAL. <—

26 (b) Spill cleanup.--Diesel fuel and other combustible
27 materials shall be cleaned up and not be permitted to accumulate
28 anywhere in an underground mine or on diesel-powered or electric
29 equipment located in a mine.

30 (c) Trained ~~person on duty~~.—~~At least one person~~ INDIVIDUAL <—

1 ON DUTY.--AT LEAST ONE INDIVIDUAL specially trained in the
2 cleanup and disposal of diesel fuel spills shall be on duty at
3 the mine when diesel-powered equipment or mobile fuel
4 transportation equipment is being used or when any fueling of
5 diesel-powered equipment is being conducted.

6 Section 412. Fire and safety training.

7 (a) Training of underground employees.--All underground
8 employees at the mine shall receive special instruction related
9 to fighting fires involving diesel fuel. This training may be
10 included in annual refresher training under MSHA regulations at
11 30 CFR Part 48 (relating to training and retraining of miners)
12 or included in the fire drills required under MSHA regulations
13 relating to program of instruction; location and use of fire
14 fighting equipment; location of escape-ways, exits and routes of
15 travel; evacuation procedures; and fire drills.

16 (b) Training of miners.--All miners shall be trained in
17 precautions for safe and healthful handling and disposal of
18 diesel-powered equipment filters. All used intake air filters,
19 exhaust diesel particulate matter filters and engine oil filters
20 shall be placed in their original containers or other suitable
21 enclosed containers and removed from the underground mine to the
22 surface. Arrangements shall be made for safe handling and
23 disposal of these filters within a timely manner after they have
24 reached the surface.

25 Section 413. Maintenance.

26 (a) General rule.--Diesel-powered equipment shall be
27 maintained in an approved and safe condition as described in
28 this chapter or removed from service. Failure of the mine
29 operator to comply with the maintenance requirements of this
30 subsection may result in revocation of the ~~secretary's~~

<—

1 DEPARTMENT'S approval of the complete diesel-powered equipment <—
2 package, provided appropriate notification has been given to the
3 mine operator and the procedures of this section have been
4 followed. Upon receiving the appropriate notification, the mine
5 operator shall have 30 days to submit a plan to achieve and
6 maintain compliance. The plan shall be evaluated by the
7 ~~secretary~~ DEPARTMENT and, upon approval, the mine operator shall <—
8 implement the plan. The ~~secretary~~ DEPARTMENT shall monitor the <—
9 mine operator's compliance. If the ~~secretary~~ DEPARTMENT then <—
10 determines that the mine operator is unable or unwilling to
11 comply, the ~~secretary~~ DEPARTMENT shall revoke the mine <—
12 operator's approval.

13 (b) Acquisition and maintenance of approvals.--To acquire
14 and maintain approval of a complete diesel-powered equipment
15 package, the mine operator shall comply with the following
16 requirements:

17 (1) All service, maintenance and repairs of approved
18 complete diesel-powered equipment packages shall be performed
19 by mechanics who are trained and qualified in accordance with
20 section 422.

21 (2) Service and maintenance of approved complete diesel-
22 powered equipment packages shall be performed according to:

- 23 (i) the specified routine maintenance schedule;
- 24 (ii) onboard performance and maintenance diagnostics
25 readings;
- 26 (iii) emissions test results; and
- 27 (iv) component manufacturers' recommendations.

28 Section 414. Records.

29 (a) General rule.--A record shall be made of all emissions
30 tests, preoperational examinations and maintenance and repairs

1 of complete diesel-powered equipment packages. The records made
2 pursuant to this section shall meet the requirements of this
3 section.

4 (b) Written certification.--The ~~person~~ INDIVIDUAL performing ←
5 the emissions test, examination, maintenance or repair shall
6 certify by date, time, engine hour reading and signature that
7 the emissions test, examination, maintenance or repair was made.

8 (c) Results.--Records of emissions tests and examinations
9 shall include the specific results of such tests and
10 examinations.

11 (d) Content.--Records of maintenance and repairs shall
12 include the work that was performed, any fluids or oil added,
13 parts replaced or adjustments made and the results of any
14 subsequently required emissions testing.

15 (e) Preoperational examination record retention.--Records of
16 preoperational examinations shall be retained for the previous
17 100-hour maintenance cycle.

18 (f) Certain records to be countersigned.--Records of
19 emissions tests, 100-hour maintenance tests and repairs shall be
20 countersigned once each week by the certified mine electrician
21 or mine foreman.

22 (g) Other record retention.--Except as specified in
23 subsection (e), all records required by this section shall be
24 retained for at least one year at a surface location at the mine
25 and made available for inspection by the department and by
26 miners and their representatives.

27 Section 415. Duties of equipment operator.

28 (a) Preoperational examination.--Prior to use of a piece of
29 diesel-powered equipment during a shift, an equipment operator
30 shall conduct an examination as follows:

1 (1) Check the exhaust emissions control and conditioning
2 system components to determine that the components are in
3 place and not damaged or leaking.

4 (2) Assure that the equipment is clean and free of
5 accumulations of combustibles.

6 (3) Assure that the machine is loaded safely.

7 (4) Check for external physical damage.

8 (5) Check for loose or missing connections.

9 (6) Check engine oil level.

10 (7) Check transmission oil level.

11 (8) Check other fluid levels, if applicable.

12 (9) Check for hydraulic, coolant and oil leaks.

13 (10) Check fan, water pump and other belts.

14 (11) Check the fan for damage.

15 (12) Check guards.

16 (13) Check the fuel level.

17 (14) Check for fuel leaks.

18 (15) Comply with recordkeeping requirements pursuant to
19 section 414.

20 (b) Operational examination.--After the engine is started
21 and warmed up, the equipment operator shall conduct an
22 examination as follows:

23 (1) Check all onboard engine performance and maintenance
24 diagnostics system gauges for proper operation and in-range
25 readings. The equipment operator shall immediately shut down
26 the engine and notify the operator if the onboard readings
27 indicate any of the following:

28 (i) Intake restriction at full engine speed is
29 greater than the manufacturer's recommendation.

30 (ii) Exhaust restriction at full engine speed is

1 greater than the manufacturer's recommendation.

2 (iii) Coolant temperature is at or near 212 degrees
3 Fahrenheit.

4 (iv) Low engine oil pressure.

5 (v) High engine oil temperature.

6 (2) Check safety features, including, but not limited
7 to, the throttle, brakes, steering, lights and horn.

8 (3) Comply with recordkeeping requirements pursuant to
9 section 414.

10 Section 416. Schedule of maintenance.

11 At intervals not exceeding 100 hours of engine operation, a
12 qualified mechanic shall perform the following maintenance and
13 make all necessary adjustments or repairs or remove the
14 equipment from service:

15 (1) Wash or steam clean the equipment.

16 (2) Check for and remove any accumulations of coal, coal
17 dust or other combustible materials.

18 (3) Check the equipment for damaged or missing
19 components or other visible defects.

20 (4) Conduct electrical and safety component inspections.

21 (5) Replace engine oil and oil filter.

22 (6) Check the transmission oil level and add oil, if
23 necessary.

24 (7) Check hydraulic oil level and add oil, if necessary.

25 (8) Check the engine coolant level and add coolant, if
26 necessary.

27 (9) Check all other fluid levels and add fluid, if
28 necessary.

29 (10) Check for oil, coolant and other fluid leaks.

30 (11) Inspect the cooling fan, radiator and shroud.

1 Remove any obstructions and make necessary repairs.

2 (12) Check all belts. Tighten or replace, if necessary.

3 (13) Check the battery and service as necessary.

4 (14) Check the automatic fire suppression system.

5 (15) Check the portable fire extinguisher.

6 (16) Check the lights.

7 (17) Check the warning devices.

8 (18) With the engine operating, check and replace or
9 repair the following:

10 (i) Oil pressure.

11 (ii) Intake air restriction at full engine speed.

12 (iii) Exhaust gas restriction at full engine speed.

13 (iv) Exhaust flame arrestor.

14 (v) All gauges and controls.

15 (19) Conduct repeatable loaded engine-operating test in
16 accordance with section 418.

17 (20) If the equipment is approved with a nondisposable
18 diesel particulate filter, a smoke dot test of the filtered
19 exhaust must be performed at this time. The results of the
20 smoke dot test shall be recorded on the 100-hour emissions
21 form. If the interpreted smoke dot number is greater than
22 three, the technical advisory committee shall be notified and
23 shall investigate to determine if the filter is functioning
24 properly.

25 (21) Evaluate and interpret the results of all of the
26 above tests and examinations and make all necessary repairs
27 or remove the equipment from service.

28 (22) Comply with the recordkeeping requirements pursuant
29 to section 414.

30 Section 417. Emissions monitoring and control.

1 (a) General rule.--Emissions for diesel-powered equipment
2 shall be monitored and controlled as provided in this section.

3 (b) Determination of baseline emission values.--When any
4 diesel-powered equipment first enters service at a mine,
5 baseline emission values shall be determined by a qualified
6 mechanic. Unless the technical advisory committee in accordance
7 with section 424 recommends an alternate procedure, the
8 qualified mechanic shall:

9 (1) Verify that the seal on the engine fuel injector is
10 in place and that the proper fuel pump is on the equipment.

11 (2) Install a new clean intake air cleaner, measure and
12 record the intake restriction pressure.

13 (3) Check the level of engine oil.

14 (4) Change the engine lubrication oil if not fresh.

15 (5) Check the level of the transmission fluid.

16 (6) Measure and record the exhaust backpressure. If
17 exhaust gas back pressure is above that recommended by the
18 manufacturer, steps must be taken to bring the exhaust gas
19 back pressure within the manufacturer's recommended limit
20 prior to beginning the test described in this subsection.

21 (7) Test the brakes.

22 (8) Place the equipment into an intake entry.

23 (9) Set the brakes and chock the wheels.

24 (10) Install an exhaust gas analyzer into the untreated
25 exhaust gas port.

26 (11) Start the engine and allow it to warm up to
27 operating temperature.

28 (12) Put the engine into a loaded condition. For this
29 section, the loaded condition for the baseline emissions
30 testing shall be determined by the technical advisory

1 committee by determining CO2 values that are representative
2 of the MSHA lug curve readings for that engine model and
3 horsepower.

4 (13) Start the exhaust gas analyzer and allow the engine
5 to operate in the loaded condition for a sufficient length of
6 time not less than a 90-second duration to insure proper CO
7 readings. The qualified mechanic shall record both CO and CO2
8 readings. Note: Baseline CO values shall be determined by the
9 technical advisory committee based upon MSHA lug curve
10 readings for that engine model and horsepower. If the
11 baseline CO values are greater than the MSHA lug curve
12 values, the technical advisory committee shall investigate
13 and either recommend approval or disapproval or recommend
14 alternate methods of meeting the requirements of this
15 section.

16 (14) Comply with recordkeeping requirements pursuant to
17 section 414.

18 (15) An alternative to the testing provided in
19 paragraphs (1) through (14) may be developed by the technical
20 advisory committee in accordance with section 424.

21 (16) Emissions test procedures for this section shall be
22 submitted to the technical advisory committee in accordance
23 with section 424 prior to being implemented for each engine
24 and equipment type.

25 Section 418. Diagnostic testing.

26 (a) Tests.--At intervals not exceeding once every 100 hours
27 of engine operation, a qualified mechanic shall perform
28 equipment maintenance diagnostic testing of each piece of
29 diesel-powered equipment in the mine. The qualified mechanic
30 shall do all of the following:

- 1 (1) Verify the identification numbers on the equipment.
- 2 (2) Check the level of the engine lubricating oil.
- 3 (3) Check the level of the transmission fluid.
- 4 (4) Set the brakes and chock the wheels.
- 5 (5) Install the portable carbon monoxide sampling device
6 into the untreated exhaust port coupling provided in the
7 operator's cab.
- 8 (6) Start the engine and allow it to warm up to
9 operating temperature.
- 10 (7) Check the intake restriction and the exhaust back
11 pressure at high idle speed.
- 12 (8) If the intake restriction is more than the
13 manufacturer's maximum recommended intake restriction,
14 replace the intake filter with a clean one.
- 15 (9) If exhaust gas back pressure is above that
16 recommended by the manufacturer, take steps to bring the
17 exhaust gas back pressure within the manufacturer's
18 recommended limit prior to beginning the test described in
19 this section.
- 20 (10) Put the engine into a loaded condition. As used in
21 this paragraph, the term loaded condition shall mean a
22 condition in which the carbon dioxide values are
23 representative of the MSHA lug curve values for that engine
24 model and horsepower rating.
- 25 (11) Take the following steps:
 - 26 (i) Start the exhaust gas analyzer.
 - 27 (ii) Allow the engine to operate for a sufficient
28 time, not less than 90 seconds, to insure proper carbon
29 monoxide readings and record both carbon monoxide and
30 carbon dioxide readings.

1 (12) Install the exhaust gas analyzer into the treated
2 exhaust port and repeat steps set forth in paragraphs (10)
3 and (11).

4 (13) If the average carbon monoxide reading for
5 untreated exhaust gas is greater than twice the baseline
6 established under section 417(b) or if the average carbon
7 monoxide reading for treated exhaust gas is greater than 100
8 parts per million, the equipment has failed and shall be
9 serviced and retested before it is returned to regular
10 service.

11 (14) Comply with recordkeeping requirements under
12 section 414.

13 (b) Procedures.--Emissions test procedures for this section
14 must be submitted to the technical advisory committee under
15 section 424 prior to being implemented for each engine and
16 equipment type.

17 (c) Alternative procedure.--An alternative to the testing
18 provided in subsection (a) may be developed by the technical
19 advisory committee under section 424.

20 Section 419. Exhaust gas monitoring and control.

21 (a) Concentration.--In monitoring and controlling exhaust
22 gases, the ambient concentration of exhaust gases in the mine
23 atmosphere shall not exceed 35 parts per million for carbon
24 monoxide and three parts per million for nitrogen dioxide. The
25 concentration of these exhaust gases shall be measured at the
26 equipment operator's or equipment attendant's position and by
27 the last piece of diesel-powered equipment operating in the same
28 split of air. Measurements shall be made weekly or more often if
29 necessary by a qualified ~~person~~ INDIVIDUAL and shall be
30 conducted under the requirements of this section.

←

1 (b) Measurement.--Measurement of exhaust gases shall be made
2 with a sampling instrument no less precise than detector tubes.

3 (c) Changes.--If the concentration of a gas listed in
4 subsection (a) is at least 75% of its exposure limit, changes to
5 the use of the diesel equipment, the mine ventilation or the
6 mining process shall be made.

7 (d) Excessive exposure.--If the concentration of a gas
8 listed in subsection (a) exceeds the exposure limit, the diesel
9 equipment operating in that split shall be removed from service
10 immediately, and corrective action shall be taken. After
11 corrective action has been taken by the mine operator, the
12 diesel equipment may be returned to service in its regular
13 operating mode for emissions testing purposes only; and
14 emissions testing shall be conducted immediately to assure that
15 the concentration does not exceed 75% of the exposure limit.
16 Corrective action shall be taken until the concentration does
17 not exceed 75% of the exposure limit before the diesel equipment
18 can be returned to full operation.

19 (e) Compliance.--The mine operator shall comply with the
20 following requirements:

21 (1) Repair or adjustment of the fuel injection system
22 shall only be performed by qualified mechanics authorized by
23 the engine manufacturer.

24 (2) Complete testing of the emissions system in
25 accordance with section 418 shall be conducted:

26 (i) prior to any piece of diesel-powered equipment
27 being put into service; and

28 (ii) after any repair or adjustment to the fuel
29 delivery system, engine timing or exhaust emissions
30 control and conditioning system.

1 (3) Service and maintenance of the intake air filter,
2 exhaust particulate filter and the exhaust system shall be
3 performed at specific time intervals based on the component
4 manufacturer's recommendation and compliance with the engine
5 or emissions control operation specifications and, as needed,
6 based on the on-board diagnostics or emissions test results.
7 Accurate records shall be maintained of service and
8 maintenance under this paragraph.

9 Section 420. Training and general requirements.

10 (a) Approval.--Training course instructors and training
11 plans required by this section shall be approved by the
12 ~~secretary~~ DEPARTMENT. Operator training and qualification shall ←
13 meet the requirements of this section.

14 (b) Conduct.--

15 (1) Training shall be conducted in the basics of the
16 operation of a diesel engine, Federal and State regulations
17 governing their use, company rules for safe operation,
18 specific features of each piece of equipment and the ability
19 to recognize problems.

20 (2) Training shall be provided to each equipment
21 operator and the mine health and safety committee if one
22 exists. This training shall be designed to bring every
23 operator to a level of good understanding of diesel equipment
24 operation.

25 (3) Each operator shall be qualified by attending a
26 minimum eight-hour course, including classroom training on
27 diesel fundamentals and equipment-specific hands-on training
28 on the job. Training shall include instruction in the
29 following classroom subjects:

30 (i) Engine fundamentals. This subparagraph includes

1 an introduction to the function of a diesel engine and
2 recognition of major components and their functions.

3 (ii) Diesel regulations. This subparagraph includes
4 an introduction to Federal and State regulations
5 governing the use of diesel equipment.

6 (iii) Diesel emissions. This subparagraph includes
7 an introduction to diesel emissions and their adverse
8 health effects.

9 (iv) Factors which affect diesel emissions. This
10 subparagraph includes a detailed presentation of engine
11 faults and diesel fuel quality, their effect on emissions
12 and the preventive actions which can be taken to minimize
13 emissions levels.

14 (v) Emissions control devices. This subparagraph
15 includes a detailed presentation of the different
16 emissions control devices employed to reduce emissions
17 and details about actions the operator must take to keep
18 the devices in working order.

19 (vi) Diagnostic techniques. This subparagraph
20 includes a presentation of techniques which can be
21 employed by the operator to assure the equipment is in
22 safe operating condition and instruction about how to
23 recognize and diagnose certain engine faults which may
24 cause increases in emissions.

25 (vii) Preoperational inspection. This subparagraph
26 includes a presentation of the purpose, benefits and
27 requirements of the preoperational inspection.

28 (viii) Ventilation. This subparagraph includes an
29 introduction to special ventilation requirements for
30 areas where diesel-powered equipment will operate.

1 (ix) Fire suppression system. This subparagraph
2 includes an introduction to the fire suppression system
3 and its function and when and how to activate the fire
4 suppression manually.

5 (x) Operating rules. This subparagraph includes a
6 detailed presentation of the driving rules, safe driving
7 speeds, traffic control devices and equipment
8 limitations.

9 (xi) Emergency procedures. This subparagraph
10 includes discussion of:

11 (A) emergencies, such as fire, diesel fuel
12 spills, component failure, loss of ventilation air
13 and emergency escape procedures; and

14 (B) potential use of the diesel-powered vehicle
15 as an emergency escape vehicle in case of a mine
16 emergency.

17 (xii) Recordkeeping and reporting procedures. This
18 subparagraph includes a presentation on required
19 recordkeeping and reporting procedures for problems or
20 unsafe conditions, high emissions levels and
21 preoperational inspections made by the equipment
22 operator.

23 (c) Certificate.--Upon successful completion of both
24 training sessions, the operator shall be issued a certificate of
25 qualification which qualifies the operator to operate a specific
26 type of diesel-powered equipment. An operator may be qualified
27 to operate more than one type of equipment by completing
28 additional equipment-specific training covering differences
29 specific to each additional type of equipment.

30 (d) Refresher training.--Refresher training, separate from

1 that required by MSHA regulations at 30 CFR Pt. 48 (relating to
2 the training and retraining of miners), shall be required
3 annually.

4 (e) Annual certificate.--A new certificate of qualification
5 shall be issued annually after the equipment operator has
6 received the annual refresher training.

7 Section 421. Equipment-specific training.

8 (a) Approval.--Training course instructors and training
9 plans required by this section must be approved by the ~~secretary~~ <—
10 DEPARTMENT. <—

11 (b) Description.--

12 (1) Equipment-specific hands-on orientation training
13 shall be given in an area of the mine where the equipment
14 will be operated. This orientation shall be specific to the
15 type and make of the diesel machine and shall be presented in
16 small groups.

17 (2) The following subjects shall be included in the
18 training:

19 (i) Equipment layout. This subparagraph includes
20 familiarization with the layout of the equipment, the
21 operator's compartments and the controls.

22 (ii) Preoperation inspection. This subparagraph
23 includes familiarization with the preoperation inspection
24 procedure and review of specific details of the
25 inspection and location of the components to be
26 inspected.

27 (iii) Equipment limitations. This subparagraph
28 includes instruction relating to equipment performance,
29 speeds, capacities and blind areas.

30 (iv) Operating areas. This subparagraph includes

1 instruction relating to areas in which the equipment may
2 be operated.

3 (v) Operation. This subparagraph includes
4 familiarization with the controls, gauges and warning
5 devices and safe operating limits of all indicating
6 gauges.

7 (vi) Refueling procedure. This subparagraph includes
8 familiarization with fuel handling, permissible refueling
9 areas, spill prevention, cleanup and potential hazards
10 from diesel fuel.

11 (vii) Emergency devices. This subparagraph includes
12 instruction relating to the location and use of the fire
13 extinguisher and fire suppression devices.

14 (viii) Driving practice. This paragraph includes
15 supervised operation of the equipment.

16 Section 422. Diesel mechanic training.

17 (a) Approval.--Training course instructors and training
18 plans required by this section must be approved by the ~~secretary~~ <—
19 DEPARTMENT. <—

20 (b) General rule.--Diesel mechanic training and
21 qualification shall meet the requirements of this section.

22 (c) Skills.--Diesel mechanics shall be trained and qualified
23 to perform maintenance, repairs and testing of the features of
24 diesel equipment certified by MSHA and the ~~secretary~~ DEPARTMENT. <—

25 (d) Qualification.--To be qualified, a diesel mechanic shall
26 successfully complete a minimum of 16 hours of a training
27 program approved by the ~~secretary~~ DEPARTMENT regarding the <—
28 general function, operation, maintenance and testing of
29 emissions control and conditioning components. The diesel
30 mechanic shall be qualified to perform these tasks on the

1 specific machines used at the mine or mines where they are
2 employed. Additional engine-specific training shall be provided
3 to diesel mechanics in accordance with a plan approved by the
4 ~~secretary~~ DEPARTMENT. <—

5 (e) Retraining.--Annual retraining programs for diesel
6 mechanics shall be required and shall be approved by the
7 ~~secretary~~ DEPARTMENT. Retraining shall include refresher <—
8 training as well as new procedure and new technology training as
9 necessary. Retraining shall be separate from refresher training
10 pursuant to MSHA regulations at 30 CFR Pt. 48 (relating to
11 training and retraining of miners) and electrical training
12 required by MSHA.

13 (f) Programs.--The minimum diesel mechanic training programs
14 shall include training in the following minimum subject
15 requirements:

16 (1) Federal and State requirements regulating the use of
17 diesel equipment.

18 (2) Company policies and rules related to the use of
19 diesel equipment.

20 (3) Emissions control system design and component
21 technical training.

22 (4) Onboard engine performance and maintenance
23 diagnostics system design and component technical training.

24 (5) Service and maintenance procedures and requirements
25 for the emissions control systems.

26 (6) Emissions testing procedures and evaluation and
27 interpretation of test results.

28 (7) Troubleshooting procedures for the emissions control
29 systems.

30 (8) Fire protection systems test and maintenance.

1 (9) Fire and ignition sources and their control and
2 elimination.

3 (10) Fuel system maintenance and safe fueling
4 procedures.

5 (11) Intake air system design and components technical
6 training and maintenance procedures.

7 (12) Engine shutdown device tests and maintenance.

8 (13) Special instructions regarding components, such as
9 the fuel injection system, which may only be repaired and
10 adjusted by a qualified mechanic who has received special
11 training and is authorized to make the repairs or adjustments
12 by the component manufacturer.

13 (14) Instruction on recordkeeping requirements for
14 maintenance procedures and emissions testing.

15 (15) Other subjects determined by the ~~secretary~~ ←
16 DEPARTMENT to be necessary to address specific health and ←
17 safety needs.

18 Section 423. Operation of diesel-powered equipment.

19 (a) General rule.--In addition to other requirements of this
20 chapter, diesel-powered equipment shall be operated pursuant to
21 the standards set forth in this section.

22 (b) Attended equipment.--Diesel-powered equipment shall be
23 attended while in operation with the engine running in
24 underground mines.

25 (c) Idling.--Unnecessary idling of diesel-powered equipment
26 is prohibited.

27 (d) Access.--Roadways where diesel-powered equipment is
28 operated shall be maintained as free as practicable from bottom
29 irregularities debris and wet or muddy conditions, which affect
30 control of the equipment.

1 (e) Speed.--Operating speeds shall be consistent with
2 conditions of roadways, grades, clearances, visibility and
3 traffic and type of equipment used.

4 (f) Control.--Equipment operators shall have full control of
5 the mobile equipment while it is in motion.

6 (g) Traffic rules.--Traffic rules, including speed, signals
7 and warning signs, shall be standardized at each mine and
8 posted.

9 (h) Maintenance.--

10 (1) Diesel-powered equipment shall be maintained in a
11 safe operating condition which does not threaten health of
12 human beings.

13 (2) Diesel-powered equipment not maintained in
14 accordance with paragraph (1) or not maintained in accordance
15 with the engine or emissions control operating specifications
16 shall be removed from service immediately and shall not be
17 returned to service until all necessary corrective actions
18 have been taken.

19 Section 424. Technical advisory committee.

20 (a) Establishment.--The Technical Advisory Committee on
21 Diesel-Powered Equipment is established.

22 (b) Membership.--The advisory committee shall consist of two
23 members, who shall be residents of this Commonwealth.

24 (1) The Governor shall appoint one member to represent
25 the viewpoint of the coal operators in this Commonwealth
26 within 30 days from receipt of a list containing one or more
27 nominees submitted by the major trade association
28 representing coal operators in this Commonwealth.

29 (2) The Governor shall appoint one member to represent
30 the viewpoint of the working miners in this Commonwealth

1 within 30 days from receipt of a list containing one or more
2 nominees submitted by the highest ranking official within the
3 major employee organization representing coal miners in this
4 Commonwealth.

5 (c) Terms.--Each member of the technical advisory committee
6 shall be appointed for a term of three years. If renominated and
7 reappointed, a member may serve an unlimited number of
8 successive three-year terms.

9 (d) Functions.--The technical advisory committee has the
10 following functions:

11 (1) Advising the ~~secretary~~ DEPARTMENT regarding ←
12 implementation of this chapter.

13 (2) Evaluating alternative technology or methods for
14 meeting the requirements for diesel-powered equipment as set
15 forth in this chapter.

16 (3) Providing technical assistance to operators
17 regarding diesel equipment technologies.

18 (4) Conducting investigations relating to implementation
19 of this chapter.

20 (5) Providing training regarding diesel equipment
21 emission controls and emission testing.

22 (e) Compensation.--Members of the technical advisory
23 committee shall be compensated at the appropriate per diem rate
24 based on the prevailing formula administered by the
25 Commonwealth, but not less than \$150 per day, plus all
26 reasonable expenses incurred while performing their official
27 duties. Compensation shall be adjusted annually by the ~~secretary~~ ←
28 DEPARTMENT to account for inflation based on the rate of ←
29 inflation identified by the Consumer Price Index for All Urban
30 Consumers, Bureau of Labor Statistics. The individual member may

1 waive his right to all or part of the compensation set forth in
2 this provision.

3 (f) Meetings.--The technical advisory committee shall meet
4 at least twice during each calendar year.

5 (g) Quorum.--Actions of the technical advisory committee
6 require the participation of both members.

7 (h) Support.--

8 (1) The department shall make clerical support and
9 assistance available to enable the technical advisory
10 committee to carry out its duties. Upon the request of both
11 members of the technical advisory committee, the ~~secretary~~ ←
12 DEPARTMENT may draft proposed conditions of use and reports ←
13 or perform investigations.

14 (2) The department shall purchase for the technical
15 advisory committee equipment for testing diesel engine
16 exhaust emissions and measuring diesel engine surface
17 temperatures and exhaust gas temperatures. Alternative
18 technology or methods recommended by the technical advisory
19 committee or approved by the secretary shall not reduce or
20 compromise the level of health and safety protection afforded
21 by this chapter.

22 (i) Alternative technologies.--

23 (1) Upon application of a coal miner, coal mine operator
24 or diesel-related technology manufacturer, or on its own
25 motion, the technical advisory committee shall consider
26 requests for the use of alternative diesel-related health and
27 safety technologies with general underground mining industry
28 application which are consistent with this chapter. The
29 following apply:

30 (i) Upon receipt of an application, the technical

1 advisory committee shall conduct an investigation, which
2 shall include consultation with a representative of the
3 major trade association representing coal operators in
4 this Commonwealth and with a representative of the major
5 employee organization representing coal miners in this
6 Commonwealth.

7 (ii) Approval of an application made under this
8 subsection shall make the alternative technology or
9 method available for use by a coal mine operator in this
10 Commonwealth but shall not be construed to require that a
11 coal mine operator use the approved alternative
12 technology or method.

13 (2) Upon application of a coal mine operator, the
14 technical advisory committee shall consider site-specific
15 requests for use of alternative diesel-related health and
16 safety technologies. The committee's recommendations on
17 applications submitted under this subsection shall be on a
18 mine-by-mine basis. Upon receipt of a site-specific
19 application, the technical advisory committee shall conduct
20 an investigation, which shall include consultation with the
21 mine operator and the authorized representatives of the
22 miners at the mine. Authorized representatives of the miners
23 shall include a mine health and safety committee elected by
24 miners at the mine and an individual employed by an employee
25 organization representing miners at the mine or an individual
26 authorized as the representative of miners of the mine in
27 accordance with MSHA regulations at 30 CFR Pt. 40 (relating
28 to representative of miners). If there is no authorized
29 representative of the miners, the technical advisory
30 committee shall consult with a reasonable number of miners at

1 the mine.

2 (3) Within 180 days of receipt of an application for use
3 of alternative technologies or methods, the technical
4 advisory committee shall complete its investigation and make
5 a recommendation to the secretary. The technical advisory
6 committee members shall only recommend approval of an
7 application if, at the conclusion of the investigation, the
8 committee members have made a determination that the use of
9 the alternative technology or method will not reduce or
10 compromise the level of health and safety protection afforded
11 by this chapter. The time period under this paragraph may be
12 extended with the consent of the applicant.

13 (4) The technical advisory committee shall forward to
14 the secretary three possible recommendations:

15 (i) A unanimous recommendation to approve the
16 application for use of alternative technologies or
17 methods. A recommendation under this subparagraph must be
18 made in writing and include the results of the
19 investigation and specific conditions of use for the
20 alternative technology or method.

21 (ii) A unanimous recommendation to reject the
22 application for use of alternative technologies or
23 methods. A recommendation under this subparagraph must be
24 made in writing and outline in detail the basis for the
25 rejection.

26 (iii) A divided recommendation in which one member
27 of the technical advisory committee recommends approval
28 of the application for use of alternative technologies or
29 methods and one member of the advisory committee
30 recommends rejection of the application for use of

1 alternative technologies or methods. For a recommendation
2 under this subparagraph, each member of the committee
3 must submit a detailed report to the secretary within 14
4 days of the committee's vote outlining the member's
5 position for or against the application.

6 (5) The secretary shall proceed as follows:

7 (i) Alternative technologies or methods may be
8 approved by the secretary if they do not reduce or
9 compromise the level of health and safety protection
10 afforded by this chapter.

11 (ii) If a recommendation under paragraph (4)(i) or
12 (ii) is forwarded to the secretary by the technical
13 advisory committee, the secretary shall have 30 days in
14 which to render a final decision adopting or rejecting
15 the advisory committee's recommendation and the
16 application.

17 (iii) The secretary may only approve or reject a
18 recommendation under paragraph ~~(2)~~ (4)(I) OR (II) without ←
19 modification unless the modification is unanimously
20 approved by the technical advisory committee.

21 (iv) If a recommendation under paragraph ~~(2)~~ ←
22 (4)(III) is forwarded to the secretary, the secretary ←
23 shall convene, within 30 days, a meeting with the members
24 of the technical advisory committee to discuss the
25 reasons for the divided recommendation and to determine
26 whether additional information and further discussion
27 might result in a unanimous recommendation by the
28 committee.

29 (v) The following apply:

30 (A) The secretary shall render a decision on the

1 application within 30 days from the date of the
2 meeting with the technical advisory committee or, if
3 no meeting is convened, within 60 days of forwarding
4 of the recommendation.

5 (B) Upon consent of the applicant, the time
6 period under clause (A) may be extended.

7 (C) Except as set forth in clause (B), if the
8 secretary does not comply with the time requirements
9 to render a decision under this subparagraph, the
10 technical advisory committee's recommendation shall
11 be deemed rejected.

12 (6) Action taken by the secretary under this subsection
13 is subject to 2 Pa.C.S. Ch. 7 Subch. A (relating to judicial
14 review of Commonwealth agency action) AND THE ACT OF JULY 13, ←
15 1988 (P.L.530, NO.94), KNOWN AS THE ENVIRONMENTAL HEARING
16 BOARD ACT.

17 (j) Shaft and slope construction.--The secretary shall
18 establish, based on recommendations made by the technical
19 advisory committee, conditions of use for the use of diesel-
20 powered equipment in shaft and slope construction operations at
21 coal mines. Conditions of use proposed by the technical advisory
22 committee shall be considered by the secretary and shall be
23 adopted or rejected by the secretary without modification,
24 except as approved by the technical advisory committee.

25 CHAPTER 5

26 ENFORCEMENT AND REMEDIES

27 Section 501. Enforcement orders and duty to comply.

28 (a) Authority.--

29 (1) The department may issue written orders to enforce
30 this act, to effectuate the purposes of this act and to

1 protect the health and safety of miners and ~~persons~~ <—
2 INDIVIDUALS in and about mines. <—

3 (2) An order issued under this act shall take effect
4 upon notice, unless the order specifies otherwise.

5 (3) An appeal to the Environmental Hearing Board shall
6 not act as a supersedeas.

7 (b) Compliance.--It is the duty of any ~~person~~ INDIVIDUAL to <—
8 whom an order applies to comply with that order.

9 Section 502. Restraining violations.

10 (a) Department.--In addition to any other remedies provided
11 by law, the department may seek an injunction to restrain any of
12 the following:

13 (1) Violation of this act, a regulation promulgated
14 under this act or any approval, standard, order or permit
15 issued under this act.

16 (2) Creation and maintenance of a threat to the health
17 and safety of miners and ~~persons~~ INDIVIDUALS in and about <—
18 mines.

19 (b) Court.--

20 (1) In a proceeding under subsection (a), the court may
21 do any of the following:

22 (i) Issue an injunction if it finds reasonable cause
23 to believe that the respondent is engaging in conduct
24 which:

25 (A) violates this act; a regulation promulgated
26 under this act or any approval, standard or order
27 issued under this act; or

28 (B) poses a threat to the health and safety of
29 miners and ~~persons~~ INDIVIDUALS in and about mines. <—

30 (ii) Levy civil penalties against the respondent.

1 (2) The courts of common pleas and the Commonwealth
2 courts are granted jurisdiction to hear and decide
3 proceedings brought under subsection (a).

4 (c) Bond.--The department is not required to post bond in
5 connection with proceedings brought under this section.

6 Section 503. Administrative penalties.

7 (a) Declaration of threat.--The following actions by mine
8 officials are declared to pose an imminent and substantial
9 threat to the health and safety of miners:

10 (1) Assigning an employee without training or proper
11 certification.

12 (2) Requiring or condoning a violation of this act, a
13 regulation promulgated under this act or any approval,
14 standard or order issued under this act.

15 (3) Failing to perform a required examination.

16 (4) Failing to address promptly the dangers identified
17 through a mine examination or inspection by the department.

18 (5) Supplying inaccurate information to the department.

19 (6) Failing to notify the department as required by this
20 act.

21 (7) Failing to de-energize electrical power as required
22 by this act.

23 (8) Failing to evacuate the mine when required to do so
24 by a provision of this act.

25 (b) Penalty for mine officials and operator liability.--

26 (1) If the department finds that a mine official has
27 engaged in any of the actions under subsection (a), the
28 department may assess an administrative penalty of up to
29 \$2,500 against the mine official. In every instance in which
30 an administrative penalty is assessed against a mine

1 official, the department may assess an administrative penalty
2 of the same amount against the operator of the mine where the
3 violations occurred.

4 (2) If the department finds that the operator directed
5 or condoned an unsafe act or a violation of the act:

6 (i) the department may assess an administrative
7 penalty of not less than \$10,000 and not more than
8 \$200,000 against the operator; and

9 (ii) the ~~person~~ INDIVIDUAL that directed or condoned ←
10 the action shall be removed from any position of command
11 and control.

12 (c) Nonexclusive remedy.--Assessment of a penalty under this
13 section does not preclude the department from exercising any
14 other remedy available to it.

15 (d) Factors.--In determining the amount of a penalty, the
16 department shall consider the following:

17 (1) The degree to which the conduct was reckless or
18 intentional.

19 (2) Whether an individual was fatally or seriously
20 injured.

21 (3) The potential for the violation resulting in death
22 or serious injury to an individual.

23 (4) Whether the conduct is in violation of an
24 outstanding order.

25 (5) In the case of an operator, the economic benefit to
26 the operator from not complying with the applicable
27 requirements.

28 (e) Practice and procedure.--A penalty under this section is
29 subject to:

30 (1) 2 Pa.C.S. Chs. 5 Subch. A (relating to practice and

1 procedure of Commonwealth agencies) and 7 Subch. A (relating
2 to judicial review of Commonwealth agency action); and

3 (2) 25 Pa. Code Ch. 1021 (relating to practice and
4 procedures).

5 (3) THE ACT OF JULY 13, 1988 (P.L.530, NO.94), KNOWN AS <—
6 THE ENVIRONMENTAL HEARING BOARD ACT.

7 Section 503.1. Process for assessing administrative penalties.

8 (a) Assessment process.--If the department assesses an
9 administrative penalty, it shall inform the operator and mine
10 official, as applicable, of the amount of the penalty. The
11 ~~person~~ INDIVIDUAL assessed with the penalty shall then have 30 <—
12 days to pay the penalty in full or, if the ~~person~~ INDIVIDUAL <—
13 wishes to contest the amount of the penalty, the ~~person~~ <—
14 INDIVIDUAL shall, within the 30-day period, file an appeal of <—
15 the department's assessment with the Environmental Hearing
16 Board. Failure to appeal within 30 days shall result in a waiver
17 of all legal rights to contest the amount of the penalty.

18 (b) Prepayment of administrative penalty.--If the operator
19 or mine official wishes to contest either the amount of the
20 penalty or the violation, the operator or mine official shall
21 forward an amount not greater than \$25,000 to the department for
22 placement in an escrow account with the State Treasurer or any
23 bank located in this Commonwealth, or post an appeal bond in the
24 amount of the proposed penalty provided that the bond shall be
25 executed by a surety licensed to do business in this
26 Commonwealth and is satisfactory to the department. If through
27 administrative or judicial review of the penalty, it is
28 determined that no violation occurred, or that the amount of the
29 penalty should be reduced, the department shall within 30 days
30 remit the appropriate amount to the operator or mine official,

1 with any interest accumulated by the escrow deposit. Failure to
2 forward the money or the appeal bond to the department within 30
3 days shall result in a waiver of all legal rights to contest the
4 violation or the amount of the penalty.

5 (c) Payment of penalty.--The amount assessed after
6 administrative hearing or waiver shall be payable to the
7 Commonwealth of Pennsylvania, Mine Safety Fund and shall be
8 collectible in any manner provided under law for the collection
9 of debts. If any ~~person~~ INDIVIDUAL liable to pay any penalty <—
10 neglects or refuses to pay it after demand, the amount together
11 with interest and any costs that may accrue, shall constitute a
12 judgment in favor of the Commonwealth upon the property of the
13 ~~person~~ INDIVIDUAL from the date it has been entered and docketed <—
14 or recorded by the prothonotary of the county where such
15 property is situated. The department may, at any time, transmit
16 to the prothonotaries of the respective counties certified
17 copies of the judgments, and it shall be the duty of each
18 prothonotary to enter and docket the judgments in the
19 prothonotary's office, and to index it as judgments are indexed,
20 without requiring the payment of costs as a condition precedent
21 to the entry of the judgment.

22 Section 504. Unlawful conduct.

23 It is unlawful for a ~~person~~ AN INDIVIDUAL to do any of the <—
24 following:

25 (1) Violate this act, a regulation under this act or any
26 approval, standard or order under this act.

27 (2) Cause or assist another in a violation under
28 paragraph (1).

29 (3) Hinder or threaten an agent or employee of the
30 department in the course of performance of a duty under this

1 act, including entry and inspection.

2 (4) Do any of the following on mine property:

3 (i) Venture into areas with unsupported roof.

4 (ii) Fail to make required gas checks.

5 (iii) Work on energized equipment without de-
6 energizing, locking out and tagging that equipment.

7 (iv) Change approved equipment without obtaining the
8 department's approval.

9 (v) Circumvent a safety device.

10 (vi) Disable an alarm.

11 (vii) Possess or use alcohol, drugs or smoking
12 materials in an unlawful manner on mine property.

13 (viii) Assign an employee without ~~adequate~~ training <—
14 OR PROPER CERTIFICATION to perform the assigned work. <—

15 (ix) Require or condone a violation of this act, a
16 regulation under this act or any approval, standard or
17 order under this act.

18 (x) Require or condone performance of an unsafe act.

19 (xi) Fail to perform a ~~proper~~ and required <—
20 examination.

21 (xii) Fail to abate promptly the dangers identified
22 through a mine examination or inspection by the
23 department.

24 (xiii) Supply inaccurate information to the
25 department.

26 (xiv) Fail to:

27 (A) notify the department as required by this
28 act;

29 (B) de-energize electrical power as required by
30 this act; or

1 (C) evacuate the mine when required.

2 Section 505. Criminal penalties.

3 (a) Prohibition.--~~A person~~ AN INDIVIDUAL commits a felony of <—
4 the second degree if all of the following apply:

5 (1) The ~~person~~ INDIVIDUAL: <—

6 (i) violates this act, a regulation under this act
7 or any approval, standard or order under this act;

8 (ii) submits false information to the department; or

9 (iii) fails to notify the department as required by
10 this act.

11 (2) The action or inaction under paragraph (1):

12 (i) either results in the death of or substantial
13 bodily injury to an individual; or

14 (ii) creates a condition that poses a substantial
15 likelihood of causing death or substantial bodily injury
16 to an individual.

17 Section 506. Inspections.

18 (a) Administrative.--An agent or employee of the department
19 may do any of the following:

20 (1) Inspect a mine, property, building, premises, place,
21 book or record.

22 (2) Secure physical evidence. This paragraph includes
23 photography and videography.

24 (3) Conduct tests. This paragraph includes taking
25 samples.

26 (b) Warrant.--It shall be sufficient probable cause for a
27 court of competent jurisdiction to issue a search warrant if the
28 department establishes all of the following:

29 (1) The action under subsection (a) is pursuant to the
30 department's general inspection of mines and investigations

1 at mines.

2 (2) The agent or employee:

3 (i) has reason to believe that there has been a
4 violation of this act, a regulation under this act or any
5 approval, standard or order under this act of the
6 department has occurred or may occur; or

7 (ii) has been refused access or been prevented from
8 taking action under subsection (a).

9 Section 507. Intervention.

10 ~~A person~~ AN INDIVIDUAL having an interest, which is or may be <—
11 adversely affected, has the right without posting bond to <—
12 intervene in an action ~~or appeal brought by the department~~ <—
13 BROUGHT BY THE DEPARTMENT OR IN AN APPEAL before the <—
14 Environmental Hearing Board under this act.

15 Section 508. Limitation of action.

16 (a) Civil and administrative.--Notwithstanding 42 Pa.C.S.
17 Ch. 55 Subch. B (relating to civil actions and proceedings) or
18 any other statutory provision to the contrary:

19 (1) A civil action under this act shall be commenced
20 within three years from the date the cause of action arises.

21 (2) An administrative action under this act shall be
22 commenced within three years from the date of the violation.

23 (b) Criminal.--Notwithstanding 42 Pa.C.S. Ch. 55 Subch. C
24 (relating to criminal proceedings) or any other statutory
25 provision to the contrary, a criminal action under this act
26 shall be commenced within three years from the date the offense
27 is committed.

28 Section 509. Relation to permit.

29 The following apply if the department finds that an operator
30 has demonstrated a lack of intent or ability to comply with this

1 act, a regulation under this act or any approval, standard or
2 order under this act:

3 (1) The department may take any action it deems
4 appropriate regarding the operator's permits, including
5 denial of applications for new, renewed or amended permits
6 and suspension or revocation of existing permits.

7 (2) Before taking action under paragraph (1), the
8 department shall provide the operator with an opportunity to
9 demonstrate to the department the operator's intent and
10 ability to comply.

11 Section 510. Certification actions.

12 (a) Denial.--The department shall not issue a certification
13 if, after investigation and an opportunity for an informal
14 hearing, it finds that the applicant lacks the ability or intent
15 to comply with this act.

16 (b) Sanctions.--

17 (1) The department may modify, suspend or revoke a
18 certification under this act if it determines that the holder
19 has done any of the following:

20 (i) Failed to comply with this act; a regulation
21 under this act or any approval, standard or order under
22 this act.

23 (ii) Interfered with the safe and lawful operation
24 of any mine.

25 (iii) Engaged in unlawful conduct under this act.

26 (2) An appeal to the Environmental Hearing Board shall
27 be treated as a petition for a supersedeas.

28 (3) AN ACTION UNDER THIS SUBSECTION SHALL BE TAKEN ONLY <—
29 IF THE MONETARY PENALTY UNDER SECTION 503 IS INADEQUATE.

30 ~~(3)~~ (4) This subsection is subject to 2 Pa.C.S. Chs. 5 <—

1 Subch. A (relating to practice and procedure of Commonwealth
2 agencies) and 7 Subch. A (relating to judicial review of
3 Commonwealth agency action) AND THE ACT OF JULY 13, 1988 ←
4 (P.L.530, NO.94), KNOWN AS THE ENVIRONMENTAL HEARING BOARD
5 ACT.

6 (c) Retesting.--A mine official whose certificate has been
7 revoked shall have the right after five years of work experience
8 in an underground bituminous coal mine, two years of which must
9 be in a working section, to be reexamined and upon receipt of a
10 satisfactory score on the examination, the mine official shall
11 be given another certificate of qualification.

12 (d) Other remedies.--This section is in addition to any
13 other remedy afforded the department under this act or any other
14 provision of law.

15 Section 511. Withdrawal of certification.

16 If a superintendent receives information that any mine
17 foreman, assistant mine foreman, mine examiner or mine
18 electrician neglects duties or is incapacitated, the
19 superintendent shall make a thorough investigation. If the
20 superintendent finds evidence to sustain neglect or incapacity,
21 the superintendent shall suspend the individual and inform the
22 department.

23 CHAPTER 6

24 EMERGENCY MEDICAL PERSONNEL

25 Section 601. Definitions.

26 The following words and phrases when used in this chapter
27 shall have the meanings given to them in this section unless the
28 context clearly indicates otherwise:

29 "Emergency medical technician." A coal mine employee who has
30 successfully completed the course on emergency first aid care

1 and transportation of the sick and injured recommended by the
2 American Academy of Orthopedic Surgeons or an equivalent
3 organization and who has been certified by the Department of
4 Health to provide emergency care.

5 "Emergency medical technician paramedic." ~~A person~~ AN ←
6 INDIVIDUAL who has been certified by the Department of Health to
7 provide emergency medical treatment.

8 Section 602. Emergency medical personnel.

9 (a) Requirement.--Emergency medical personnel shall be
10 employed at every mine as follows:

11 (1) At least one emergency medical technician shall be
12 on duty at any time when miners at that mine are engaged in
13 the extraction, production or preparation of coal. Emergency
14 medical technicians shall be on duty at a mine in sufficient
15 numbers to assure that no miner shall work in a mine location
16 which cannot be reached in 30 minutes by an emergency medical
17 technician. Emergency medical technicians shall be employed
18 at their regular duties at locations convenient for quick
19 response to emergencies and shall have available to them at
20 all times necessary equipment in compliance with Federal
21 regulations.

22 (2) Telephone services or the equivalent facilities
23 shall be installed which shall provide two-way voice
24 communications between the emergency medical technician at
25 the mine and medical personnel outside or away from the mine
26 who provide emergency medical services on a regular basis.

27 (3) Operators shall make adequate provisions so that at
28 least one emergency medical technician paramedic, registered
29 nurse, physician or physician assistant is available to
30 provide care at a mine at any time that ~~persons~~ INDIVIDUALS ←

1 are engaged in extraction, production or preparation of coal.
2 Emergency medical personnel under this paragraph shall be on
3 call to reach the entrance of the mine within 30 minutes.

4 Section 603. Regulations for training and certification.

5 The Department of Health shall promulgate regulations to
6 train and certify emergency medical technicians and emergency
7 medical technician paramedics.

8 Section 604. First aid training of mine employees.

9 Each operator shall provide every new employee who has not
10 received first aid training required by the department within
11 the six months prior to the date of employment with the training
12 required by the department. The department shall consult with
13 the Department of Health, MSHA and representatives of miners and
14 representatives of operators in determining the training to be
15 required under this section. Each mine employee shall be
16 provided with five hours of refresher first aid training within
17 each 24-month period of employment. Each employee shall be paid
18 regular wages or overtime pay, if applicable, for all periods of
19 first aid training.

20 Section 605. Continuing training.

21 The department, after consultation with the Department of
22 Health regarding the content of instruction courses, shall
23 provide for necessary training on a continuing basis of
24 emergency medical technicians and emergency medical technician
25 paramedics in sufficient numbers to satisfy the requirements of
26 this chapter.

27 Section 606. Regulations.

28 The ~~Environmental Quality Board~~ BOARD, after consultation <—
29 with the Department of Health and the ~~Board of Coal Mine Safety~~, <—
30 shall promulgate regulations to implement the operational

1 provisions of this chapter.

2 Section 607. Certification.

3 The Department of Health shall promulgate regulations to
4 prescribe procedures necessary to certify emergency medical
5 technicians and emergency medical technician paramedics and
6 consult with the department as may be required under this
7 chapter.

8 Section 608. Liability.

9 (a) Physicians.--

10 (1) Except as set forth in paragraph (2), a physician
11 who in good faith gives instructions to a certified emergency
12 medical technician or emergency medical technician paramedic,
13 a registered nurse or physician assistant shall not be liable
14 for civil damages as a result of issuing the instructions.

15 (2) Paragraph (1) does not apply where the actions
16 constitute gross negligence, reckless misconduct or
17 intentional misconduct.

18 (b) Other medical personnel.--

19 (1) Except as set forth in paragraph (2), a certified
20 emergency medical technician, emergency medical technician
21 paramedic, registered nurse or physician assistant who in
22 good faith attempts to render emergency care to a sick or
23 injured individual in or about a mine shall not be liable for
24 civil damages as a result of any acts or omissions.

25 (2) Paragraph (1) does not apply where the actions
26 constitute gross negligence, reckless misconduct or
27 intentional misconduct.

28 Section 609. Equivalent training.

29 If the department determines that an operator is presently
30 providing emergency medical care for its employees which is

1 equivalent to or superior to the emergency medical care provided
2 for under this chapter, the department shall make a finding that
3 the operator is in compliance with this chapter.

4 CHAPTER 7

5 SAFETY ZONES AND ENTOMBED WORKMEN

6 Section 701. Establishment.

7 A safety zone is established beneath and adjacent to every
8 stream, river and natural or artificial body of water in this
9 Commonwealth that is sufficiently large to constitute a hazard
10 to mining in the opinion and discretion of the department. In
11 the case of a stream or river, the safety zone shall extend
12 horizontally 200 feet from the high-water mark of each bank. In
13 the case of any other body of water sufficiently large to, in
14 the department's discretion, constitute a hazard to mining, the
15 safety zone shall extend horizontally 200 feet from the known
16 perimeter. Each safety zone shall extend downward to the limit
17 of the workable beds.

18 Section 702. Written authorization.

19 (a) Requirement.--No mining or removal of minerals shall be
20 permitted within the safety zone unless authorization is
21 specifically granted in advance and in writing by the
22 department.

23 (b) Procedure.--Authorization shall only be granted upon
24 application of the operator. Application shall be accompanied by
25 four copies of a plan of the proposed mining operation. The plan
26 shall indicate the thickness of the unconsolidated strata, the
27 thickness of the rock strata and coal beds overlying the bed to
28 be mined, the thickness of the bed, the width of the mine
29 openings, the width of the pillars to be left and any other
30 special features that may be deemed necessary as affecting the

1 contemplated first mining.

2 (c) Examinations.--The department shall make periodic
3 examinations to determine the accuracy of plans, maps and
4 drawings submitted to it under the provisions of this section.

5 Section 703. Pillar recovery.

6 Pillar recovery may not be undertaken until the pillars are
7 approved by the department. Applications for pillar recovery
8 must be accompanied by four copies of a plan, which must include
9 such information as shall be determined by the department. The
10 approval or disapproval of the plan shall be based on the
11 factors of depth, the thickness of the bed, the percentage of
12 pillars proposed to be extracted and to be left, the effect on
13 pillars remaining in overlying beds and any other special
14 features deemed necessary by the department.

15 Section 704. Proof of rock cover.

16 (a) Requirement.--Proof of the existence of 35 feet of rock
17 cover must accompany any plan submitted under this chapter.

18 (b) Sufficiency.--Proof of rock cover is to be ascertained
19 by testing holes drilled on:

20 (1) intersecting lines forming rectangles or squares
21 where the cover thickness is less than 50 feet; and

22 (2) on spacing of not more than 35-foot centers.

23 Section 705. Verification.

24 Plans and proof of rock cover under this chapter must be
25 signed by a registered professional mining engineer representing
26 the operator and a registered professional mining engineer
27 representing the lessor or the owner.

28 Section 706. Approval or disapproval of plans.

29 (a) Approval.--If, after review, the department approves the
30 plan, it shall send copies of the approved plan to the

1 registered professional mining engineer representing the
2 operator and to the registered professional mining engineer
3 representing the lessor or the owner.

4 (b) Disapproval.--If, after review, the department
5 disapproves the plan, it shall send copies of the disapproval,
6 identifying its reasons for that action, to the registered
7 professional mining engineer representing the operator and a
8 registered professional mining engineer representing the lessor
9 or the owner.

10 Section 707. Notice.

11 After approval of the plan by the department, mining or
12 removal of minerals shall not begin within the safety zone until
13 the mine foreman has conspicuously posted a notice on the
14 outside of the mine and has orally notified each miner affected
15 that the miner is working within the safety zone.

16 Section 708. Entombed workmen.

17 If a workman is enclosed, entombed or buried in any coal mine
18 in this Commonwealth, the department, ON ITS OWN INITIATIVE OR <—
19 upon request of a relative of the workman or the department,
20 ~~shall~~ MAY petition a court of competent jurisdiction to order <—
21 recovery of the body and to make a decree that the workman is
22 dead.

23 CHAPTER 31

24 MISCELLANEOUS PROVISIONS

25 Section 3101. Repeals.

26 ~~(a) Absolute.~~ <—

27 ~~(1) The General Assembly declares that the repeals under~~
28 ~~paragraph (2) are necessary to effectuate this act.~~

29 (A) ABSOLUTE.--THE FOLLOWING ACTS OR PARTS OF ACTS ARE <—

30 REPEALED ABSOLUTELY:

1 (1) THE ACT OF JUNE 30, 1947 (P.L.1177, NO.490), KNOWN
2 AS THE COAL MINE SEALING ACT OF 1947.

3 (2) The act of July 17, 1961 (P.L.659, No.339), known as
4 the Pennsylvania Bituminous Coal Mine Act, ~~is repealed.~~ <—

5 (b) Inconsistent.--The following acts and parts of acts are
6 repealed to the extent they apply to bituminous coal mines:

7 (1) The act of May 9, 1889 (P.L.154, No.171), entitled
8 "An act to provide for the recovery of the bodies of workmen
9 enclosed, buried or entombed in coal mines."

10 (2) The act of June 3, 1943 (P.L.848, No.357), entitled
11 "An act providing that every mine foreman, assistant mine
12 foreman and fire boss, under the Bituminous Mining Laws and
13 the Anthracite Mining Laws of the Commonwealth, represents
14 and is an officer of the Commonwealth in the mine in which
15 employed, for the suspension or cancellation of the
16 certificates of such officials as shall hold same, and for
17 the disqualification of such as are uncertificated by the
18 Secretary of Mines after or prior to hearing, for failure or
19 refusal to perform his respective duties; defining the
20 procedure in such hearing and the powers of the Secretary of
21 Mines, with respect thereto, and providing for a review of
22 his decisions by courts of common pleas and the Superior
23 Court; providing for re-examination by the examining board of
24 any person whose certificate has been cancelled, and for
25 reinstatement of such as are uncertificated; and prohibiting
26 the employment by any operator in such capacity of any mine
27 foreman, assistant mine foreman or fire boss not possessing
28 the requisite certificate or whose certificate is suspended
29 or who has been disqualified."

30 ~~(3) The act of June 30, 1947 (P.L.1177, No.490), known~~ <—

1 ~~as The Coal Mine Sealing Act of 1947.~~

2 (4) (3) The act of December 22, 1959 (P.L.1994, No.729), <—
3 entitled "An act prohibiting mining in certain areas without
4 prior approval by the Department of Mines and Mineral
5 Industries; establishing standards for the approval of plans
6 for mining in such areas; imposing powers and duties on the
7 mine foremen and the Department of Mines and Mineral
8 Industries; and providing penalties."

9 (5) (4) The act of July 9, 1976 (P.L.931, No.178), <—
10 referred to as the Coal Mine Emergency Medical Personnel Law.
11 Section 3102. Effective date.

12 This act shall take effect in 180 days.